AN EMPIRICAL INVESTIGATION INTO PROJECT MANAGEMENT ASSETS AS A SOURCE OF COMPETITIVE ADVANTAGE IN LOCAL GOVERNMENT

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Abstract:

An empirical investigation into Project Management Assets as a Source of Competitive Advantage in Local Government

The aim of this research is to present and discuss the challenges of achieving sustainable competitive advantage through effective project management assets, processes and practices, within a Local Authority Third-Sector collaborating scheme.

Post 2008 global financial crisis the UK public sector has undergone unprecedented reform and severe fiscal retrenchment (Evans, Hills & Orme, 2012). Increased competition and a financial landscape radically changed the way public sector services are delivered (Westwood, 2011). A significant challenge of austerity was the retrenchment of local authority grant dependant third-sector funding. In the UK, local authorities would enter into a collaborative contract with third-sector organisations to deliver services across a wide range of social needs. However, these arrangements were becoming increasingly financially unviable. Thus, local authorities need to find ways to make their third-sector collaborating arrangements sustainable, within a context of increasing competition, whilst honouring their range of public duties and services.

Project management practice is recognised as a management discipline to manage change and execute strategy (Shenhar, 2001). A growing body of knowledge link the deliberate investment in project management assets and associated processes and practices as a strategic source of competitive advantage (Mathur, Jugdev & Fung, 2013, 2014). The opportunity presented in this research was how Local Authority collaborating third sector arrangements can achieve sustainability through effective project management practices; in particular the acknowledgement, development, deployment and exploitation of project management assets, processes and practices as a source of competitive advantage. However, the unique context of this investigation poses two challenges: i) the notion that competition is not relevant; and, ii) the non-professional project management nature of both the local authority and their collaborating third sector organisations.

Thus, in partnership with a UK local authority and 26 third-sector partner organisations (LASIS), the RBV VRIO framework (Barney, 1991; Barney & Wright, 1998) was the lens empirically operationalised within a mixed methodology approach. Designed to identify which, project management assets and associated processes and practices LASIS strategic managers should deliberately acknowledge, develop, deploy and exploit when conceiving competitive advantage strategies, to deliver project impact and sustainable competitive advantage. Hence, the research seeks to identify the specific project management assets, processes and practice endowments leveraging degrees of competitive advantage, how advantage is provided and identify endowment mix that are more likely to indicate performance.

Academic literatures on resource-based view, project management and the public-sector post 2008 financial crisis was reviewed, in order to establish knowledge gaps and a foundation to advance theoretical positions and practitioner solutions. A significant set of quantitative and qualitative empirical analysis identified several models of theoretical, conceptual and practitioner significance. Data was collected via survey questionnaire (n=70), semi-structured interviews (n=13) and informal conversations (n=9) during a 30-month period in which the researcher had full access to the LASIS.

The core contributions of this research include: i) a mix of tangible and intangible project management assets leverage sustainable competitive advantage (SCA); ii) a mix of Acquire Assets and Facilitating Process Assets are necessary for SCA; iii) how advantage is provided; and, iv) the conceptual formula >vrio + >pk = >cap linking - the degree of deliberate project management investment and the level of project management performance knowledge, as moderators of competitive advantage and performance. Finally, this research makes a contribution to: v) practice knowledge through the empirical development of competitive advantage models exploiting project management assets; vi) advancing theoretical strategic management knowledge of a new application for the VRIO framework; and, vii) to the general project management knowledge, that may be of practitioner value to strategic managers across the wider public and third sectors.

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List of Abbreviations:

APMP:	Association of Project Manager Professionals
BSI:	British Standards Institute
CA:	Competitive Advantage
CIC:	Community Interest Company
CIF:	Community Investment Fund
FA:	Factor Analysis
FP:	*Firm* Performance (Factor Analysis)
HEA:	Higher Education Academy
HRA:	Hierarchical Regression Analysis
HM:	Her Majesty's
I1:	Inimitable 1 (Factor Analysis)
I2:	Inimitable 2 (Factor Analysis)
KMO:	Kaiser-Mayer-Olkin
LASIS:	Local Authority Social Impact Scheme
LGA:	Local Government Association
LRA:	Linear Regression Analysis
MSP®:	Managing Successful Programmes
NHS:	National Health Service
OGC:	Office of Government Commerce
OM:	Operations Management
OS1:	Organisational Support 1 (Factor Analysis)
OS2:	Organisational Support 3 (Factor Analysis)
OS3:	Organisational Support 3 (Factor Analysis)
PCA:	Principal Component Analysis
PMO:	Project Management Office
PP:	*Project* Performance (Factor Analysis)
PRINCE2:	PRojects IN Controlled Environments
PMBOK®:	Project Management Institute Book of Knowledge
PMI:	Project Management Institute
PMMM:	Project Management Maturity Model
R1:	Rare 1 (Factor Analysis)
R2:	Rare 2 (Factor Analysis)
RA:	Regression Analysis
RBV:	Resource-Based View
RBT:	Resource- Based Theory
ROI:	Return on Investment
TDMM:	Time Development Maturity Model
UK:	United Kingdom
V1:	Value 1 (Factor Analysis)
V2:	Value 2 (Factor Analysis)
VRIN:	Valuable, Rare, Inimitable, Non-Substitutable
VRIO:	Valuable, Rare, Inimitable, Organisational Support
VSO:	Voluntary Sector Organisation

Glossary of Terms:

The terminology in this thesis may or may not be representative in similar discourse. The purpose is to contextualise specific terminology within the context of this investigation.

Acknowledge, Develop, Deploy, Exploit: A deliberate business strategy in which the investment in project management assets and associated processes and practices, first awaken LASIS to the potential of assets been valuable, rare, inimitable which are organisationally supported *(Acknowledge);* the conscious and deliberate investment in project management assets, associated processes and practices, and a project management and performance paradigm *(Development)*; the use for strategic intention *(Deployment);* and, competitive advantage tactics *(Exploitation).*

Assets, Resources, Endowments, Bundle of Resources: Whilst each of these terms are connected to the Resource-Based View theory of firm growth (Penrose, 1959; Wernerfelt 1984, 1989), literature differentiates each term independently, and connectively in generating firm rents. Assets and resources are interchangeable and refer to the available stock of a firm's factors which are owned or controlled by the firm and can be both tangible or intangible (Amit & Schoemaker, 1993) which are transformed into products or services to be used in generating firm rents or other firm inputs; whereas, endowments and bundles of resources are the firms' collective assets and resources used to develop and implement organisational strategies. However, in this thesis for comparative analysis with Mathur et al., (2013, 2014) empirical studies project management resources are referred as 'assets'.

Collective LASIS: The unit of analysis, the *parent* and *partner* organisations combined. Disparate Groups: Within the collective LASIS unit of analysis, there are two separate groups, each with their own contrasting characteristics.

Firm: Based on Edith Penrose seminal work 'The Growth of the Firm' Penrose (1959), Firm is the collective term given to imply an economic entity in the economy. In this context, the notion of a firm as an administrative organisation performs some economic function in society, by making use of its productive resources, such as project management assets and its managerial capability, for the purpose of supplying products and services to the economy by developing and implementing plans within the firm (Penrose, 2011, p.12).

Local Authorities: Local Authorities provide a wide range of services to people in their area. They may choose whether to deliver the service themselves, or commission and in collaboration

with other public-sector bodies including the voluntary sector, social enterprise sector, or the private sector.

Local Authority Social Impact Scheme (LASIS): A public-sector Local Authority collaborating project in which third-sector organisations (VSO, local charities, social enterprise organisations, or community groups) enter into a collaborating contract with a Local Authority to provide services in the local community. The principles of the contractual arrangements are based on the Local Authority initial financial pump-prime and operational support, whilst the collaborating third-sector organisations agree to become financially and operationally sustainable within a pre-define period of time.

***Parent* Organisation:** The North of England Public-Sector Local Authority Council.

***Partner* Organisations:** The individual third-sector community organisations in partnership with the North of England Public-Sector Local Authority Council.

Project Practice and Project Management Performance Knowledge Paradigm: In this thesis local authorities and the collaborating third-sector and community organisations it is assumed that these organisations do not value project management as a strategic resource and thus are less likely to have a positive project management paradigm, which includes efficient and effective project management practice and awareness of project management performance knowledge.

Sustainable Impact: sustainable impact refers to the degree in which the project management practice impacts on project performance, which in turn impacts on organisational performance and the societal impact from the positive project management paradigm.

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Chapter 1 – Introduction:

In this first of six chapters, the researcher will provide a summary of the thesis as a way of setting the scene, and introduce key research components and ideas developed as a result of undertaking this investigation. First, an overview of the research background will be provided, followed by positioning the Resource-Based View Lens as the main management theory, and the justification for applying the VRIO framework to operationalise the research phenomenon. This will be followed by the introduction of the main collaborating organisations involved in the research. Finally, the chapter will describe the scope of the investigation, and present the research aims and objectives, before concluding with a summary of the thesis structure.

1.1 Research Background

Though relatively stable and predictable with little conflict to compete United Kingdom Local Authorities have traditionally been subject to discretionary pressures from central government spending regimes. Whilst local authorities have a duty to provide a range of services to people in their area of responsibility, they may choose to commission other organisations (including the third-sector) to deliver certain functions and services. However, post 2008 global financial crisis redefined the distribution of social welfare in the UK (Hills, 2011; Putten & Green, 211; Joseph & Rowlingson, 2012). A result of successive UK spending reviews (CSR2010, 2013 & 2015) and successive Spring and Autumn Budget Statements (HM Treasury 2016 & 2017), combined with radical reform in the way public services are delivered, local authorities have seen budgets cut by 28% between 2010-2015, and a further 29% by 2019-20 (HM Treasury, 2015), which according to the National Audit Office (2017, p.9-10) in real-terms is a 36% decline in funding (government grants and council tax). Thus, although the funding decline is predicted to even out at a rate of 7.3% annually between 2015-20 (NAO, 2017), local authorities now operate in a funding paradigm that is no longer predictable and reliable.

Of significant challenge was the retrenchment of local authority grant dependant third-sector funding. Here, UK Local Authorities would enter into a collaborative contract with third-sector organisations to deliver services across a wide range of social needs. Often these services were bespoke and frequently tailored for small groups or single individuals, in which the Local Authority would provide the funding and administrative support whilst the third-sector organisations would provide the resources and expertise. Thus, the collaboration enabled local authorities to reach many citizens their finite resources would otherwise prohibit. However, the CSR2010 settlement and the Coalition Governments austerity pledges to reduce the deficit by a third within the current parliament period (HM Treasury, 2010; Macmillian, 2013) had a drastic

impact on third-sector funding (Milbourne & Cushman, 2013) and the ability of the third-sector to continue providing the levels of service provision the public and local authorities had become to expect (Pattie & Johnson, 2011).

Radical reform of public services including changing the way services are delivered and a redistribution of power away from central government to localism (Westwood, 2011) and sustainable long-term improvements were the cornerstones of the Coalition Government and CSR2010 (HM Treasury, 2010). Though the 2010 round of austerity measures were directed on public sector services, both private and third-sector suppliers to the public sector were facing significant procurement challenges in the new economic paradigm of deficit reduction (Ball, 2010). Moreover, though the retrenchment and reform challenged both central and local government, a new era of third sector self-sustainability and the promotion of local social entrepreneurs emerged out of the 2008 global financial crisis. With the financial landscape radically changing and local authorities charged with doing more with less (Evans, Hills & Orme, 2012), local authority councils were unable to continue the annual grant system enjoyed by traditional voluntary organisations. Local authorities were moving towards self-sustainable local and community organisations reinvesting surpluses back into the organisation for the benefits of society (Public Services Social Value Act, 2012). However, this new ideology was thwart with challenges not the least an investment in new social entrepreneurs with little or no business or voluntary experience suggests Hopp (2012).

Therefore, within the current climate of declining funding and austerity measures, local authorities needed to find sustainable ways to continue their third-sector collaborating arrangements, whilst the collaborating third-sector organisations themselves needed to become financially and operationally sustainable and less dependent on the traditional annual grant cycle. **Thus, the opportunity presented here is achieving sustainability through effective project management practices, in particular the acknowledgement, development, deployment and exploitation of project management assets and associated processes and practice** (Jugdev, 2004; Jugdev, Mathur & Fung, 2011; Mathur, Jugdev & Fung, 2013, 2014; Perkins, Jugdev & Mathur, 2018). However, two realities pose significant challenges, which are presented next.

The first challenge, whilst project management has been in vogue since the early 1980's (Garel, 2013), and the general recognition that public-sector project management capability can help to demonstrate 'value for money' (Crawford & Helm, 2009), project management practice in the public-sector (including public-sector local authorities) is usually associated with large scale infrastructure projects such as IT and construction projects. Thus, whilst project management

practice (Jugdev & Thomas, 2002; Jugdev, 2004) offers a sustainable opportunity, unlike private sector project orientated organisations who as Hobday (2000) illustrates employ professional project practitioners and allocate specific resources to the project management function; employees and people in local authorities and their collaborating third-sector and community organisations are unlikely to have any professional project management qualifications, experienced in delivering projects, and have limited resources available for projects. For example, Boyne (2002) argues that the realities of a complex environment, bureaucratic nature, increased red-tape and less autonomy from superiors make project management in the public sector very different in practice to that of the private sector. Going on to suggest that public sector project management competences needs to be adapted and supplemented to reflect the complexities of the public sector environment (Boyne, 2002). Interestingly Boyne's position seems to be a similar picture today. Blixt and Kirytopoulos (2016) empirical findings suggest that public sector culture and structure is not suitable as it sub-optimises the effectiveness and efficiency of project management practice and impacts on the delivery of desired outcomes, citing amongst others, resource allocation; hierarchy inhibits communications; lack of prioritised objectives; and, a focus on operating practice over project management efficiency as key factors.

What is more, albeit in general, within the public sector arena both Boyne (2002) and Blixt and Kirytopoulos (2016), and more specific in the voluntary sector (Abdy and Barclay, 2001) argue that ineffective project management competence of practitioners is a challenge. This is a concern for collaborating managers and staff suggests Memon and Kinder (2016), concluding that whilst learning new competences is critical for collaborating managers, it is how they learn in a new context that foster effective collaboration. However, the project management competence challenge is a reality of why there are so many unsuccessful voluntary sector collaborations contend Abdy and Barclay (2001), arguing that poor implementation is a result of infective planning and management of projects, going on to recommend guidelines, advice and training in project management relevant for collaborative working.

Moreover, whilst project management practice is becoming more important for community development (Winter, Smith, Morris & Cicmil, 2006), at a very local authority council level and their associated collaborating third-sector community organisations, collectively they are more unlikely to appreciate project management as a strategic resource (Abdy & Barclay, 2001; Eikenberry & Kluver, 2004), and the value of investing in project management for benefits realisation and value for money (Crawford & Helm, 2009). Thus, they are less likely to instil a positive project management paradigm; as characterised by Blixt and Kirytopoulos (2016) empirical conclusions that the complex operating environment of the public sector (Boyne, 2002)

significantly impacts the effectiveness of project application. Going on to cite that the specific needs, values and functions of project management are not very well defined, and little criteria to define and measure project management competence (Blixt & Kirytopoulos, 2016, p.296).

To balance the somewhat negative position thus far presented, developing social capital to improve performance is well represented in literature (Coffé & Geys, 2005). Defining social capital as components of values, networks and outputs (Newton, 1997), can articulate that social capital is the intangible characteristics at an individual level to promote doing good; the concrete and observable networks of individuals that provide the infrastructure necessary to deliver economic and social goals; and the actual tangible outputs that social capital makes possible, suggests Rice (2001). Hence, developing community engagement to better understand and meet the needs of citizens through active social capacity can potentially lower costs to public and collaborating organisations, suggest Osborne, Chew and McLaughin (2008). Which is supported across a growing body of empirical evidence linking public service social capital with service performance (Andrew and Brewer, 2012). For example, Rice (2001) measured social capital and government performance in actual Iowa USA local communities; whereas Coffé and Geys (2005) conclude that social capital relationship with performance is more apparent at a local community level in Flemish municipalities. Finally, Andrews and Brewer (2010) findings recommend USA fire service policy makers seeking to promote fire safety in the community should embrace social capital as a tactic to reduce unintended fire related deaths and thus improve service performance. Thus, in the context of project management practice Jugdev, Mathur and Fung (2013, p.131) define social capital as an intangible asset of a 'network of strong or weak relationships a person has with others within or outside a company', concluding that social capital should be fully embedded in the routines and relationships of an organisation's tacit knowledge mechanisms.

Finally, this first challenge is pertinent to this very specific investigation, in that a significant percentage of the sample indicate project management responsibility at executive or project manager level, whilst at the same time acknowledging they have very little formal project management qualifications or training, which in comparison with project management oriented organisations (Jugdev et at., 2013) is indicative of non-professional project management participants (Kim, Lee & Shin., 2015; Perkins, Jugdev & Mathur., 2018).

The second challenge, since the early 1970's competition has been at the forefront of public-sector reform and fiscal retrenchment (Moore, 1992). In which, many central and locally provided services were under the governance of private sector companies, third-sector organisations and more recently social enterprise organisations (Defourny & Nyssens, 2008; Alcock, 2010;

Teasdale, 2011); often in collaboration with partner public-sector providers. Moreover, the Localism Bill 2011 and the 'Big Society' agenda introduced by the 2010 Coalition Government, empowered local communities with new rights for communities and individuals, including the right to challenge existing delivery of public services, and the right for communities and third-sector to bid (compete) to buy and run community assets (Padley, 2013). However, this promoted competition between the local third-sector providers themselves (Milbourne, 2009; Milbourne & Cushman, 2013), who also argue the fear of poor local knowledge by outsiders tendering for local commissions would impoverish service provision (p.24). This is a particular community problem by the loss of local workers with specific local knowledge and expertise as a result of the involvement of outsiders often from different localities, eroding community trust in local service delivery (Milbourne & Cushman, 2013, p.9).

Thus, both local authorities, and the local third-sector and community groups needed to develop a competitive edge that provided some type of advantage over potential competing organisations, whether locally, regionally or nationally. For the public-sector local authority, this meant competitive advantage from other local authorities and the private sector providers, such as G4S, Serco and Carillion (White, 2014; Hesketh, Cooper & Ivy, 2014). Whereas, competitive advantage for the local third-sector organisations and local community groups, was needed to demonstrate sustainable operational efficiency and effectiveness in delivering their unique services and when competing for funding bids at a local authority level, and from other regional, national and international schemes. Figure 1.1 below illustrates the interconnections and interrelationships between the challenges faced by local authorities and collaborating third-sector organisations in acquiring competitive advantage from a specific practice.

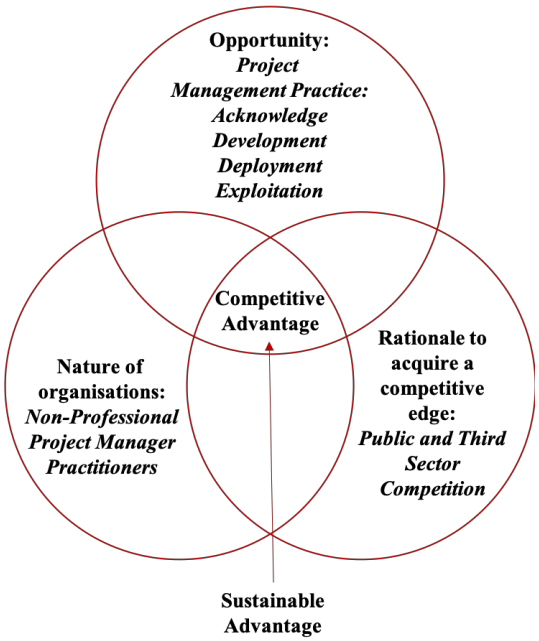

Figure 1.1: Research Context Interconnections Components

Hence, **from the perspective of the Resource-Based View Lens, this empirical research investigates which project management assets and associated processes and practices should be acknowledged, developed, deployed and exploited and placed as a strategic source of competitive advantage. It will also determine specific endowments of project management assets and associated processes and practices predict organisational performance, in which strategic managers should converge when implementing project management practice.** Finally, models and conceptual frameworks inspired from a convergence between literature associated with: i) competitive advantage; ii) project management including project management performance and measurement; and, iii) the public-sector context; and the empirical findings, will be developed to address the emerging issues.

As figure 1.2 below illustrates, the context in which this empirical research will be undertaken is a very specific public-sector and third-sector collaboration arrangement, comprising of one North of England Public-Sector Local Authority Council and twenty-six collaborating third-sector organisations, during the period 2013-16. Whilst this arrangement was contractually referred by the hosting Local Authority as the Community Investment Fund (CIF), within this research and thesis monologue the researcher has deemed the collective name to represent the overall research unit of analysis, as the Local Authority Social Impact Scheme (LASIS). This descriptor is a best depiction of the CIF as the *parent* organisation, which is the host public-sector North of England Local Authority Council, whilst the *partner* organisations are the collective name for the third-sector collaborating organisations such as, charities, voluntary groups, social enterprises and local community groups. The Social Impact of the LASIS acronym refers to the researcher's overall perception of the scheme in which social enterprise governance structures are employed as a means to facilitate financial and operational sustainability. The context will be further detailed in 1.3 below.

Figure 1.2: Research Context LASIS Components

This research will demonstrate that by acknowledging which endowments of project management assets and associated processes and practices have the potential to leverage degrees of competitive advantage, strategic managers can consciously and deliberately invest in their development, deployment and exploitation when implementing such competitive advantage strategies, and thus acquire a degree of sustainable long-term advantage over competing organisations.

Finally, it is necessary to explain that whilst this research identifies endowments of both tangible and intangible assets and associated processes and practices, **it also exposes latent barriers and challenges LASIS face in developing a positive project management paradigm, necessary for sustaining long-term competitive advantage.** Thus, in this thesis, it will be argued that **'the greater the degree LASIS deliberately invest and develop their project management paradigm, and align the paradigm with strategic aims and objectives, LASIS are more likely to deliver sustainable impact'**. Here, sustainable impact refers to the degree in which the project management process impacts on project performance, which in turn impacts on organisational performance and the societal impact from the positive project management paradigm. Additionally, a significant conclusion is presented in Chapter 6 – Conclusions, in which *"positioning project management assets and associated processes and practices as a strategic source of competitive advantage in LASIS may contribute towards sustainable project and firm performance"*, and *"the more mature LASIS become with project management assets and associated processes and practices, as a progressive strategic resource, the greater the impact"*.

Though these two propositions emerge from the thesis conclusions, they need to be empirically investigated, which the researcher intends post this doctoral study, as presented in 6.9 below, recommendations for future research.

Having presented the background to this research it is necessary to justify the rationale for the Resource-Based View (Penrose, 1959; Lippman & Rumelt, 1982; Teece, 1980, 1982 & 1997; Wernerfelt 1984 & 1989; Barney 1986, 1991, 1995, 1998, 2001, 2014, 2017; Dierickx & Cool 1989; Parhalad & Hamel, 1990; Conner, 1991; Grant, 1991; Amit & Schoemaker, 1993; Mahoney & Pandian, 1992; Peteraf, 1993) used to undertake this investigation, and to position how the operationalisation of the VRIO framework (Barney & Wright, 1998) contributed in the development of practitioner based models. Particular when implementing collaborating schemes which acknowledge, develop, deploy and exploit project management assets and associated processes and practice as a strategic source of sustainable competitive advantage.

1.2 Management Theory and Research Rationale

Most research in the field of project management as a source of competitive advantage has focused on maturity models with limited empirical investigations (Jugdev & Thomas, 2004). Additionally, whilst entrepreneurship as a source of competitive advantage is widely represented in literature (Hoffman, Corbett, Joglekar, & Wells, 2014; Wales, Parida, & Patel, 2013), research into the field of public-sector local authority collaborating schemes is focused on service delivery. As a result, there is a gap in the literature namely; how such collaborating scheme practitioners can exploit project management assets as a source of competitive advantage and thus sustain their business model in the long term. This study requires an operations management focus and therefore adopts the Resource-Based View (RBV) particular the operationalisation of the VRIO framework (Barney, 1995) as the primary management theory (Mathur et al, 2013, 2014). The significance of RBV to this research is the premise that for a firm's resource (in this study project management assets and associated processes and practices) to leverage degrees of competitive advantage the resource must be economically valuable, rare amongst competitions, difficult to copy or imitate and organisationally supported (Mathur et al, 2013, 2014). Additionally, RBV theory implies a conscious management of firm resources to exploit some degree of competitive advantage, which in this research is the deliberate investment in project management assets and associated processes and practices.

Before moving forward, it is necessary to make clear certain key terminology within this investigation. First, whilst the term '*resources'* refer to the strategic context of resource manipulation and transformation into rents, as illustrated by the economists Edith Penrose (1959);

the specific term '*assets'* refers to the tangible and intangible project management strategic resource terminology preferred by the research team Jugdev, Mathur, Fung and more lately Perkins, which this investigation heavily drew upon, and hence adopted to facilitate comparison. Second, associated processes and practices refers to the organisational and managerial mechanisms to facilitate efficiency and effectiveness of an organisations project management practice including optimising project management asset manipulation.

In the next subsection, it is prudent to formally introduce the collaborating organisations involved in this research, **which are collectively known as the Local Authority Social Impact Scheme (LASIS).**

1.3 Collaborating Organisations

In response to UK public-sector reform and retrenchment post 2008 global financial crisis, and as a direct result of the 2010 Comprehensive Spending Review (HM Treasury), in 2013 one North of England Public-Sector Local Authority Council, hereafter the *parent* organisation, set aside £2 million from its reserves to implement a contractual Community Investment Fund (CIF) project as a deliberate strategy to overcome the challenges faced by local authorities in sustaining the traditional third-sector annual grant model. The initial 2013 Community Investment Fund project (now in its fifth cycle and renamed The Deal for Communities Investment Fund (Wigan Local Authority Council, 2017); pump-primed one local community capacity builder and twelve local voluntary and community groups third-sector organisations, hereafter the *partner* organisations; with a responsibility for providing specific and directed social services (North of England Local Council, 2013) with an explicit undertaking that these organisations become financially and operationally sustainable within three years.

The *parent* North of England Public-Sector Local Authority Council (2013) explain that a capacity building organisation or group as: *providing coordinated capacity building to allow our local community and voluntary sector to deliver on priority opportunities cohesively and efficiently* (*parent* Council Economic Framework, 2012). Hence, through the connections of the capacity builder, thirteen additional third-sector local voluntary and community groups were identified. Whilst some of these groups were rejected during the CIF application process, other groups were identified with potential for future CIF application. Moreover, the capacity building group were actively supporting the development of future CIF applications, as illustrated in their statement of what they do: connects, coordinates, empowers and enables voluntary groups and volunteers, to develop themselves and maximise their impact (Capacity Building Charity, 2018). Hence the

rationale for inclusion of these additional third-sector *partner* organisations in the collective LASIS unit of analysis.

Running concurrently with the 2013 CIF cycle was the public-sector *parent* organisations deliberate investment in a *project management office* and the wider development of a project management culture. Here, the researcher identified that combined with its unique history of local priorities the Local Authority had the potential of a strategic capability difficult to imitate and thus the potential for sustained competitive advantage.

However, whilst the public-sector *parent* organisation was consciously investing in a project management paradigm, their third-sector *partner* organisations had at best limited project management knowledge, experience and access to project management resources. Though, the public-sector *parent* organisation *project management office* provided project support, acquiring and developing project management resources and assets was the responsibility of individual third-sector *partner* organisations. Figure 1.3 below illustrates the relationships between the collaborating organisations.

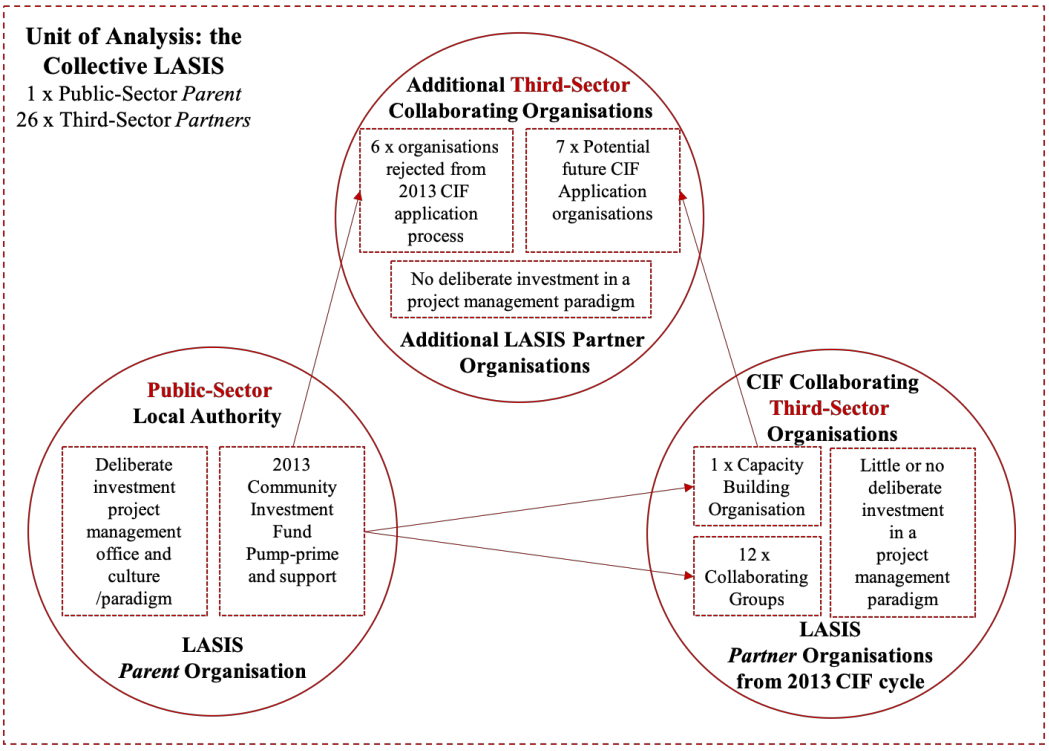

Figure 1.3: Relationship between the collaborating organisations and the research unit of analysis

1.4 Scope, Aims, Objectives and Research Questions

1.4.1 Research Scope

As presented throughout this chapter and illustrated in figure 1.4 below, the research is shaped around a tripartite phenomenon: i) LASIS unique context; ii) project management assets,

associated processes and practices, and a project management paradigm leveraging a potential strategic source of competitive advantage (Jugdev et al., 2011; Mathur et al., 2013, 2014; Perkins et al., 2018); and, iii) operationalised via the VRIO framework (Barney & Wright, 1998; Mathur et al., 2013, 2014; Kim, Lee & Shin, 2015). However, though the predominant body of knowledge is associated with Operations Management, the foundations for the research is underpinned by three themes of knowledge: strategy, project management practice; and, LASIS context; and several related bodies of knowledge. Figure 1.4 below illustrates the tripartite phenomenon and the interrelations with the related bodies of knowledge. The scope is defined first by the contextual setting of the LASIS environment associated with a North of England Public-Sector Local Authority collaborating scheme. Second, defined by how the bodies of knowledge interconnect with the LASIS unit of analysis. Thus, the scope provides a clear and coherent focus and defines the boundaries in which gaps in knowledge and practitioner insight are exposed.

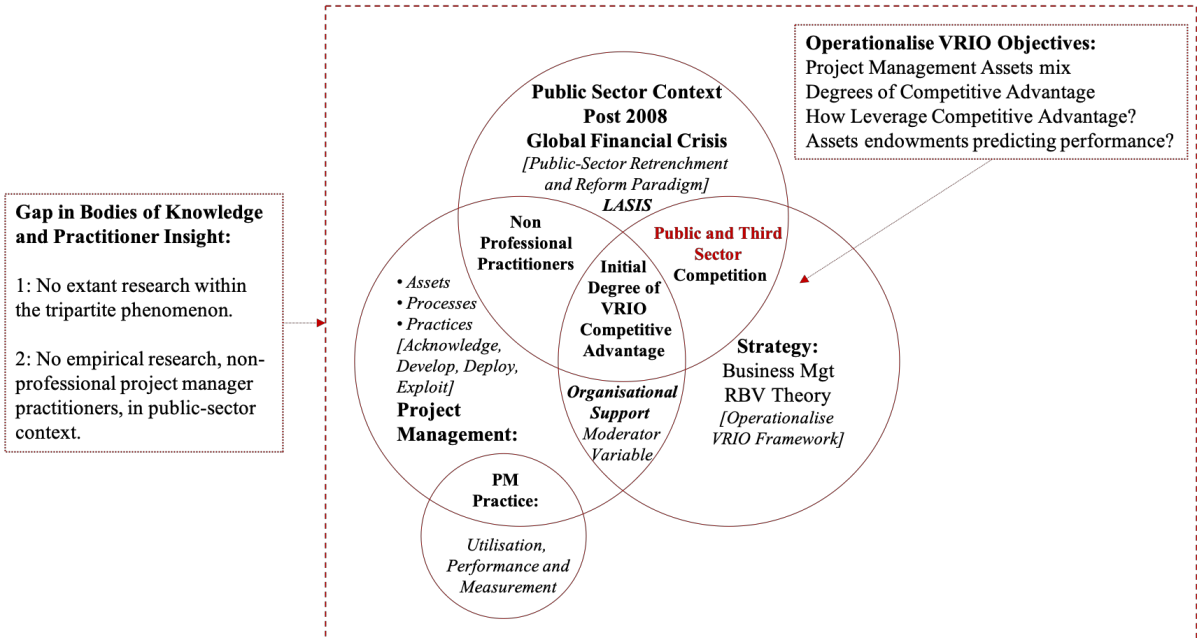

Figure 1.4: Overarching Research Scope

Having presented the overarching research scope within which this investigation was undertaken, it is now relevant to present the research aims, and research objectives.

1.4.2 Research Aims

The purpose of this investigation is grounded on the researchers drive to identify a mix of project management endowments which may be converged to acknowledge, develop, deploy and exploited as a strategic source of competitive advantage; and to develop models and frameworks for sustaining long-term competitive advantage from project management endowments, and thus make a specific contribution to practitioner insight in local authority collaborating schemes; and a general contribution to competitive advantage literature. **This research aims to identify the**

specific project management endowments which leverage certain degrees of competitive advantage, how this competitive advantage is provided; which endowments are likely to predict levels of organisational project performance; and, what LASIS need to consider and practice to sustain long-term competitive advantage from project management endowments.

1.4.3 Research Objectives

In the interest of the aims presented above, a suite of research objectives was identified, particular: i) to understand the proposed tripartite phenomenon and establish the gaps in knowledge; and to develop the research questions, a comprehensive review of extant literature was undertaken across bodies of knowledge associated with the LASIS context, project management; project management performance; Resource-Based View; and business operations strategy; ii) operationalise the VRIO framework to identify project management endowments, which are valuable, rare, inimitable; and organisationally supported; which endowment mix leverage parity, temporary and sustainable competitive advantage and how this advantage is provided; and, which endowment mix predict *project* and *firm* level performance; and, iii) develop empirical models to support the development of theoretical and practitioner conceptual frameworks, including a conceptual formula correlating the degree of VRIO investment and the project management performance knowledge paradigm with the degree of competitive advantage and organisational performance

1.5 Thesis Structure

The thesis follows a classical structure for social sciences, consisting of six chapters as Figure 1.5 below illustrates.

Chapter 1 – Introduction: In the first chapter the background, motivation and contextual setting for the research, is introduced along with the collaborating *parent* and *partner* organisations comprising the LASIS. Also, the justification for the main management theory and the research aims and objectives are presented. Finally, the chapter concludes with a summary of the thesis structure, and a graphical representation of the key outputs..

Chapter 2 – Literature Review: In this chapter the extant literature is determined and reviewed, as well as substantiating the gaps in knowledge relevant to this investigation. The chapter is divided into three themes: i) strategy; ii) project management; and, iii) LASIS public-sector context. The first two themes discuss business strategy, and project management literature to justify project management as a strategic source of competitive advantage. Additionally, project management performance literature is identified to justify the relationship between *project* and *firm*

performance and competitive advantage. The Resource-Based View is presented and the VRIO theoretical framework analysed to justify the methodology of determining the initial degree of competitive advantage leveraged from project management assets. The public-sector context theme is reviewed to position the LASIS unit of analysis, particular the impacts post 2008 global financial crisis, public-sector competition and the non-professional project nature of LASIS. Finally, this chapter enables the justification for three central research questions and the presentation of Literature Inspired Theoretical Conceptual Models.

Chapter 3 – Research Methodology: Based on the researcher's ontological position 'there are many truths' and the less extreme version of constructionism epistemology perspective, the researcher adopted a pragmatism stance, to undertake the investigation by developing a multi-phased mixed methods approach. The rationale for this approach is founded upon the specific contextual nature of the phenomena and the actual research questions. Both, quantitative and qualitative collection and analysis techniques are employed as well as deductive, inductive and abductive approach to theory development. The justification of this approach allows the researcher to first develop models from the empirical research data, and then explore and evolve theoretical and practitioner conceptual frameworks, which have the potential to make a contribution to theory and practice.

Chapter 4 – Research Findings: In this chapter the empirical research findings are presented in two separate subsections. First, quantitative analysis technique *factor analysis* is applied to the survey instrument to identify which project management assets and associated processes and practices are valuable, rare, inimitable and organisationally supported, and which project management asset endowment leverage certain degrees of competitive advantage. Also, *regression analysis* identifies which project management endowments are more likely to predict *project* level and *firm* level performance. Second, qualitative analysis technique *thematic analysis* is applied to the semi-structured interviews to address certain anomalies that emerge from the quantitative analysis and to strengthen the understanding of LASIS reality. Finally, the juxtaposition will revise the models leveraging competitive advantage and models more likely predicting performance.

Chapter 5 – Discussion: In this penultimate chapter a rich discussion is presented addressing the three central research questions, including the presentation of developing conceptual models to provide practitioner insight. The chapter concludes by introducing the thesis final and potentially the most significant conceptual model - LASIS Competitive Advantage Formula and Matrix.

Chapter 6 – Research Conclusions and Recommendations: In this final closing chapter, each of the three central research questions are summarised and how the resulting theoretical and practice observations connect with the claimed gaps in knowledge. This is followed by a reflection on the literature, a critique of the research limitations, and the key recommendations. The chapter concludes with some suggestions of further research.

1.6 Introduction Conclusion

In this first chapter a comprehensive overview of the research is presented. First, a background synopsis positions the research and sets the scene, followed by introducing and rationalising the Resource-Based View as the main management theory. Next, the collaborating organisations were introduced and the rationale for the collective LASIS as the unit of analysis in which this investigation is undertaken. The chapter then moved on to presenting the research scope, aims and objectives, concluding with a summary of the thesis structure. Thus, it is now necessary to review the literature in which this investigation will be undertaken, starting with the methodological approach used to identify, access and evaluate the relevance of literature to the fulfilment of this investigation.

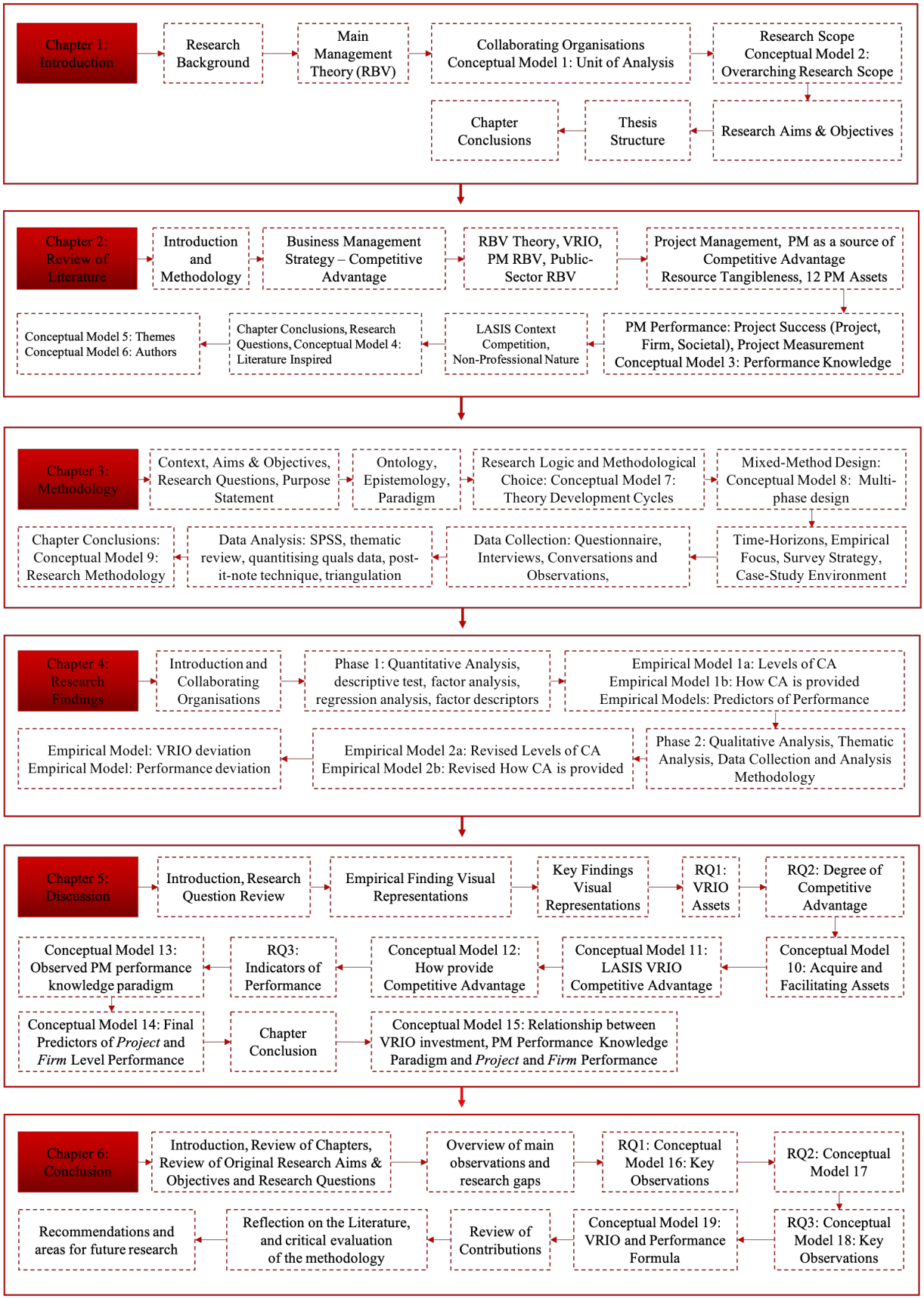

Figure 1.5: Thesis Chapter Structure and Research Outputs

Chapter 2 – Review of Literature

2.1 Introduction

The purpose of this chapter is to review the literature to establish gaps in bodies of knowledge in the evolution and development of project management assets as a source of competitive advantage in local authority collaborating schemes. In this chapter, the review of three main bodies of knowledge will be undertaken on which this thesis is underpinned. First, business management strategy will be defined and explained from different viewpoints. This is followed by a review and explanation of contemporary internal resource perspective strategy (RBV) and the VRIO framework, which are the principal management theories and lens applied to undertake and complete this doctoral research. Project management will be defined from its origins, and its application as a source of competitive advantage. Whereby, specific attention is given to the tangibleness of twelve project management assets, and the application of project management processes and practices; and, project management performance. Finally, to position the unit of analysis it is necessary to review the body of literature underpinning the research context. Thus, the public-sector in the United Kingdom will be reviewed post 2008 global financial crisis. With a specifically focus on public-sector retrenchment and reform impacting on local authorities and third-sector collaborating organisations and the impacts of public-sector competition and the non-professional project management practitioner nature of LASIS. Finally, concluding the chapter the review will be summarised and illustrated in literature and theoretical conceptual models. The chapter structure is illustrated in figure 2.1 below.

However, the chapter will start with the methodology of how the literature review was undertaken by the researcher. Finally, throughout the chapter; various concepts and theories will be presented and discussed, enabling the research to formulate conceptual literature and theoretical models justifying the central and associated sub-research questions, which emerged from the review.

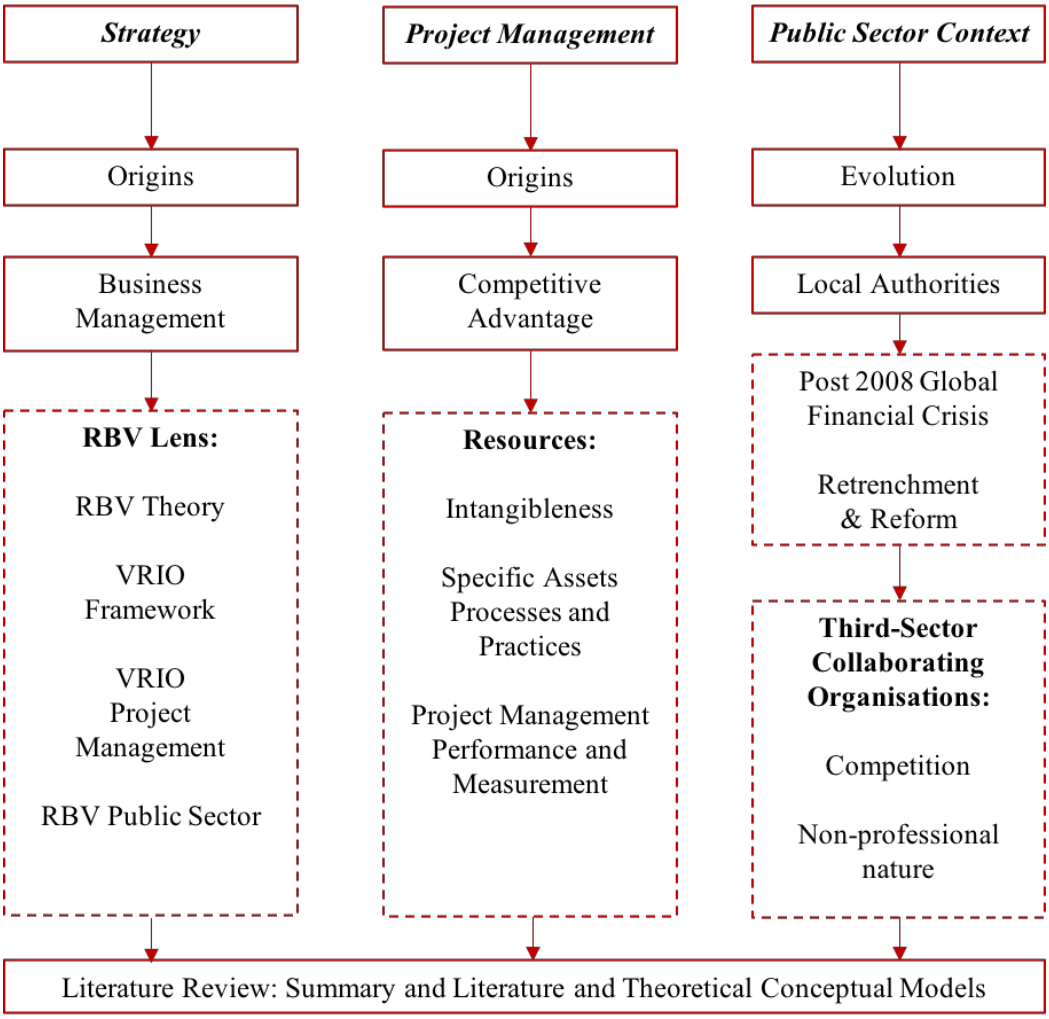

Figure 2.1: Review of Literature Chapter Structure

2.2 Literature Review Methodology

The methodology adopted the 'funnel and lens' approach. Each of the three literature themes starts by defining the general background and discusses the themes history, evolution and key theoretical underpinnings. The lens approach drills down to the very specific literature that is most significant to the thesis and therefore framing a solid theoretical foundation to underpin the area of research. However, if the review of relevant literature is to be meaningful and not just a collection of papers and other sources a structured approach was adopted to select and critique literature. Identification and selection of literature was based on Pittaway et al., (2004) model, and Bakkar (2010, p.470) flowchart; whereas analysis and evaluation were based upon Bloom's Taxonomy integral within Levy & Ellis (2006) Input-Process-Output for an effective literature review process, as illustrated in figure 2.2 below.

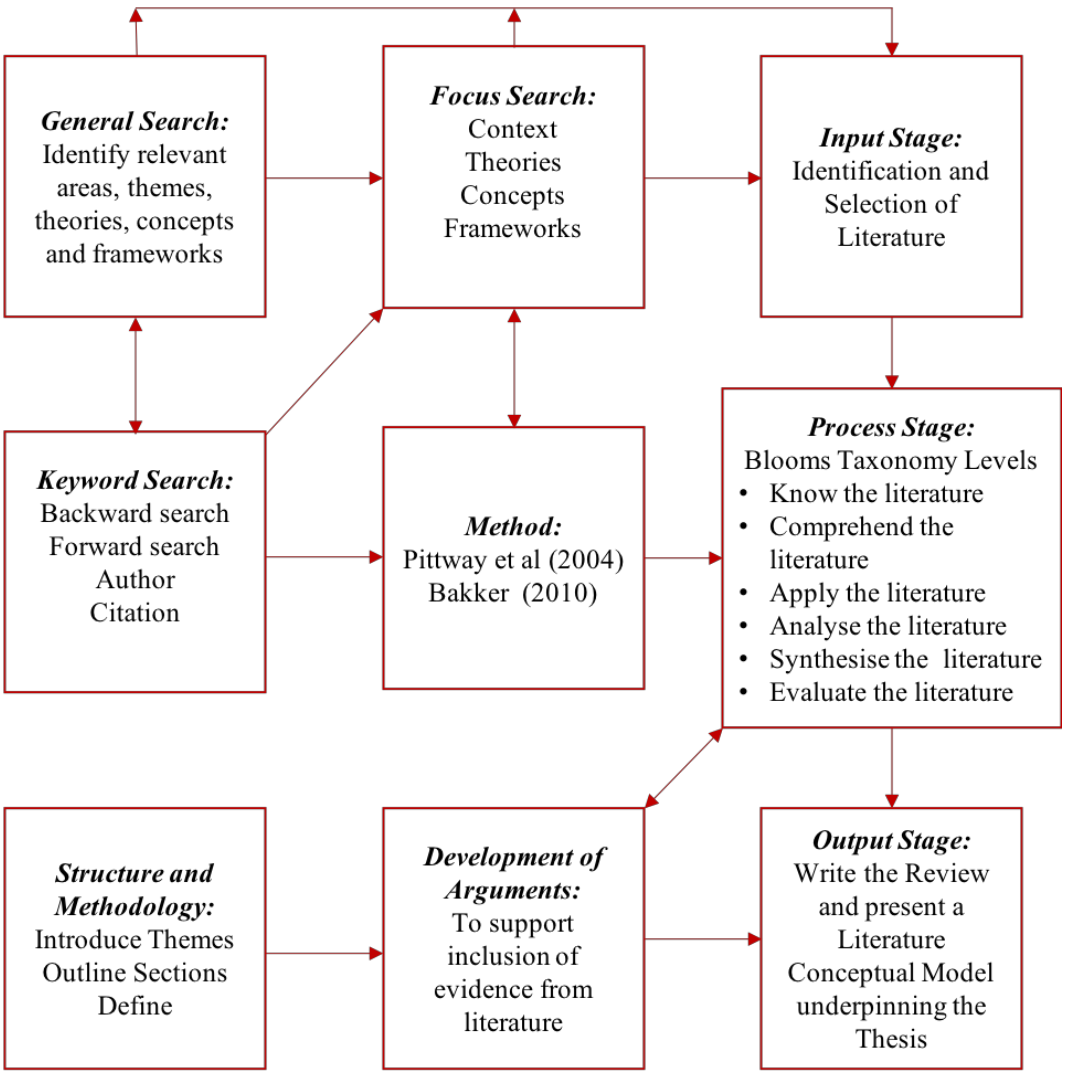

Figure 2.2: Schematic representation of literature review methodology

2.3 Strategy Theme

This first theme of the literature review contextualises the theoretical concepts underpinning this thesis, namely sustainable competitive advantage from the RBV lens. This theme will introduce business management strategy and the classical perspective of business management strategy as a theory of competitive advantage, and the emergence of Resource-Based Theory as an alternative to the market driven perspective. Finally, the review will explore the VRIN(O) framework, and how VRIO has been applied to project management, and within the public-sector and third-sector arena.

2.3.1 Business Management Strategy – Competitive Advantage

2.3.1.1 Introduction

The early evolution of business strategy classified as 'The Classical Approach' (Whittington,1993) were influenced by military strategy (Martin & Thompson 2005, pp, 34-38) and military maxims (Mintzberg, 1998). The prescriptive schools of strategy thought (Mintzberg, 1998), in particular 'positioning' (Porter, 1979) more so than the schools of 'design and planning' adopted military type tactics in the formation of corporate and business strategy (Mintzberg, 2009, pp.89-97). For example, Thompson & Martin (2005) argue that business strategy adopts policies to position an organisation to gain an advantage over the competition, whereas Mintzberg suggests that for a business to compete the formulation of business strategy is dependent on strategists been innovative in combining new tactics used in attack, defence and manoeuvre opportunities (p.92). In both examples, the primary objective being to gain a competitive advantage by adopting a combination of generic tools, techniques and frameworks best fitted to meet the organisations objectives within the specific business environment.

The remainder of this strategy theme will review extant competitive advantage literature applicable to the thesis in particular the workings of Michael Porter, Henry Mintzberg and Jay Barney, and from a project management perspective as a source of competitive advantage the contextual work of the research team headed by Kam Jugdev and Gita Mathur.

2.3.1.2 Competitive Advantage: External perspective

The Classical Approach advocated by Whittington (2001) includes Mintzberg's prescriptive 'design, planning and positioning' schools of strategic thought. These early strategic processes are reductionists in nature, which assumes organisational objectives, can be achieved through rational planning of its resources (Rowe, 2008). Design school protagonists such as Selznick (1957) and Andrews (1971) herald the first concepts of competitive advantage in *fitting* the organisations resources with the prevailing environment. However, though accepting the originality of the design school Mintzberg (2009) suggests that the design school model based on

the premise of unique, simple, explicit and fully formulated strategies is flawed on the grounds of it been all process with no content; and further criticised as a process which bypasses learning, structure does not necessary follow strategy, inflexible and detached thinking from action. (Chandler, 1962),

The positioning school associated with Porter (1980, 1985) built on the basic tenets of the design and planning schools by focusing on the content of strategy formulation (Mintzberg, 2009). Porter (1980, 1985) in particular, was of the opinion that if organisations are to outperform its competitors over a period of sustained time strategic management should adopt strategies that fit and position the organisation within an industry relative to its competitors. Depending on the analysis of the external environment strategic fit often-adopted generic strategies aimed at maximising market share. Though few in numbers, cost, differentiation and focus (Porter, 1997); adoption of these analytical strategies enabled internal resources to be grouped together for operational effectiveness capable of matching a unique set of prevailing market conditions. However, in much the same vein as the design and planning schools, formulation of strategies is formal, controlled and deliberate, and thus according to Mintzberg (2009) are implemented by subordinates on the approval of the chief strategists at the head of the organisation.

Nevertheless, the positioning school philosophy is widely used across all industries by strategists who understand 'who their customers are', 'what they want' and 'how to reach them' (Thomson & Martin, 2005); and adopt specific strategies that position the organisation relative to its competitors in the hope of gaining some competitive advantage and thus above-average margins (p.191). Here the emphasis is outward looking at the external environment and how existing internal resources can be used to provide a strategic fit. Though arguably a powerful model Van Assen et al., (2009) argue that this parochial view is largely reactive and should combine the philosophy with internally driven core competences (Parhalad & Hamel, 1990) of the Resource-Based View perspective (Van Assen et al., 2009, p.18).

2.3.1.3 Competitive Advantage: Internal Perspective

Cognitive, learning, power and configuration schools of strategic thought (Mintzberg, 2009) are firmly entrenched in institutional and behavioural observations, in which analysts of strategy seek to build theory from the ground up (Carroll, 1987). Here, a firm's holistic environment is central in the formation of emergent strategies that are small incremental steps created out of the sticky, messy phenomena of both organisations and markets (Whittington, 2001, p.21). Thus, challenging the Classical Approach *rational economic man's* ability to process more than a handful of factors and is therefore more conditioned to convergent thinking associated with Herbert Simon's *bounded rationality* (Simon, 1957). Indeed, this internal perspective associated with Mintzberg

defies that markets maximize profit outcomes; but view markets as being imperfect and look internal for strategies of competitive advantage (Whittington, 2001, pp.21-26). However, this ideology manifests through the micro-politics of the organisations (Pettigrew, 1973, 1985 – cited in Whittington, 2001) where power, bargaining and compromise combined with 'bounded rationality' create emergent strategies aligning to Mintzberg's notion that strategy formation is through "*patterns in a stream of decisions*", Mintzberg (1977) and not just an analytical process of steps.

2.3.1.4 Competitive Advantage: External/Internal Comparative Analysis

Comparing Mintzberg with Porter is like juxtaposing Microsoft Windows with Apple IOS, two different operating technologies delivering the same outcome, an evolving computer interface. However, like the computer analogy, the works of Porter and Mintzberg are central to a firm's strategic advantage, they just go about it in polar opposite directions. Though Mintzberg acknowledges the significant achievements of Porter and the wider positivists associated with Whittington's classical approach schools of thought, Mintzberg's philosophy is entrenched in the interpretivists multi realities of organisational order, in particular from the increasing turbulent business environment firms operate within (Brooks & Weatherston, 1997). It could be argued that Mintzberg's view of strategy in particular corporate strategy is one that evolves out of a firm's complex environment, which are time and context specific, rather than the strictures of process and formulised implementation.

Whereas Porter's strategy formulation is outward looking and matching internal capabilities to exploit market opportunities or protection against adverse market conditions, Mintzberg's premise goes far beyond just market forces. Strategies emerge not from a single external perspective but from a collection of static and dynamic factors. Thompson & Martin (2005) suggest that strategy can be seen in a visionary context within a dynamic environment in which details of the strategic plan provide a firm with purpose, intent and direction (p.16). Also, the activity of planning is crucial in the creation of strategy and that short-term tactics are used dynamically to gain competitive advantage, albeit temporary whilst competitors react. This view assumes that although the classical approach of planning plays a crucial role in strategy formation it is dynamic and evolves out of a firm's holistic environment. Mintzberg represents this view by defining strategy as 5 Ps (plan, ploy, perspective, position and pattern), where the collective amalgam of the five definitions enables strategies to emerge rather than the analytical formulations associated with the prescriptive schools. Though Grant (2005) suggests that emergent strategies evolve from the "*complex process of organisational decision making*" (p.24) he's somewhat ambivalent regarding Mintzberg's perspective arguing that systematic analysis is central to strategy formulation irrespective of the degree of formality whether intended or emergent. However, Grant

does bring a practitioner's perspective between the two schools (analytical intended and holistic emergence), the issue isn't "*which school is right*"? but, *"how can the two views complement one another to give a richer understanding of strategy making?"* (p.26).

If Porter and Mintzberg represent the two opposing Meta schools of strategic thought, Edith Penrose (1952, 1959) later codified (Wernerfelt, 1984) and subsequently theorised (Barney, 1991) articulate that it's a firm's unique capabilities and internal resources that drive strategy (Woods & West, 2010, p.399). What has evolved into an internal resource perspective of competitive advantage sprung from Porter's parochial external view and Mintzberg's emergent doctrine? As an alternative to Porter, the Resource-Based View Theory (RBV) evolved during the 1980's when the link between strategy creation and firm's resources and skills suffered comparative neglect (Grant, 1993).

The next subsection explores the evolution and application of the Resource-Base View Theory in particular the means by which resource accumulation can sustain competitive advantage. However, it is first prudent to discuss how Porter's external perspective contribute to the Resources-Based View strategic perspective.

2.3.2 Resource-Based View Theory

2.3.2.1 Porter's internal perspective contribution

Porter's market-based perspective is outward looking that attempts to satisfy the needs of the customer (Rowe, 2008). In doing so little cognisance and development of a firms' internal resources are not overly considered (Assen et al, 2009), and Mintzberg (1999) retorts that Porter not only dismisses strategic learning but denies its very existence (p.26). These rhetorical scholarly accretions suggest that Porter's influential works are one dimensional in favour of satisfying the needs of market forces at the expense of internal growth and development. However, on closer scrutiny, Porter's components of competitive analysis (Porter, 1980, p.49) clearly demonstrate that competitive advantage associated with the positioning school is an interrelated mix of empirical and proactive insight, and experiential learning.

So, what are Porter's main contributions and their relevance to the Resource-Based Theory? Porter's first premise of competitive advantage was based on a firm's competitive strategy to find a position in the market where the competitive forces (Porter's 5 Forces Model) will do the most good or least harm (Porter, 1980, p.30). Internal capabilities are grouped together in either defensive or offensive strategies to maximise potential earnings or mitigate the competitive forces of competitors. The second premise is based on the intensity of the competitive forces on

economic ‘perfect competition’ theory. In as much that ‘free market’ competition in any industry drives down the return on investment (ROI) to the market floor, and that investors will not tolerate a ROI below the floor for any sustained period. Therefore, Porter surmised the weaker the collective forces are in an industry, the greater opportunity for a firm to position itself for superior performance (Porter, 1980, p.31). Porter also recognised that the underlying structure of an industry reflected the strength of the competitive forces (p.31) and that economic, environmental and political fluctuations greatly impact on a firm’s ability to sustain competitive advantage. Of significance are Porter’s assertions that detractors of the positioning school assume that it is easy to copy a firm’s competitive advantage (Porter, 1996, p.61) because one only has to mirror a strategy to at least compete on equal terms. This posits assumes market homogeneity where all firms enjoy the same fruits. However, Porter’s work reflects a firm’s ability to perform all its tangible and intangible activities (not just a selected few) in such a manner that not only maximises operational effectiveness but also are unlikely to be copied by rival competitors. Thus, a firm’s collective activities are the units of sustained competitive advantage (p.62). The performance of a firm’s unique mix of activities first differentiates a firm from its competitors and second inherits complexity of imitation, and ultimately the extent to which a firm can sustain competitive advantage.

From the internal capabilities perspective, Porter’s economic market approach laid the foundations of the Resource-Based Theory (RBT) in as much that though RBT protagonists (Penrose, 1959; Wernerfelt, 1984 & 1995; Barney, 1991 & 1996; Peteraf, 1993; and, Parhalad & Hamel, 1990) were dismissive of market forces being the only driver for strategic formulation, heterogeneity and perfectly immobility of valuable and rare resources were the cornerstones for a firm’s set of resources that cannot be easily imitated and thus provide competitive advantage.

2.3.2.2 Foundations of Resource-Based View Theory

It is argued that traditional strategy creation is from an economist perspective (Penrose, 1959; Porter, 1980 & 1985) and the growth of a firm stems from an external analysis (Porter, 1980, 1985). However, from the resource perspective the focus of strategic analysis has shifted from the industry to the company itself (Wernerfelt, 1984). Resources are often cited as tangible and fixed such as plant and equipment, mining rights, employees with specific training and so on, Wernerfelt (1984). Others including Wernerfelt refer to internal resources available for strategy creation as both tangible and intangible (Penrose, 1959; Barney, 1991; Porter, 1991; Grant, 1991; Amit & Shoemaker, 1993; Shapirio, 1998; and, Rowe, 2008; Kim et al., 2015), and include amongst others technical knowhow (Amit & Shoemaker, 1993); culture (Barney, 1986); and, reputation (Wernerfelt, 1984; Grant, 1993) as a firm resource offering leverage for competitive advantage (Wernerfelt, 1984).

A firm's resources whether tangible or intangible can be classified into three groups of: i) physical capital; ii) organisational capital; and, iii) human capital, Barney (1991, p.101). Penrose (1959) argues that human resources and managerial resources are of particular importance inferring that a firm's growth is reliant on discrete 'bundles of resources', which can only be planned by a firm's own management.

Edith Penrose's (1959) book, The Theory of the Growth of the firm, is considered as the seminal work for contemporary, resource-based theory of firm development (Rugman & Verbeke, 2002). A fundamental argument of Penrose hinges on two assumptions: i) a firms growth can be as a result of the exploitation of existing resources and development of new ones (Wernerfelt, 1984); and, ii) human capital particular management competence to manipulate and transform firm resources into something that can leverage degrees of competitive advantage (Teece, 1982; Barney, 1991; Foss, 1998; Newbert, 2008; Lockett et al., 2009). This later assumption is generally cited as the 'Penrose Effect' (Rugman & Verbeke, 2002; Tan & Mahoney, 2005) and refers to the managerial constraints between the characteristics of their own firm and the external environment in which they compete (Lockett et al., 2009). Of particular relevance to this investigation is Penrose's articulation that a firm's managerial resource should have the ability to manipulate the heterogeneous characteristics of a valuable and rare resource (or combination of valuable and rare resources) to exploit in a manner that is not easy to imitate or copy, and thus leverage advantage. Lockett et al., (2009) critical appraisal of the Resource-Based View argues for Penrose's position, in that managerial perceptions of resource manipulation are important in relation to three central elements of RBV, resource functionality, recombination and creation.

First, resource functionality: here Penrose proposed that a firm's productive opportunity is determined by the managerial competences and the resources at their disposal, going on to suggest that existing resources may have novel uses, and excessive capacity of a resource when combined with other complimentary resources can be exploited to generate a productive service, such as project management practice using specific project management assets and associated process and practices (Locket et al., 2009, p.13). Additionally, Penrose highlights that resources may be employed in different uses particular reflexivity of the managerial resource, and that resources may be employed in different across a diversity of context (Lockett et al., 2009, p.13). Such as the general management context of LASIS to the more specialised project management context of this investigation, or the use of proprietary tangible assets such as databases, computer software and hardware.

Second, resource combination: Lockett et al., (2009) supports Penrose's argument that a firm's managerial competence influences the degree of resource usage productive opportunity. Here, Penrose argues that managers ability to recognise how complimentary resources can be combined to create a productive service, which if consciously exploited may provide an organisational capability offering degrees of competitive advantage (pp.14-15). Such as LASIS complimentary project management tangible and intangible assets combined with the managerial assets of organisational support.

Finally, resource creation: Lockett et al., (2009) illustrate Penrose's argument that a firm develop resources through their own productive activities over time, and thus generate a unique resource-base that is directly related to a firm's past activities (p.15), or path-dependent (Barney, 1991). It is this uniqueness of how a firm creates its resource-base that evolves into casual ambiguity claims Barney (1991). In which potential competitors will find difficult to isolate the specific factors necessary to imitate or copy and how the resource provides competitive advantage. Such as LASIS collective project management assets, processes and practices combined to create a productive project management practice with the potential of leveraging degrees of competitive advantage.

Thus, this Penrose view is a foundation of this thesis: project management assets and associated processes and practices (bundles of resources), as a source of strategic competitive advantage in LASIS. Where the researcher suggests a correlation between management organisational behaviour associated with project management practice and measurable performance in providing sustainability of societal benefits.

Other resource views are critical resources differentiating a firm from its competitors Wernerfelt (1984); developing core competences across the organisation feeding core products, which in turn contributes to a firm's competitiveness, Parhalad & Hamel (1990). Defining organisations in terms of resources and not products or markets (Penrose, 1959), specifying a resource profile of a firm makes it possible to find the optimal product-market activities, Wernerfelt, (1984, p.171).

This internal resource analysis perspective is a cornerstone for the Resource-Based View (RBV) theory. Having evolved since 1991 into a prominent, pre-eminent and powerful theory for understanding organisations (Barney, 1991; Lockett, Thompson & Morgenstern, 2009), it has become a widely accepted theory of strategic management (Newbert, 2007) in particular sustained competitive advantage theory.

Without content the internal resource perspective is only an abstract alternative concept to the traditional external view of competitive advantage. Sustained competitive advantage is when an organisation is creating strategy that no other competitor, whether current or potential is simultaneously implementing a similar strategy (Barney, 1991), and when firms are unable to duplicate the benefits of that strategy (Barney, 1991; Lippman & Rumelt, 1982). Similar with the market view (Porter, 1980, 1985) a firm enjoying above average returns has some degree of competitive advantage (Porter, 1980, 1985; Barney, 1986, 1991). The market perspective of strategy assumes that resource homogeneity and mobility are levelling market factors in which little consideration is paid when analysing which markets to compete. Moreover, in markets with some resource heterogeneity and immobility, competitive advantage is only temporary (Porter, 1980, 1985). In fact, it is argued that evenly distributed resources across all competing firms which are highly mobile cannot be expected, in general, to obtain sustained competitive advantage (Barney, 1991). Mobility of a resource is its propensity to buy or sell in strategic factor markets (Barney, 1986) or put another way, a firm's strategic value of its resources and capabilities is enhanced the more difficult they are to sell or buy, Amit & Schoemaker, (1993, p.38). In contrast, RBV theory turns the constructs of resource heterogeneity and immobility into conditions in which sustained competitive advantage can flourish (Barney, 1991, 1996; Peteraf, 1993). Extending this concept, Barney (1986) argues that firms with better than average resources and superior expectation about the future value of a strategy create imperfect competition markets and thus enjoy better than average returns.

Resource-Based View Theory is an economic model with a core Ricardian metaphor (Kraaijenbrink, Spender & Groen, 2010). Based on market heterogeneity and immobility to produce resource Ricardian Rents (Peteraf, 1993). RBV theory is an analytical tool to guide firms to sustained competitive advantage via the exploitation of a firms 'bundle of resources' (Penrose, 1959, 1995), critical resources, Wernerfelt (1989) or core competences, Parhalad & Hamel (1990). However, heterogeneity and immobility are not sufficient to create strategies of competitive advantage let alone sustain them. Competing firms can imitate or substitute resources and organisational efficiency and effectiveness (Porter, 1980, 1985; Barney, 1991, 1996) by entering strategic factor markets (Barney, 1986) or develop internally (Porter, 1996).

RBV developed in the 1990s from notable resource-view contributors including, Penrose (1959), Lippman & Rumelt (1982), Teece (1980, 1982, 1997), Rumelt (1984, 1987), Wernerfelt (1984, 1989), Barney (1986, 1991, 1996), Dierickx & Cool (1989), Parhalad & Hamel (1990), Conner (1991), Grant (1991), Amit & Schoemaker (1993), Mahoney & Pandian (1992) and Peteraf (1993). However, Jay Barney's value, rare, imperfectly imitable and non-substitutability (VRIN)

framework (Barney, 1991) has become synonymous with resource-based approach to sustained competitive advantage, becoming one of the most influential and cited theories in the history of strategic management, (Kraaijenbrink, Spender & Groen, 2010). Amit & Schoemaker (1993) conceptualise RBV components as *"marshalling a set of complementary and specialised resources and capabilities which are scarce, durable, not easier traded, and difficult to imitate, may enable a firm to earn economic rents".* Though the concepts in particular the VRIN framework have been applied to practitioner situations, for example: SWOT Analysis, Valentine (2001); strategic HRM, Wright, Dunford & Snell (2001); Health service sector reputations, Smith (2008) and Six-Sigma Implementation, Kiatcharoenpol et al (2011), the theory has been under constant criticism from several angles, for example: methodology, Rouse (1999); calls for amending RBV from Foss, Klein, Kor & Mahoney (2008) and Makadok (2001); and polemical critiques from Priem & Butler (2001a, 2001b), Foss & Kundsen (2003) and Spender (2006). Recent studies reviewing the theoretical and empirical development of RBV suggest areas for underpinning theory and research context, Newbert (2007); Lockett et al., Morgenstern (2009); Barney, Ketchen & Wright (2011).

The following subsection reviews the VRIN framework as an introduction to Barney (1995) amended VRIO framework.

2.3.2.3 VRIN Framework

Based on the assumptions of resource heterogeneity and immobility (Wernerfelt, 1984; Barney, 1986a, 1991; Peteraf, 1993), a firms' resources put to use to leverage competitive advantage must be valuable, rare, imperfectly imitable and non-substitutable (VRIN), Barney (1991). Firm resources are both wide and varied and individually may not be strategically relevant suggests Barney (1991). However, Barney (1991) classifies three broad categories of firm resources from literature namely physical capital resources such as technology, plant and equipment, geographical location and access to raw materials; human capital resources such as training, experience, judgement, intelligence, relationships and insight of individual managers; and, organisational capital resources such as formal reporting structures, formal and informal planning structure, controlling and coordination systems as well as the informal relationships within the firm and its environment. Suggesting that a defined and conscious strategy utilising these resources can provide a firm with competitive advantage if not simultaneously being implemented by existing or potential competitors, going on to proclaim sustained competitive advantage is possible when the defined and conscious strategy cannot be duplicated by existing or potential competitors (Barney, 1991, pp.101-102). Other scholars add weight to Barney's collection of firm specific resources, representing a fairer picture of a firm's tangible and intangible resource endowment. For example, strength and weakness of a firm (Wernerfelt, 1984), culture (Barney, 1986), research

& development and knowledge management (Dierickx & Cool, 1989), management trust (Amit & Schoemaker, 1993) and Grant, 2001 includes patents, licences and brand names.

Other notable Resource-Based View scholars conceptualise a firm's resources providing opportunities for competitive advantage such as core competencies (Prahalad & Hamel, 1990), bundles of assets (Amit & Schoemaker, 1993) and dynamic capabilities (Teece, Pisano & Shuen, 1997), in which individual resources are brought together to be utilised in opportunities that are more effective than competitors (Grant, 2001). These determinations go beyond Barney's single logic and terminology of pigeon-holing a firms' resources, a critique often expressed by amongst others Kraaijenbrink & Spender (2010) who argue that in general RBV resource definition is unworkable and advocate an explicit recognition of the different types of resource – static, dynamic, tangible, intangible, financial, HR, technological, perishable and so on (p.359). However, whether appropriated from the specific firm resources or the material conceptualisation of firm resources, the VRIN framework links the relationship of resource heterogeneity and immobility with the degree of sustained competitive advantage, as figure 2.3 below illustrates.

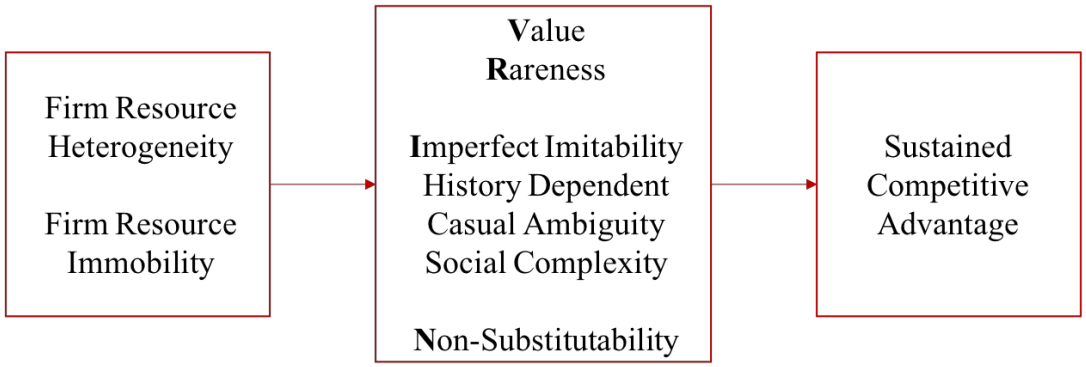

Figure 2.3: The relationship between resource-based elements and CA (Barney, 1991)

The VRIN agenda is based on the assumptions that heterogeneity and immobility of specific firm resources or the material conceptualisation of firm resource can provide sustained competitive advantage providing they are valuable in the sense that they exploit opportunities and/or neutralise threats in a firm's environment, are rare amongst a firm's current and potential competitors, are imperfectly imitable and there are no strategic equivalent substitutions for the valuable but neither rare or imitable resources (Barney, 1991, pp.105-106).

A closer look at the VRIN elements reveals an amalgam of complex and challenging scenarios if strategies based on firm resources are to achieve a degree of competitive advantage let alone sustainable advantage. **Value** for example is a contested construct particularly from scholars such as Priem & Butler (2001) who in their polemic article deride Barney's eschewed determination of valuable resources being too simplistic; whilst Kraaijenbrink & Spender (2010) review of RBV

critiques cite Priem & Butler (2001) indefinite notion of value, and go on to provide examples of scholars determination of value like perception, total and monetary argued by Bowman & Ambrosini (2000) and supported by Priem & Butler (2001).

Rareness is also a contested construct albeit from a definition perspective. Barney (1991) argues that if the number of firms possessing the valuable resource(s) is less than the number of firms required to generate perfect competition dynamics, then each of these firms have the opportunity to exploit the valuable resources in a manner that generates a competitive advantage. Whereas, Lockett et al., (2009) define *"rare resources as those that are limited in supply and not equally distributed across a firm's current and potential competition",* (p.11); and, rare so that buyers cannot turn to competitors with the same or substitute resources (Combs & Ketchen, 1999, p.869). However, on reaching equilibrium any competitive advantage will be apportioned away (Barney, 1991; Peteraf, 1993). Later, Barney (1995, 1998) qualified the degree of competitive advantage form valuable resources as only providing a degree of competitive parity and if these same valuable resources were rare then a temporary competitive advantage is possible.

The third construct **imperfect imitability** in simple terms: imperfect imitable resources are strategic resources or a firm's assets that are difficult or impossible for competitors to imitate, copy or acquire substitutions without foregoing a cost disadvantage. Barney (1986) argues that if resource-based strategies are to return above normal economic performance then *ceteris paribus* the implementing strategy costs should be less than the returns. Imperfectly imitable resources are when a rival competitor is unable to copy a strategic resource due to cost disadvantages. The more complex the accumulation of a strategic resource, commands greater cost disadvantages to competing forms if they are to yield more than parity economic performance.

The final construct **non-substitutability** is an economic condition in which competing firms can implement the same resource-based strategies by acquiring and developing strategically equivalent resources. If the equivalent resource mix provides the same economic performance in comparison to the firm holding a valuable, rare and imitable resource mix then any sustained competitive advantage will be apportioned away. Substitution isn't too dissimilar to imitability in that alternative resources can be acquired to develop and thus conceive and implement the same strategy that is conceived of firm specific rare and imitable resources. For example, though a firm's high-quality management team is valuable, rare and imperfectly imitable, a competing firm can duplicate its own unique top management team by acquiring and developing different people, practices and relationships for example argues Barney (1991). Similarly, firms can acquire imperfect substitutes and adapt them at a cost to duplicate a desired strategy, for example, generic

labour acquired on a factor market can be trained and developed in firm specific skills, knowledge and values argues Dierickx & Cool (1989). This similarity with imperfect imitability is a difficult concept to rationalise if sustained competitive advantage is dependent on valuable, rare and imperfectly imitable resources that do not have any strategic equivalent substitutes. As firms who are unable to precisely imitate a rival's resource can thus acquire and develop strategic equivalents and thus apportion away any degree of sustained competitive advantage even though strategies exploit valuable, rare and perfectly imitable resources. It is therefore with interest that Barney's 1995, 1998 reworked VRIO framework combines imperfectly imitable and non-substitutability within the same construct, whilst recognising the significance of organisational support.

2.3.2.4 VRIO Framework

Much of the resource-based discourse is focused on specific resources and conditions necessary for firms to yield some degree of competitive advantage and thus above average economic performance. However, exploiting a firm's resources and capabilities to their full potential requires a significant investment in organisational support (Barney, 1995) particular from the complementary management asset; to develop and exploit the best leverage of strategic resources and capabilities. This notion is further grounded in Barney & Wright (1998) VRIO framework and the relationship with sustained competitive advantage and firm performance, as illustrated in table 2.1 below.

Table 2.1: The VRIO Framework – Gaining and Sustaining CA (Barney & Wright 1998)

Is a resource….					
Valuable?	**Rare?**	**Difficult to imitate?**	**Supported by Organisation?**	**Competitive Implications**	**Performance**
No	----	----	↕	Competitive Disadvantage	Below Normal
Yes	No	----		Competitive Parity	Normal
Yes	Yes	No		Temporary Competitive Advantage	Above Normal
Yes	Yes	Yes		Sustained Competitive Advantage	Above Normal

Though the RBV VRIO is an influential strategic management theory due to its immediate face validity, appealing core message and ease to grasp and teach (Kraaijenbrink, et al., 2010) and a theoretical and practical constructed parsimonious RBV modeller (a simple tool to identify resources and capabilities that provide a firm with a degree of competitive advantage), there is little empirical evidence to support a linkage between RBV and competitive advantage application, suggests (Miller & Shamsie, 1996, p.540; Kraaijenbrink et al., 2010; and, Shafeey & Trott, 2014). Also, it would appear that the main application of VRIO is through academic research and

management consultancies, suggesting RBV VRIO proponents are quite remote from actual corporate strategy formulation. A plausible reason may be a lack of corporate awareness, knowledge and understanding of the developing theory at firm specific level, clearly demonstrated by Rouse & Daellenback (1999) in their experience of a consultant's unintended VRIO application to reverse a corporate strategy which would have apportion away the firms only resource providing competitive advantage.

However, a second significant criticism of the VRIO framework is its specific determination of complementary resources in providing organisational support. Newbert (2007) argues that the static nature of Barney's complementary resources can only uphold a period of sustained competitive advantage whilst the competition acquires the resources and capabilities to apportion away any competitive advantage, which Barney wholeheartedly expressed a few years following his seminal 1991 RBV position. Though a firm's resources and capabilities may have added value in the past, changes in the environment can render them less valuable in the future, going on to proclaim that one of the most important responsibilities of strategic managers is to constantly evaluate whether or not their firm's resources and capabilities continue to add value, despite changes in the competitive environment, explains Barney (1995, p.51). Newbert looked to Teece et al., (1997, p.516) dynamic capabilities as a theoretical approach offering resilience agility in responding to rapid environmental changes. However, Newbert contended that little empirical evidence supports the notion of dynamic capabilities as a test of competitive advantage (p.137).

It is worthy to note here that the researcher acknowledges Newbert's static critique and the need for combining VRIO and agility in responding to environmental changes. Whilst not a specific research objective of this thesis, in concluding this review of literature, the researcher will introduce current and future research themes which look to address Newbert's criticisms.

In summary, the VRIN[O] framework sets out the broad conditions necessary for a resource's comparative scarcity to evaluate its strategic significance (Lockett et l., 2009). In doing so a firm apportions a degree of competitive advantage and should leverage greater returns from its superior resources in comparison to its competitors (Peteraf, 1993). The next subsection reviews Resource-Base View literature in the context of project management specifically from project management assets and competitive advantage. Here, particular attention is drawn from the research team headed by Professors Kam Jugdev and Gita Mathur as there is very little extant literature outside this research team.

2.3.2.5 VRIO Framework applied to Project Management

Project management is receiving an increasing amount of recognition as a means to improve a firm's competitive position suggests, Mathur, Jugdev & Fung (2014) and Perkins, Jugdev & Mathur (2018). Project management resources and capabilities that have been customised to a specific environment and developed over time are not easily imitated and therefore can provide a source of competitive advantage and yield better firm performance argues Almarri & Gardiner (2014). Two views, which firmly position project management in strategic management discourse as a source of leveraging advantage. Though scholars make relationships with project management and competitive advantage, for example, achieving competitive advantage through the use of project management under the plan-do-check-act concept (Srivannaboon, 2009); project maturity levels (Simangunsong and Da Silva, 2013) and project team turnover cause-effects on project performance (Parker & Skitmore, 2005); there is little literature linking project management capabilities and competitive advantage; for example, identifying the most important IT resources and capabilities, Hadaya, Cassivi & Chalabi (2012). Similarly, there is even less in understanding how project management contributes to competitive advantage, DeFillippi & Arthur (1998); and negligible literature applying Resource-Based View to project management as a strategic asset (Jugdev, 2004), which still remains understudied (Jugdev, 2013). Given the growing strategic importance project management assets are to a firm, scholars such as Gita Mathur and Kam Jugdev are at the forefront of extolling the virtues of how scholars and practitioners alike can apply RBV to project managements to further understand and promote project management discourse as a source of strategic competitive advantage.

Project management as a business function consists of both tangible and intangible assets often grouped together as specific resource bundles. However, it's the tangible and codified assets particular 'tools & techniques' and a systems approach to planning and managing projects that dominate literature leading to a view that project management is simply a tactical tool argues Jugdev (2006); Mathur et al., (2013, 2014). Intangible assets are those firm resources that are tacit, unspoken but understood (Teece, et al., 1997) particular the tacit knowledge sharing processes and facilitation (Almarri & Gardiner, 2014) and social capital practices (Jugdev, 2006) or more precisely labelled as the 'know-how' (Nonaka, 1994). Moreover, but not exclusive to project management, intangible project management assets are knowledge based that are path-dependant on a firm's history and its unique set of organisational idiosyncrasies. Whereas, from a theoretical perspective and supported by empirical investigations and studies, though probably valuable and in some cases rare, the tangible project management assets are likely to only provide at best temporary competitive advantage as they are easy to copy. Thus, based on the VRIO framework it is the intangible assets of project management that are more likely to satisfy the

requirements of valuable, rare and inimitable (Killen et al., 2012) and thus offer a better scenario for sustained competitive advantage (Mathur et al., 2014; Almarri & Gardiner, 2014).

This simplistic dyadic overview of academic investigations into project management assets and their relation to competitive advantage fails to balance a growing critical RBV discourse of resource definitions (Almarri & Gardiner, 2014), and that RBV is largely untestable (Priem & Butler, 2001; Almarri & Gardiner, 2014). The main issues here are with defining and codifying intangible assets into a coherent format such as tacit knowledge (Teece et al., 1997), which can then be objectively measured and thus address the untestable notion, though this is often difficult argues Teece et al., (1997, p.525). This has not gone unnoticed by RBV theorist such as Barney who acknowledges the on-going challenges of measuring intangible resources and intangible based asset resource construct validation undermines confidence in empirical tests supporting RBV (Barney et al., 2011).

It is therefore of interest that Killen et al., (2012) links the notional problems of resource definition and measurement with intermediate and aggregate variables in empirical studies investigating the relationship between project management assets (whether tangible or intangible) and organisations performance because project management assets are only one of many confounding factors influence organisational performance (p.529). This is significant as to date; the main thrust on project management research based on the VRIO framework is extremely limited, and mainly from one particular research team, located in the North Americas. Table 2.2 below presents a chronological summary of the key empirical research into project management as a source of competitive advantage from the VRIO framework.

Table 2.2: Project Management as a source of CA: summary of key research

Jugdev and Thomas (2002)	Study into project management maturity models as a source of competitive advantage.	Conceptual paper
Jugdev (2004)	RBV to study project management as a strategic asset.	Conceptual paper
(Jugdev & Mathur, 2006) Mathur, Jugdev & Fung (2007)	The identification of tangible and intangible project management assets which contribute to competitive advantage.	Empirical VRIO Factor Analysis – Participants: North American Project Management Institute members
Jugdev, Mathur & Fung (2006 & 2007)	The relationship between specific tangible and intangible project management assets and the degree of competitive advantage leveraged	Empirical VRIO Factor Analysis – Participants: North American Project Management Institute members
Jugdev, Mathur & Fung (2011)	The degree of competitive advantage leveraged in a firm by exploring the link between project management assets and a firm's project performance.	Empirical VRIO Factor Analysis – Participants: North American Project Management Institute members
(Jugdev & Mathur, 2012)	Classifying project management resources by complexity and leverage, and a conceptual framework to classify project management resources as a source of competitive advantage.	Literature based conceptual paper

Mathur, Jugdev & Fung (2013)	The identification of project management assets, processes and practices as a step towards linking VRIO characteristics to firm performance.	Empirical VRIO Factor Analysis - Participants: North American Project Management Institute members
Mathur, Jugdev & Fung (2014)	The relationship between project management process characteristics and *project* level and *firm* level performance.	Empirical VRIO Factor Analysis, and Hierarchical Regression Analysis - Participants: North American Project Management Institute members
Drouin & Jugdev (2014)	Examination of issues within strategic management related to concepts and terms used within RBV and dynamic capabilities theory, and how can be translated for organisational project management.	Literature based conceptual paper
Kim, Lee & Shin (2015)	Project management capability as a source of competitive advantage, the impact of project management tangible and intangible assets on VRIO characteristics for competitive advantage.	Factor analysis and hypotheses testing survey questionnaire – Participants: 167 Korean managers from three project-based industries.
Perkins, Jugdev & Mathur (2018)	Characteristics of project management assets and project management process outcomes.	Empirical VRIO Factor Analysis – Participants drawn from non-PMI designation, but with a project management responsibility

Scholars and practitioners have made attempts at identifying project management resource endowments that exclusively or in collective bundles provide potential sources of competitive advantage (Almarri & Gardiner, 2014; Jugdev, 2004, 2006; Mathur, Jugdev & Fung, 2007, 2013, 2014; Maylor, 2003; Burke, 2003). However, as table 2.2 above illustrates, there is limited empirical VRIO project management investigations linking tangible and intangible assets with degrees of competitive advantage.

Tangible resources include the labelled 'know what' (Nonaka, 1994) of *methodologies* and practices (Almarri & Gardiner, 2014); tools & techniques and management practices supporting the discipline (Jugdev, 2004); project management maturity, training & development and sharing 'know what' (Killen et al., 2012); *project management office*, *databases* and documents (Jugdev et al., 2011); decision making tools, *templates* and project management bodies of knowledge (Jugdev & Mathur, 2006, 2012); and, the *printed project management material*, computer *hardware* & computer *software* (Mathur et al., 2007, 2013, 2014).

In contrast to the codified and economically measurable tangible resources, intangible resources are primarily knowledge-based accumulations (Teece et al., 1997; Dierickx & Cool, 1989, Lockett, 2009; Polyani, 1962) particular tacit knowledge (Jugdev, 2004), which is somewhat arbitrary in how economic value can be apportioned and measured contends Malloy et al., (2011). Kraaijenbrink et al., (2010) make a distinction between knowledge-based and other type of resources as to their degree of intangibleness (p.362). Therefore, intangible project management resources include tacit knowledge sharing process and facilitation (Almarri & Gardiner, 2014), which is further defined as the application for sharing tacit knowledge and the processes and relationships for the facilitation of sharing tacit knowledge explains Mathur et al., (2007).

Throughout their career investigations into project management assets and competitive advantage and the link with performance, Jugdev et al., and Mathur et al., further elucidates that it's the degree of embedding project management intangibles in a firm's ways of working (Rumelt et al., 1994; Foss, 1997) and argue that its these intangible assets that are embedded in a company's routines and relationships that are hard for competitors to imitate (Mathur, et al., 2014), concurring with extant literature (Abualqumboz, Reid, Papalexi & Bamford, 2017). In addition to the conceptual intangible resource determinants, Jugdev et al., and Mathur et al's investigations have focused on specific project management intangibles including *mentoring*, *shadowing*, social capacity, experiential learning and project management *communities of practices*, with a common theme that the intangibles assets are more likely to provide a firm with some degree of competitive advantage; which is further supported by Kim et al., (2015) conclusion that firms should invest in the intangible project management assets if they want to use project management capability as a source of competitive advantage (p.167). For example, in Mathur et al., (2007) investigation the collective intangible resources of sharing knowledge were deemed valuable and rare and thus providing temporary competitive advantage, whereas the collective tangible resources were only deemed valuable and competitive parity at best. However, in their investigation into project management assets and project management performance the specific intangible resources of social capital, tacit project management knowledge, project management communities, *shadowing* and *mentoring* demonstrated significantly higher degrees of value, rareness and inimitability in relation to the structured codified tangible resources (Mathur et al., 2007). Table 2.3 below is a summary of the key literature and empirical research into project management as a source of competitive advantage from the VRIO framework.

Table 2.3: Summarised Project Management Asset Condition Literature

Jugdev (2006, 2014)	Tangible and codified	Tools & Techniques
Teece et al (1997)		
Teece et al (1997); Dierickx & Cool (1989); Lockett (2009); Polyani (1962)	Tacit knowledge	Knowledge-based accumulations
Almarri & Gardiner (2014	Tacit knowledge	Sharing processes and facilitation
Jugdev (2006)	Tacit knowledge	Social Capital
Jugdev & Mathur (2006)	Tangible and intangible PM assets	Factor analysis extracting factors of different PM assets mix contributing to VRIO conditions
Nonaka (1994)	Intangible 'know-how'	
Killen, Jugdev, Drouin & Petit (2012)	Intangible project management assets	Satisfy requirements of VRIO
Jugdev (2014); Almarri & Gardiner (2014)	Intangible project management assets	Scenario for sustained competitive advantage.
Nonaka (1994)	Tangible 'know what'	
Almarri & Gardiner (2014)	Tangible 'know what'	Methodologies and practices.
Jugdev (2004)	Tangible 'know what'	Tools and techniques, management practices supporting the discipline.
Killen et al (2012)	Tangible 'know what'	Project management maturity, training and development and sharing processes.
Jugdev, Mathur & Fung (2012)	Tangible 'know what'	Project management office, databases and documents.

Jugdev & Mathur (2012)	Tangible 'know what'	Decision-making tools, templates, project management bodies of knowledge.
Jugdev, Mathur & Fung (2006, 2011, 2014)	Tangible 'know what'	Printed project management material, computer hardware and software.
Mathur, Jugdev & Fung (2007)	Tacit knowledge	Application for sharing tacit knowledge and processes and relationships for sharing tacit knowledge.
Rumelt et al (1994), Foss (1997)	Intangibles	Embedding in a firm's way of working.
Mathur, Jugdev & Fung (2007, 2014)	Project management intangibles	Degree of embedding in a firm's way of working, and a firm's routines and relationships that are hard for competitors to imitate.
Mathur, Jugdev & Fung (2007, 2014),	Project management intangibles	Mentoring, shadowing, social capacity, experiential learning and communities of practice, more likely to leverage competitive advantage.
Kim, Lee & Shin (2015)	Project management intangibles	A firm should invest in these project management capacity resources as a source of competitive advantage.
Mathur, Jugdev & Fung (2007, 2014)	Project management intangible assets associated with sharing knowledge	Valuable and rare and thus, temporary competitive advantage
Mathur, Jugdev & Fung (2007, 2014)	Project management tangible assets associated with sharing knowledge	Only valuable and thus parity competitive advantage
Mathur, Jugdev & Fung (2007, 2014)	Project management intangible	Shadowing, mentoring, personal contacts, tacit (implicit knowledge), mentoring

Therefore, in summary the VRIO framework implies that a resource, asset or capability of a firm needs to satisfy the requirements of value, rare, inimitable and have organisational support (Barney, 1998) for it to leverage sustained competitive advantage. However, there is extremely limited empirical research that operationalise the VRIO framework, which has a focus on professional project managers. In a twist to Barney's VRIO framework, Jugdev et al., (2011) propose that the degree of value, rareness and inimitability of a project management resource competitive advantage depends on the degree of organisational support leveraged to the specific resource, asset or capability. A refined conceptual model illustrated in figure 2.4 below reveals that value, rare and inimitability are independent variables and the degree of competitive advantage the dependant variable, and that organisational support is a moderating variable influencing the degree of competitive advantage.

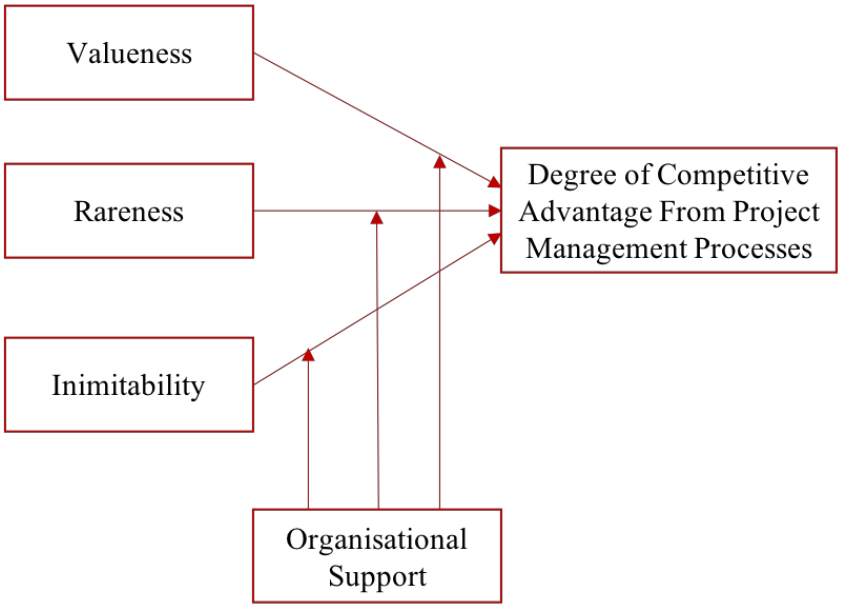

Figure 2.4: Conceptual model-linking characteristics of project management assets to project management performance outcomes (Jugdev et al., 2011)

2.3.2.6 RBV in the Public and Third Sectors

Historically the application of strategic management theories and tools has been within a private-sector context, which is substantiated in abundance within literature, suggest Williams and Lewis (2008) and more recent Hansen and Ferlie (2016). The use of strategic models such as competitive positioning and competitive advantage in the public sector is beginning to gain more interest (Hansen & Ferlie, 2016), particular the challenges of market-like competition (Hansen & Ferlie, 2016, p.5) associated with an increasing UK public-sector competitive paradigm post the 2008 global financial crisis.

The public-sector has a tradition of drawing on established management theories to develop their own frameworks, such as Best Value to promote continuous improvements (Boyne, Martin & Walker, 2007), and the EFQM excellence framework (Hides, Davies & Jackson, 2004. Both Williams and Lewis (2008) and Hansen and Ferlie (2016) argue that the public sector adopt private sector tools for effective strategic management particular as the UK public sector is measured against target outcomes. Private sector strategic management theories, models and tools the public sector have embraced include stakeholder analysis, balanced scorecard, key performance indicators KPIs, total quality management TQM (Williams & Lewis, 2008). However, as Boyne (2002) points out the environment of the public sector is totally indifferent to the private sector, and thus careful consideration when adapting private sector models is necessary if the benefits are not to prove more damaging (Williams & Lewis, 2008). Nevertheless, both Williams and Lewis (2008) and Hansen and Ferlie (2016) offer case study examples of where and how certain private sector strategic management tools have been implemented, particular in an increasing public sector

competitive environment. Hansen and Ferlie (2016) offer two empirical practitioner examples of strategic competitive position applying Porter's acclaimed Value Chain model in upper secondary schools in Denmark; and the resource-based view perspective of strategy in an English academic health science centre context. Thus, it is this latter example, which resonates throughout this investigation of applying RBV in a very specific public sector context.

Before concluding the strategy theme, the following is a short review of public sector literature applying strategic management models particular the limited application of the resource-based view.

Human resource management (HRM) and competitive advantage or firm performance is a prominent area of Resource-Based View research, however it's primarily in the private sector. Since Lado and Wilson (1994) asserted that HRM as a strategic asset of organisational strategy and competitive advantage is a growing area of empirical study, there is a developing body of literature arguing the linkage between strategic human resource management and a firms competitive advantage; for example Youndt, Snell, Dean & Lepak (1996) study into manufacturing firms strategy and firm performance, Wright et al., (2001) review of empirical research into the development of strategic human resource management (SHRM) and how strategy and SHRM are converging, and Chadwick & Dabu (2009) a model of casual linkages between a firms human resource management and competitive advantage.

However, it is only recent that strategic management has received attention as a source of competitive advantage in the public-sector administration literature (Hansen & Firlie, 2016). Except for a notable few studies particular McCracken & McIvor (2013) empirical study into outsourcing shared services analysed from an RBV perspective, and how to apply RBV in public organisation (Bryson, Ackermann & Eden, 2007); little exists in the public sector or 'not for profit' sector literature. Though 'human resource capital' in general is represented in RBV literature as a means of leveraging competitive advantage in the public-sector (Herremans & Isaac, 2004; Carmeli, 2004; Carmeli & Schaubroeck, 2005), resource-based view studies are notably absent from health care journals (Ferlie, Crilly, Jashapura & Peckham, 2012) who argue that the Resource-Based View should be imported into future health sector management studies.

Very few public-sector and 'not for profit' studies are represented in literature that have applied RBV logic to firm resources that are heterogeneous, imperfectly mobile, valuable, rare and imperfectly imitable in line with Jay Barney's RBV framework. However, with the exception of Salwan & Satarker (2011) VRIO analysis of India's NTNL public-sector owned

telecommunications company, to date no other public sector, 'not for profit' sector or social enterprise organisations has measured the amount of competitive advantage a resource, asset or capability leverages a firm via the VRIO framework. In addition, at this time there is no evidence of any theoretical or empirical literature, which applies either the general RBV logic or specific empirical VRIO analysis in any public-sector, 'not for profit' sector or social enterprise context with project management as a strategic source of competitive advantage. Therefore, this research is a major contribution to the body of existing literature.

Notwithstanding the scant distribution of associated literature, two studies are of interest in the context of this research. The application of RBV in understanding continuous improvement in an English Local Authority (Douglas, Jenkins & Kennedy, 2012), and the logic of RBV in positing a model of strategic human resource management (Akingbola, 2013). Both studies draw on the 'intangible' resources, assets or capabilities as providing a base for sustained high-performance in the English Local Authority (Douglas et al., 2012) and a strategic source of competitive advantage in 'not for profit' organisations who embed social capital in human resource practices argues Akingbola (2013). The significance of these two isolated studies is the combination of RBV as a candidate theory of competitive advantage to explain and develop understanding of local authority performance (Douglas et al, 2013), and RBV to explain the resource interactions and processes that influence the not for profit strategic planning and implementation.

2.3.3 Strategic Theme Conclusion

In conclusion, the review of strategy literature makes the claim that though there is limited associated empirical research within a public-sector, project management context; RBV logic and the operationalisation of the VRIO framework is a suitable theory to identify which, project management assets and associated processes and practices LASIS managers need to deliberately acknowledge, develop, deploy and exploit; when conceiving competitive advantage strategies, which deliver impact and leverage sustainability. It also enabled the researcher to identify that both tangible and intangible resources are considered relevant internal resources for competitive advantage, however it is the mix of resource endowment particular intangible resources that are more likely to leverage competitive advantage. Thus, having established the strategic and theoretical foundations of this research, it is now necessary to review the associated project management literature, specifically from the perspective of the different endowments of tangible and intangible assets, processes and practices; and project management success and methods associated with measuring performance.

2.4 Project Management

The theme starts with a brief history and defining project management. This is followed by a review of project management resources from the perspective of their tangibility, with a focus on the twelve project management assets of this particular investigation. Then moving on to project management in the public sector and collaborating organisations is reviewed. Finally, project performance literature will be reviewed, with a focus on the different perspectives of performance and how specifics areas of project performance are measured.

2.4.1 Project Management History

According to Garel (2012) project management has been in vogue since the early 1980's observing increased development in the service and mass production sectors as well as public sector organisations. Organisations are increasingly applying project management practice to be more efficient and effective, suggest Perkins et al., (2018).

According to Seymour and Hussein (2014) "project management has been practiced for as long as humanity inhibited earth" (p.233). However, it is accepted within literature that project management history is defined in four specific periods. Whilst dates are slightly out of alignment, Morris (1994), Morris, Pinto and Söderlund (2012) and Kwak (2003) define the periods as: i) early history prior to the 1950's; ii) systems development period post 1950's up to the late 1960's; iii) wider application and BoK approach period early 1970's into the 1990's; and, iv) the enterprise-wide new environment approach period into the new millennium. However, Seymour and Hussein (2014) extend this debate post the fourth period in which advances project management software and applications in communications technology project management is becoming more of a science than art (p.237).

In the first period, project management origins go back to the Great Pyramids of Giza some 4500 years ago. Ancient records show that there were managers responsible for the completion of certain facets of this great project including some degree of planning, execution and control. Moving forward to the Qin Dynasty, according to historical records, the labour force required to construct the Great Wall of China was organised into three groups of soldiers, common people and criminals, (Shenhan & Dvir, 2007; Haughey 2010).

Modern project management history starts with the work of Henry Gantt during his work on the construction of naval ships during world war one. Commonly accepted as the first project management tool, the Gantt Bar Chart, although simple in structure and changing little over the last 90 years, has become an indispensable management tool that schedules project timescales, tasks and dependencies, according to Orr (2003). However, though history records early forays

into project management as a method to manage large historical projects, with the exception of the Gantt Bar Chart there is little evidence of documenting how project management was used as a tool to execute intended projects, including the terminology and language modern project management has become synonymous with, suggest (Morris et al., 2012; Seymour & Hussein, 2014). This can in part be explained in that the execution of projects was in the main by craftsmen who were concerned regards the project outcomes and not in sharing the methodology with others (Seymour & Hussein, 2014).

However, it was not until the 1950's that through North American industries such as construction, engineering, telecommunications and in particular the Polaris submarine project (Fondahl, 1987) did project management gain some momentum in becoming a management discipline (Shenhar, 2001) in its own right (Crawford, 2006) albeit standalone from any strategic consideration. In this second period, Morris et al., (2012) as well as Kwak (2003) identify significant technological advancements enabling project management to develop from the application of management science. Whilst this period fostered a range of specific project management tools and techniques, such as the planning and monitoring tool PERT, critical path method CPM, and work breakdown structure WBS the role of the project manager and the birth of project management associations emerged as a precursor of professionalising project management (Morris et al., 2012; Seymour & Hussein, 2014).

Causes of project success and failure particular large-scale infrastructure and national informational technology IT programs was the harbinger of the third period (Morris et al., 2012). This period is characterised by the drive for methodologies that would balance the efficiency of the project management process (measured by time, costs, quality and scope), and effectiveness of achieving the client's objectives (Morris et al., 2012). Further advancement in personal computers and software enabled the handling and organising of complex data necessary for managing projects (Seymour & Hussein, 2014). Coincide with these technological developments project management methodology development introduced frameworks and attempts at documenting standardised accepted project management practice. Whilst Scrum and Projects Resource Organisation Management Planning Techniques (PROMPT II) were early models, PRojects In Controlled Environments (PRINCE2) became the de facto methodology widely used today across the entire globe. The emergence of project management associations such as the Project Management Institution PMI and the Association for Project Management APM introduced respective Body of Knowledge BoK guides (Morris et al., 2012; Seymour & Hussein, 2014). Covering knowledge elements required throughout the project life cycle, such as: i) time, cost, quality, scope, and objectives; ii) human resources, communications, procurement; and, iii)

risk, project success and project negotiation. However, towards the end of this third period the project management community became concerned with a biased focus towards efficiency of the process (the iron triangle preoccupation), calling for a shift of focus to the more subjective effectiveness of delivering project benefits. Thus, Value Management and Value Analysis was sought to understand and satisfy the requirements of multiple stakeholders (Morris et al., 2012).

In the fourth period both Morris et al., (2012) and Kwak (2003) argue that project management is increasingly popular and for many organisations a core competence. Once again, advances in information technology, project management methodology, the developing project management BoK, and a focus on project-based learning and career development has strengthened the claim for its professionalisation status. Of significance in this period is the emergence of the project management office PMO as a key resource for the delivery of organisational projects, which accordingly to Kwak (2003) are increasingly becoming virtual and web-based project office. Other significant developments in this period include: i) project management maturity models, which according to Kernzer (2001) offer organisations a degree of competitive advantage; and, ii) project-based learning as a vehicle for organisational learning (Morris et al., 2012).

Having presented a short review of the early and contemporary project management history, it is now necessary to discuss what is project management and how literature define project management.

2.4.2 What is Project Management

According to Clarke (1999) *"In a world where change is becoming increasingly important, tools such as project management, if used properly, can provide a useful way for organisations to manage that change effectively"*. Shenhar & Dvir (2007) add the constraints dimension of time, budget and other resources to the definition.

Whilst Clarke argues that project management is possibly only a useful change management tool, Shenhar and Dvir infer that some organisational effort is indeed required to transform scares resources into something of tangible benefit. However, project management is more than a tool using resources to secure some outcome, it has developed into a formal management discipline (Cooke-Davies, Crawford & Lechler, 2009) which is becoming more and more central to organisational strategy and where project management-oriented organisations are investing heavily (Trebilcock, 2007).

Others, like Cooke-Davies proclaim project management has become a strategic imperative (Lawson & Gray, 2011) and a vehicle for the execution of that strategy (Maylor, 2003). Whilst

Burke (2013) and Cleden (2010, 2017) suggest that project management offers a structured approach to managing projects.

As can be seen, although the existing literature is plentiful, there are as many different perspectives as there are World Wide Web self-proclaimed project management experts. Fortunately professional bodies such as the Project Management Institute (PMI), Association of Project Manager Professionals (APMP) and the International Project Management Association (IPMA) and other non-government organisations (NGOs) like the Office of Government Commerce (OGC - archived) and the British Standards for project management (BS6079), bring some form of standardisation to what project management is and what it means to organisations irrespective of size, sector, private, public, voluntary or charitable. PMI's Project Management Body of Knowledge (PMBOK), OGC PRINCE2 Framework and APMP Body of Knowledge have all in some way professionalised and standardised this new management discipline, and according to Munns & Bjerimi, 1996) and Turner & Müller (2005) make a clear distinction that the role of project management is clearly different from the functional manager.

2.4.3 Project Management Definitions

Literature, professional bodies and other organisations all have their own specific definitions; which, in some way or other all include costs, time, quality and benefits somewhere in the definition. For example, Munns and Bjerimi (1996) define project management as, *"the process of controlling the achievement of the project objectives through planning and control and is concerned with on-time delivery, within-budget expenditures and appropriate performance standards" (p.81).*

However, The Association of Project Managers (APM) in their Book of Knowledge (2006) offer a more holistic definition that also includes what an actual project is and its organisational purpose: "*Project management is the process by which projects are defined, planned, monitored, controlled and delivered such that the agreed benefits are realised. Projects are unique, transient endeavours undertaken to achieve a desired outcome. Projects bring about change and project management is recognised as the most efficient way of managing change"* (APM BoK, 2006, p.2). However, whilst the APM definition is based on process and outcomes, the Project Management Institute (PMI) definition infers that it is through the application of knowledge, skills, tools and techniques that the project requirements will be met (PMBOK, 2013). Whereas the British Standard 6079 (1996) go a stage further and link the involvement of people in achieving project objectives.

Therefore, the literature would suggest project management definitions are about, time, costs, quality, benefits, resources, success criteria, change management and people. If that were the case,

it would be pertinent to imply that generally speaking, organisations treat project management as a functional management discipline and do not invest in project management (Thomas, et al., 2002) contradicting Trebilcock (2007) organisational heavy investment in project management practice. Also, according to Atkinson (1999) it may be a theory explaining why the functional management of projects is a reason many projects continue to fail.

2.4.4 Project Management Resources

It has been argued above that a firm's endowment of resources and assets are used to maximise a firm's operational effectiveness (Porter, 1979) strategy creation (Penrose, 1959; Wernerfelt, 1984; Barney, 1991; Porter, 1979; Grant, 1991; Amit & Shoemaker, 1993; Rowe, 2008; and, Shapirio, 2014) that can become a source of competitive advantage (Barney, 1991; Wernerfelt, 1984; Jugdev, 2004). Scholars debate that a firm's resource endowment are categorically tangible or intangible (Penrose, 1959; Porter, 1979; Wernerfelt, 1984; Barney, 1991; Dierickx & Cool, 1989) and argue that whilst tangible resources do offer some degree of competitive advantage (Killen et al., 2012; Jugdev, 2004) it's the intangible resource endowments that offers the best potential for sustained competitive advantage (Spender, 1996; Killen et al., 2012; Jugdev et al., 2011; Akingbola, 2013; Almarri & Gardiner, 2014). However, research into the tangible and codified assets particular 'tools & techniques' and a systems approach to planning and managing projects dominate literature contends Jugdev (2004). Though Lytras & Poulondi (2003) lament that business strategy has shifted from the management of tangible to intangible resources, there is little literature researching the merits of the intangible 'know how' resources of project management. Suggesting a poor appreciation by scholars and practitioners alike regards the importance intangibles play in the creation of strategic capabilities bestowed within project management resources as argued by Killen et al., (2012) and Jugdev et al, (2011) and further evidenced as no studies are anchored to the RBV logic and VRIO framework (Mathur et al., 2103).

2.4.4.1 Tangible Project Management Resources, Assets

Tangible resources or assets are well covered in literature, for example plant and equipment, mining rights and employees with specific training, Wernerfelt (1984), physical capital (Williamson, 1975., cited in Barney, 1991), and IT resources (Mata, Fuerst & Barney, 1995). However, with the exception of project management maturity models as a means of assessing the effectiveness of a firms project management tangible endowments (Ibbs & Kwak, 2000; Kwak & Ibbs, 2000; Jugdev & Thomas, 2002; Lad & Levin, 2006) and the wealth of literature regarding project management 'tools and techniques' such as planning tools, estimating tools, control tools (PMI BOK, 2008; APM BOK, 20013; Besner & Hobbs, 2012) and methodology frameworks such as PRINCE2 (OGC, 2009), Agile (Cervone, 2011) and Waterfall methodology for software development and engineering (McManus, 2014), specific project management tangible resources

and assets providing potential for competitive advantage in the literature is once again limited to the pioneers of Mathur, Jugdev & Fung.

Notwithstanding this limited literature, throughout their studies Mathur, Jugdev and Fung have held firm to their contentions that certain project management tangible resources in combination(s) with certain intangible project management resources are potentially sources of sustainable competitive advantage. Classifying codified tangible resources in two different groups are those which collect, capture and disseminate project management knowledge; and those, which enable the sharing of, project management knowledge (Mathur et al, 2013 & 2014). The collect, capture, disseminate resources include, *methodologies* and practices (Almarri & Gardiner, 2014; Mathur et al., 2014, Killen et al., 2012 & Jugdev et al., 2011) *project management offices, templates, databases*, *printed project management materials*, training and development, decision-making tools and project management Body of Knowledge literature (Mathur et al, 2014 & Jugdev et al., 2011); whilst those enabling sharing project management knowledge are specific IT tools such as computer *hardware* and computer *software* (Mathur et al, 2014 & Jugdev et al., 2011).

2.4.4.2 Intangible Project Management Resources, Assets

As already discussed above intangible assets are those firm resources that are tacit, unspoken but understood (Teece, et al., 1997) particular tacit knowledge of sharing process and facilitation (Almarri & Gardiner, 2014) technical knowhow (Amit & Shoemaker, 1993) and social capital practices (Jugdev, 2006). Moreover, but not exclusive to project management, intangible project management assets are knowledge based that are path-dependant on a firm's history and its unique set of organisational idiosyncrasies, for example, a firm's culture (Barney, 1986; Connor & Prahalad, 1996) or reputation (Wernerfelt, 1984; Grant, 1993).

Building on this generic acceptance of how intangible resources and assets of a firm are manifested scholars such as Foss (1997), Rumelt et al., (1994) and more recently Jugdev et al., (2006, 2011) and Mathur et al., (2013 & 2014) argue that intangible resources and assets over time become embedded in an organisation including the ways of working (Foss, 1997). The degree of embedding intangible resources and assets in a firm's routine's and relationships (Mathur et al., 2013 & 2014) provides opportunities for a firm's management, workforce and culture to develop and foster bundles of intangible resources and assets with relevant tangible resources and assets to accumulate endowments with potential for sustained competitive advantage. The specific project management intangible resources offering the greatest potential for competitive advantage according to Mathur et al., (2014) are primarily knowledge-based accumulations (Teece et al., 1997; Dierickx & Cool, 1989, Lockett et al., 2009; Polyani, 1962) particular tacit knowledge (Eisenhardt & Santos, 2002; Jugdev, 2004), such as *mentoring*, *shadowing*, social capacity,

experiential learning and project management *communities of practices* (Lesser & Storck, 2000), and are candidates in providing a firm with some degree of competitive advantage claim Mathur et al., (2014).

2.4.4.3 Project Management Resource, Assets under investigation

Having discussed the nature and identified specific project management resources and assets with the potential for firm competitive advantage, table 2.4 below summarise the twelve-project management resources, hereafter referred as assets to which this research will focus upon. This is followed by a supporting discussion for each asset.

Table 2.4: Project management assets under investigation and their relative nature.

Printed Project Management materials	Tangible	Disseminate, Processes	Processes
Databases	Tangible	Collect, Capture, Disseminate, Processes	Processes
Computer hardware used for project management	Tangible	Processes	Tools
Software used for project management	Tangible	Processes	Tools
Methodologies	Tangible	Processes	Processes
Shadowing	Intangible	Dissemination, Processes	Processes
Templates	Tangible	Collect, Capture, Disseminate, Processes	Tools and Processes
Project social capital – (Personal Contacts)	Intangible	Collect, Capture, Disseminate, Processes	Processes
Project Management Communities of Practices (Explicit Knowledge)	Tangible Intangible	Disseminate, Processes	Processes
Project Management Office	Tangible	Collect, Capture, Disseminate, Processes	Tools and Processes
Implicit and Tacit Project Management Knowledge	Intangible	Capture, Disseminate, Processes	Processes
Mentoring	Intangible	Capture, Disseminate, Processes	Processes

2.4.4.4 Project Management Printed Materials

A literary search of *printed project management materials* yields little results. However, Mathur, Jugdev & Fung (2013) define such materials as manuals and books used for the application of project management in the discharge of projects and contend that such materials are explicit knowledge, which is easily codified for specific and general use across an organisation. Specific project management materials include published books such as popular general project management textbooks (Winter, Smith, Morris & Cicmil, 2006), proprietary project management software manuals such as Microsoft Projects and the collective group of project management certification preparation and answer question manuals; topical project management workbook and software how-to books suggests Henrie & Sousa-Poza (2005). In fact, many scholars including Winter et al, (2006) and Henrie & Sousa-Poza (2005) argue that such systems, tools and technique books proliferate the project management published literature. Whereas, in contrast project management manuals are divided between institutional and association body of knowledge such as Project Management Institute PMBOK® or the Association of Project Management BoK, and specific organisational developed project management manuals (PMM) which documents the collective policies, procedures, forms, charts and other documentation that provides project

standards and guidelines (Doughty & Kliem, 1987) that are easily accessible by all staff for example over the organisations local area network used for the management of project delivery within time and budget maintains Zipf (1999).

2.4.4.5 Project Management Databases

Project management practices often involves a mix of databases to collect, organise and present data and information such as Integrated Project Databases (IPDB) Amor & Faraj (2001), proprietary packages like Microsoft Access (Fox & Spence, 1998), *databases* related to learning from past projects such as historical data, cost estimation, lessons learned and risks (Besner & Hobbs, 2012) and *database*s used for codified knowledge capture and sharing processes contends Mathur et al., (2007); Jugdev et al., (2011). However, the degree to which project *database*s are used is dependent on the level of organisational support provided to the *database* and the level of autonomous use by individual practitioners (Besner & Hobbs, 2008), upholding Lyons & Skitmore (2004) low usage of computer *databases* to record project risks and historical risk data. Also, the level of *database* usage is related to how well a project is defined with greater usage of cost and lessons learned *databases* in well-defined projects (Besner & Hobbs, 2006).

2.4.4.6 Project Management Hardware

Computer *hardware* used for project management is often related to the scale of project management application used in an organisation, and can be generically termed as the electronics and electro-mechanical equipment used in computerised data processing systems (Chitkara, 1998), and usually consists of input devices such as a keyboard and mouse, a central processing unit, a backup devices such as hard drives and external drives, and output devices such as monitors, and are usually grouped together in a personal computer configuration. However, the advances in computer network infrastructure, such network via internet or intranet connectivity, and the more recent cloud technology (Wang, Wood, Rahman & Lee, 2016), computer *hardware* used for project management is often integrated with *database*s and other information systems, to share knowledge across organisations (Ruppel & Harrington, 2000).

Notwithstanding the advances and application of computer *hardware* used for project management, it is generally accepted that this key infrastructure resources is tangible and though providing economic value, it would not normally be considered as an asset leveraging sustained competitive advantage (Mathur et al., 2013). Thus, in this thesis *project management hardware* is defined as the collective computer *hardware* individual project management practitioners will use in their normal work duties including processing project management data and information.

2.4.4.7 Project Management Software

Project practitioners use an array of tools and techniques in the delivery of project deliverables argue Patanakul, Lewwongcharoen & Milosevic (2010). Besner & Hobbs (2008) associate project management tools and techniques with what practitioners use to 'do the job'. Similarly, Fox & Spence (1998) liken the metaphor with other occupations as 'tools of the trade'. Delving deeper, Besner & Hobbs (2008) define seventy commonly practiced tools and techniques which follow the project life cycle drawn from literature including PMBOK® Guide. In contrast, Patanakul et al., (2010) categorise project management tools and techniques across four project phases of conceptual, planning, execution and termination (p.51). However, both systems produce similar categories such as tools and techniques for estimation, analysis, checklists, evaluation, planning, scheduling, risks, monitoring, reports, simulations and logs.

The tools and techniques in the project managers collective toolkit are often based on scientific solutions that require quantitative skills developed over a long period of time argues Ali, Anbari & Money (2008). However, a proliferation of IT solutions (Ali et al., 2008) now vies on a commercial basis to offer individual and *software* package suite of solutions. According to Besner & Hobbs (2008) project management tools are project-based tools and specific software products, provide basic functionality support such as products for estimating, scheduling, monitoring and simulations (p.4) and advance functionality support such as products for multi-project resource management, internet access, issue management, linking to ERP and project portfolio analysis (Besner & Hobbs, 2012, p.22). In contrast Mathur et al., (2013) refer to *project software* as proprietary packages such as Primavera, Microsoft Project and MS Excel. Similarly, though Fox & Spence (1998) categorise similar project propriety packages like Primavera as a high-end tool and Microsoft Project as a low-end tool they contend that non-specific designated *project software* tools like spreadsheets and generic proprietary *database*s are often used by practitioners. Irrespective of these broad images many practitioners and PMBOK® Guide (2004) consider project management tools and techniques are valuable assets in the delivery of projects. However, Jugdev, Perkin, White & Walker (2013) largely agree with Besner & Hobbs (2006) that project management tools for scheduling, monitoring and estimating costs, and resource levelling software is underutilised.

2.4.4.8 Project Management Methodologies

Project management *methodologies* are structured approaches for delivering projects, which consist of processes each with clearly defined resources and activities, argues Turner (as cited in McHugh & Hogan, 2009). Project management *methodologies* help organisations to understand the steps to be followed to achieve project success throughout the projects lifecycle (Jugdev, 2006) and argue that whilst project *methodologies* provide organisations with checklists and guidelines,

they are themselves a valuable resource but are unlikely to provide any competitive advantage as such *methodologies* are readily available and imitable (Jugdev, et al., 2006). However, this posit suggests that all project management *methodologies* are tangible codified knowledge freely available on the open market, which isn't the reality as many organisations develop and use bespoke in-house project management *method*ologies (White & Fortune, 2002, p.9). However, in contradiction Jugdev (2006) claims, as do others (Kerzner, 2001) that organisations develop their own project management *methodologies* based on bodies of knowledge such as Project Management Institute PMBOK®, PRINCE2 and Association of Project Management. Supporting Matsuik & Hill (1998) argument that private knowledge which concerns the overall architectural components of the wider-organisation, that is acquired individually and embedded in the organisations wider routines and practices, does have the potential to provide organisations with some degree of competitive advantage, supporting Mathur et al., (2014) and Jugdev et al., (2011) Resource-Based View analysis contention of tacit project management resources.

2.4.4.9 Project Management Templates

Project *templates* are defined in the PMI PMBOK® Guide (2013) as partially complete documents in a predefined format that provides a defined structure for collecting, organizing, and presenting information and data. *Templates*, sometimes referred as checklist (Kor and Wijnen, 2017; Mathur et al., 2013) are often cited within the *project methodology* and are used for consistent reporting of performance against the project plan, capturing information for lessons learned, planning for projects, and documenting change requests. Examples of *project management templates* or checklists include, project scope, risk, management, schedule and quality (Jennex, 2008), business case, project initiation, lessons learnt logs, risks log and change requests (Mathur et al., 2013). Similar with *methodologies*, *templates* are tangible assets, which though economic valuable, they are unlikely to leverage sustained competitive advantage, as there are numerous examples that can be downloaded from the internet (Jugdev et al., 2006).

2.4.4.10 Project Management Office PMO

Though a recent phenomenon (Dinsmore, 1999; Dia & Wells, 2004; Hobbs, Aubry & Thuillier, 2007), current discourse suggests that the proliferation of *PMO* in organisations is a confusing situation due to the variation of terminology used to describe *PMO* organisational functional role and perceived value, which is often linked to organisational performance Hobbs et al., (2007; Unger, Gemünden & Aubry, 2012). At a typology level, Hobbs et al., (2007) discern existing *PMO* literature between single-project entities and multi-project entities. Further classification offers various connotations aligned to the perceived size and complexity of project management entities within organisations.

The function of *project management office* in single-project entities are often called Autonomous Project Teams (Dinsmore, 1999), Project Control Office (Crawford, 2002) and Project Office (Garfein, 2005; Hobbs & Aubry, 2007), which implies that project management services are developed and used within a single project (Dinsmore, 1999), in as much that all project management resources are organised, developed, distributed and consumed by a single project. However, multi-project entity literature point to hierarchical levels (Hobbs & Aubry, 2007) linked to project management maturity and complexity of coordination, resources allocation and strategic alignment between projects, programme and portfolio management. Examples include Dinsmore (1999) project support office, project management centre of excellence and programme office typology, the Gartner Research Group (2000) project repository, coach, and enterprise typology later advanced by Kendall & Rollins (2003) and complemented in Garfein (2005) similar typology of basic *PMO*, Mature *PMO* and Enterprise *PMO*.

However, though no consensus in literature regards the impact of *PMO* on organisational performance, whatever their guise or how they are constructed (Unger, 2012) *PMO* are used to coordinate the use of project management tools and techniques, and technology to support projects, ensure consistency of approach for the efficient and effective delivery of organisational projects contends Jugdev (2006), whilst Dinsmore (1999, p.5) states that *"a project office is a key to ensuring that project management is effectively applied across the organisations"* a guiding principle. Finally, the PMI PMBOK® Guide (2013) define *project management office PMO* as an organisational structure that standardises the project-related governance processes and facilitates the sharing of resources, *methodologies*, tools, and techniques.

2.4.4.11 Project Shadowing and Mentoring

The links between project team competence and project success is widely reported in literature (Balassi & Tukel, 1996; Martin, 1976; Baker, Murphy & Fisher, 1983; Pinto & Slevin, 1989; Bryde & Wright, 2007; Hung & Chou, 2013). Whilst, Bryde & Wright (2007) link project team orientation with project performance, Baker et al., (1983) argue that project team capabilities are critical success/failure factors in projects. The PMI PMBOK Guide 5th Edition (2013) define project team development as *"a process of improving competences, team member interactions, and overall team environment to enhance project performance"* (p.273). Though the PMI is drawn from an iterative process of academic and practitioner refinement, earlier studies link project team competence with essential skills and characteristics of project managers and team members, including the initial selection of project managers possessing the necessary administration and technical skills (Pinto & Slevin, 1989) and Balssi & Tukel (1996) argue that project team competencies of technical background, communication skills, trouble shooting and commitment are critical project success factors.

However, how do project team members acquire the knowledge and skills necessary to bring forth a successful project whilst satisfying the many different project stakeholders? Traditional training such as explicit formal structured programs delivered off the job are widely used for the hard project management elements such as tools and techniques, *project methodologies* and formulised frameworks like PRINCE2. However, the often over looked softer elements such as for example project coordination, client/stakeholder communication, problem solving, negotiation, conflict resolution and as Bryde & Wright (2007) contend relationship building with customers and other stakeholders, are tacit in nature and require a different approach. Informal unstructured workplace learning such as on-the-job (Jacobs & Park, 2009) or in-work learning (Sambrook, 2005) are learning concepts applied in many organisational settings and contexts including project management. These approaches include access to project management *communities of practice* (Lesser & Storck, 2001), secondments, coaching, *mentoring* and *shadowing* (Sambrook, 2005) and are often available for project managers and project team members. Organisations with a formulised *project management office* usually make available these arrangements (Hobbs & Aubry, 2007; Dia & Wells, 2004).

Of specific interest is *mentoring* and *shadowing* in which formal and ad hoc systems encourage and support workplace tacit learning? Mentor and shadow programs are known as employee training development systems and are often interchangeable. The most significant difference between the two employee development systems is the degree of interaction between the two principle actors. In mentoring systems, a senior or more experienced individual (the mentor) acts as an advisor to guide and support and provide feedback to a junior, for example an experienced project manager mentoring a newly qualified junior project practitioner (CIPD – online, 2014), whereas with *shadowing* systems an individual works alongside an experienced individual to gain experience of the role or job (Manchester Metropolitan University – online 2014).

2.4.4.12 Project Social Capital

The term social capital stems from community studies, highlighting the importance of networks in city neighbourhoods (Naphapiet & Ghoshal, 1998) in that the central theory of social capital is grounded in the network of relationships between actors as a valuable resource for the conduct of social and community affairs. Whilst social capital theory is of interest to policy makers to combat social exclusion (Catts & Ozga, 2005) for example a research study concluded that "*higher levels of social capital are associated with better health, higher educational achievement, better employment outcomes and lower crime rates*", Office for National Statistics, Social Capital Project (2014), other scholars argue that social capital has an influence on the economic performance of firms (Baker, 1990) and indeed the performance of nations (Fukuyamma, 1995). This notion

inclines scholars to espouse that when organisational knowledge is collected, analysed and shared by the phenomenon of social interactions of actor networks during organisational routines and practices (Newell, Tansley & Huang, 2004), it creates new or extends existing organisational knowledge (Spender, 1996), and when applied as a firm resource it may provide a source of competitive advantage (Barney, 1991) as long as it satisfies the VRIN framework conditions.

There is no consensus definition for social capacity (Naphapiet & Ghoshal, 1998), which encapsulates the diversity of settings. Societal and community social capital is based on the network of interactions between people to foster a greater sense of community spirit and well-being, inciting traits of citizenship, neighbourliness and civic partnership (ONS, 2014). Whereas in a firm performance setting social capital is more to do with how organisational knowledge which is more often tacit knowledge (Nonaka & Takeuhi, 1995; Spender, 1996) is collected, analysed and shared from the interactions of actors within organisational social communities (Kogut & Zander, 1992), which facilitates knowledge creation both within and external to the organisations.

However, Naphapiet & Ghoshal (1998) propose a definition of organisational social capital which links the relationship between the structural level of networks (Baker, 1990) and the resources that can be accessed through social capital (Bourdieu, 1986 cited in Naphapiet & Ghoshal, 1998; Putnam, 1995), defining organisational social capital *"as the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit"* Naphapiet & Ghoshal (1998, p.243).

In a project management setting Newell et al., (2004) argue that it is unlikely that project team members will have all the relevant knowledge and expertise and therefore likely to create and develop individual and organisational networks in order to make sense of both organisational processes and project specific knowledge, drawing upon their collective social capital (p.45). Having a strong network of support from senior management is closely aligned with the notion of social capital (Julian, 2008), as is the relationships with project clients and customers and other project stakeholders. However, the concept of project social capital introduced by Vincenzo & Mascia (2012) argue that moderate levels of project team project social capital cohesion within organisations has a positive effect on project performance.

2.4.4.13 Project Management Communities of Practice

The organisational knowledge discussion above introduced *communities of practice* to contextualise the individual-collective knowledge production argument (Spender, 1996) of a social phenomenon by which actors regularly share and learn tacit knowledge based on common interests

acquired through individual social interactions within and outside the organisation or informal interactions between customers, suppliers, distributors and even competitors.

Organisational social capital is often developed within community groups whose members learn by regular sharing knowledge with others with common interest (Lesser & Storck, 2001). The diffusion of tacit acquired knowledge is an organisational challenge, which can have significant impacts on performance, efficiency and effectiveness is well represented in literature (Naphapiet & Ghoshal, 1998; Lesser, 2001; Storck & Hill, 2000; Bresnen, Edelman, Newell, Scarbrough & Swan, 2003). Within a project environment these challenges are of greater significance through the inherent discontinuities of methods, personnel, materials and information argues Bresen et al., (2003). However, *communities of practice* offer organisational value (Lesser & Storck, 2001) in project setting environments.

2.4.4.14 Project Management Practice

Finally, whilst project management asset endowments, such as the above tools and techniques, are used in planning and managing projects (Jugdev, 2004; Patanakul et al., 2010; Besner & Hobbs, 2012), it is their integration within a collective project management practice environment that is the focus of this empirical research. The value of project management practice is often expressed as a direct relationship with economical returns (Besner & Hobbs, 2006), project performance and success (Jugdev, 2006; Besner & Hobbs, 2006 & 2012), organisational performance and increased productivity (McHugh & Hogan, 2010), innovation (Besner & Hobbs, 2012); a means of building a strategic asset (Besner & Hobbs, 2006), and as source of competitive advantage (Killen et al., 2012; Almarri & Gardiner, 2014). Thus, the collective project management practice environment is more than the collection of tools and techniques, as generally cited in literature, but the management environment within which project practitioners apply their knowledge and understanding.

Whilst the literature generally cites project management practice as the context within which a project exists (Besner & Hobbs, 2008; Aubry & Hobbs, 2011), and can vary between different types of projects (Golini, Kalehschmidt & Landoni, 2014), there appears to be no clear definition. At a general understanding project management practice is a strategic capability (Crawford, 2006; Kim et al., 2015), to deliver organisational objectives (Munns & Bjerimi, 1996), and may be considered as a source of competitive advantage (Jugdev, 2004; Killen et al., 2012; Almarri & Gardiner, 2014; Kim et al., 2015). Thus, defining project management practice can be considered as the tripartite of organisational support processes articulated and empirically tested (Jugdev et al., 2011; Mathur et al., 2013; Perkins et al., 2018) i.e. project management alignment, project management communications, and project management integration.

Alignment relates to project management practices delivering an organisations mission, aims and objectives and its products and services (Jugdev et al., 2011; Mathur et al., 2014; Perkins et al., 2018). Communications relates to the degree to which organisational staff have the freedom of timely and effective communications, whereas; integration relates to the degree project management is integrated in the organisation, particular between senior management and project team members, and how the environment and leadership support effective project team working (Jugdev et al., 2011, p.5; Mathur et al., 2014, p.14; Perkins et al., 2018). In their processual research across different context Jugdev et al., (2011); Mathur et al., (2014); and, Perkins et al., (2018) all concluded that project management alignment, communications and integration where characteristics of organisational support. Additionally, Jugdev et al., (2011, p.5); and Mathur et al., (2014, p.14) conclude that all three contributed to embedding project management practice into the fabric of an organisations culture. Thus, when combined with the appropriate project management asset endowment, this form of project management practice has the potential of leverage certain degrees of competitive advantage.

2.4.4.15 Project Management Resource Summary

Having defined project management, explored the tangible nature of project management resources with the potential of leveraging competitive advantage, reviewed the twelve project management assets in which this thesis investigates, and linked project management practice with project performance and a source of competitive advantage, before moving onto project performance it is first necessary to position the application of project management in the public and third sector arenas.

2.4.5 Project Management in the Public-Sector

2.4.5.1 The reality post 2008 financial crisis

"We live in a world of change and uncertainty, and businesses must be prepared continually to adapt in order to meet new economic conditions and retain a competitive edge", laments Jonathan Simcock (2008) in his Forward outlining the merits and benefits to both private and public-sector organisations in adopting the Office of Government Commerce (OGC) revised Portfolio, Programme and Project Maturity Model. Whilst a somewhat generic statement the sentiments was a global reality.

The 2010 UK coalition government Chancellor of the Exchequer, the Right Honourable George Osborne MP, in his emergency budget 22 June 2010, spelt out in no uncertain terms the true extent of the financial situation and how by austere public sector measures the coalition government were going to reduce the public sector borrowing to £20 billion, equivalent to 1.1% of GDP by 2016

(Directgov, 2010) and guide the UK's economic recovery. A significant austerity tactic of the Chancellor was the immediate scrapping or suspending of many of the previous governments sponsored IT and building projects, including for example the National Health Service (NHS) central patient database, the national identity cards and the 'Building Schools for the Future' programme totalling over £15 billions of expenditure, doubling over their respective life-cycles. Writing off £15 billion would appear to be a rather fool hardy and politically naive of the new coalition administration. However, many of these projects where already deemed failures in that many were overdue, over budget with questionable benefits realisation.

Although high-profile public-sector projects are forever at the mercy of political, public and media scrutiny, failure isn't solely a public-sector disease. Many household name institutions such as Tesco's and Barclays recently suffered project failure in their attempts at broadening their online facilities (Mari, 2010). Other private sector failures include taxpayer funded; schools, hospitals and road schemes in the name of Private Finance Initiatives (PFI) argues Chapman (2009), have all gone the same way.

Though a context of poor project performance, throughout the 1980s and into the 1990s the traditional expectation of public-sector managed projects was characterised by the pursuit of financial integrity, delivery of reliable performance, management of risk and mitigation of uncertainty (Baldry, 1998). However, whilst project management methods and practice were developed and refined, objectives and success criteria were poorly articulated (Baldry, 1998).

Whilst there is plenty of documented research and case-studies of large-scale government funded infrastructure and information technology projects, the management and delivery are traditionally modelled on private-sector collaboration with varying degrees of direct public-sector involvement, argue Grimsey and Lewis (2002) in their evaluation of risks associated with public private infrastructure project partnerships.

However, historically project management in the public-sector is not just about delivering successful public products and services, but also public value (Blixt & Kirytopoulos, 2017); for the benefit of citizens (McPhee, 2007; Wirick, 2009); and the efficiency and effectiveness of governments (Wirick, 2009). All within a context of increasing public scrutiny and the assurance of evidencing the value of public expenditure, as Crawford and Helm (2009) illustrate in their article comparing project management governance in the United Kingdom, Australia and USA. However, as discussed in 1.1 above, the public-sector environment possesses greater project management challenges than one would expect in equivalent private-sector projects (Boyne, 2002;

Gomes, Yasin & Small, 2013). Thus, considering the importance of project management has played in the role of public-sector performance it would be expected to feature quite prominently in research literature. However, on the contrary, prior to the 2008 global financial crisis, there is little empirical research surrounding the issues of public-sector project management (Gomes et al., 2013). In fact, Wirick (2009) argues that public-sector project management is the least research area within project management.

This neglect is somewhat surprising given the development and advancements in project management practice and the engagement of private-sector organisations and enterprises during the third and fourth periods discussed in 2.4.1 above. Characterising a specific challenge for localised public-sector project management practice, particular at the local government local authority council level are the concerns argued by McPhee (2007) and Wirick (2009) in that, there is the shortage of good project managers when the public sector is charged to do more with less. McPhee (2007, p.11) articulates four specific areas that are key if effective project management in the public-sector is to be achieved: i) recognition of the importance project management pays in delivering government projects; ii) increased investment in developing project management staff skills; iii) design methodologies that actually delivery successful projects whilst managing risk; and, iv) better understanding project success factors. The significance with these four elements is their linkage with the essence of LASIS project management paradigm, which is extensively explored throughout this thesis.

However, moving forward, post the 2008 global financial crisis, public sector reform in the UK has elevated the importance of project management capability through government initiatives in a response to increasing public scrutiny and an expectation of delivering value from public expenditure (Crawford & Helm, 2009). Thus, in the next section a short review of public-sector project management reform following the 2008 global financial crisis is presented to contextualise the research epoch.

2.4.5.2 Post global financial crisis public funded project management reform

The Office of Government Commerce OGC, in 2000 established the first mandatory gateway process, in which public sector organisations, including central and local government, were compelled to apply standardised *project methodology* and governance in the delivery of public funded projects (OGC, 2010). Whilst the OGC has evolved over the years, now the Major Projects Authority, the rationale is the same, to work with public sector organisations to help them improve their efficiency, gain better value for money, and deliver improved performance from programs and projects (Crawford & Helm, 2009). To support effective delivery of public funded projects, the OGC provided considerable support for managing projects, including access to *methodologies*

and guides such as PRINCE2 and the OGC Managing Successful Programmes (OGC, 2007a, 2007b).

2.4.5.3 Project management value in public sector managed projects

The value of project management in the public sector is extensively covered in literature, including project governance (Burnet & Aubry, 2016) value for money and efficiency (Crawford & Helm, 2009), reducing risk (Baldry, 1998; Aritua, Smith & Bower, 2010), project performance from investment (Kossova & Sheluntcova, 2016; Patanakul, Kwak, Zwikael & Liu, 2016); and, time, cost, benefits delivery (Chan, 2001; Toor & Ogunlana, 2010). Given the perceived improvement from this more recent public-sector discourse and a proliferation of UK public sector funded and managed project management reform initiatives, it would appear that confidence has returned, at least on an infrastructure level. For example, the Infrastructure and Projects Authority IPA 2016/-17 Annual Report (IPA, 2017) report 143 infrastructure projects with a total whole-life cost of £455.5bn, of which £24.6bn were from 2016-17 budget (p.4). Acknowledging that both public and the private sector can learn a lot from each other, and that *"project delivery is at the heart of government"* CEO IPA, Tony Meggs in his 'Delivering Government Projects in a Modern Age' speech (IPA, 2018), articulated 'scale of delivery'; 'political realities'; and, 'protecting the integrity of assurance' as three key challenges the UK government face in delivering the suite of current and future major government infrastructure projects.

However, whilst major and significant public funded projects come under the auspices of peer and public scrutiny; it is a different picture at a local level, particular within local government departments such as local authorities, which is the focus of this thesis.

2.4.6 Project Management Practice Challenges in Local Government Authorities

2.4.6.1 Challenges of implementation project management practice

The realities of project management in the public sector can be summarised as: *"The challenges faced by project professionals in the public sector - whether that be local government, transformation programmes or the NHS - are often complicated and require careful management. Providing efficient and effective products and services, which are typically complex and expensive, whilst managing public funding and demonstrating transparency and value to stakeholders, is no easy task. Similarly, transforming the way you deliver these services, within constrained budgets, can also be a very real challenge*" (APM online, 2015).

Whilst specific examples of how local government implementing project management practice is absent in the literature, public sector project management challenges are well represented. Notwithstanding Maytorena, Winch, Freeman & Kiely (2007) findings that experience does not

correlate with improved project risk identification, in the public-sector the lack of project management experience contributes to project failure (Blixt & Kirytopoulos, 2017). Other examples include, public sector project manager characteristics and competences (Gomes, Yasin & Small, 2013); whilst Wirick (2011) suggest that if the public sector is to achieve results it must resolve the challenges of: i) time management; ii) cost management; iii) scope management; iv) quality and requirements management; v) communications management; iv) project human resource management; iiv) project risk management; and, iiiv) the significant challenges of chaos, complexity and uncertainty management.

2.4.6.2 Challenges of complexity

Though these challenges can be applied to the private sector, in the Director blog, Langley (2016) of the PMI proclaims that *"project management is key to public success"*. However, delivering successful projects in the public sector is increasingly complex due to reform and retrenchment impacts post the 2008 financial crisis; which is a comparable challenge of implementing lean in the public-sector, as illustrated by Lindsay (2016, p.47) in the NHS (Lindsay & Kumar, 2015). The complexity is characterised by trying to achieve multiple objects that cross departments boundaries, and a long process in securing funds, which all impact on the delivery time of projects, and the ultimate test of 'value for money' of spending (National Audit Office, 2016). Contributors for a poor track record of delivering successful projects are deemed to be: i) defining and measuring performance; ii) poor early planning; iii) lack of capacity and capability to undertake a growing portfolio of projects; and, iv) leadership accountability for managing projects (NAO, 2016, p.6). Whilst these comments are aimed at public sector infrastructure and larger projects, both Langley (2016) and NAO (2016) articulate common challenges central and local government need to do to overcome: i) embrace collaboration with private sector for best practice project delivery; ii) develop clear specifications and commitments on time and costs taking into account full robust testing; and, iii) invest in project management talent particular training and certification.

2.4.6.3 Practitioner Resources and Support

Though a dearth of local government authority project management practice is evident in the academic literature, what is in abundance is the online access to practitioner resources and support. The Office of Government Commerce (OGC online, 2010) and more recent The Cabinet Office provide portal access to best practice and methodology for delivering successful government projects (Cabinet Office online, 2011). Resources such as best practice methodologies, *project templates* and project toolkits are freely available from OGC custodians of PRINCE2 framework or managing Successful Programmes (MSP). Whilst support for the public-sector project profession is available from chartered bodies, such as the Association of Project Management (APM) or the Institute of Public Finance and Accountancy (CIPFA), including training and

certification across a range of project management disciplines and progression levels. Disciplines include earned value management (EVM), Risk Management, planning and control, and a range of progression levels from foundation and project fundamental to practitioner level

2.4.6.4 A question of Competitive Advantage

Local Government such as councils and local authorities access these resources and support mechanism to develop their own project management toolkits. Examples include, Kent Council Environment, Highways and (Kent Council, 2011), Borough Council of Wellingborough Project Management Framework (Bains, 2010) and East Cambridgeshire District Council Project management Toolkit (East Cambridgeshire District Council, 2017). Whilst a short sample list collectively they all acknowledge the rationale for adoption of a formal framework to manage projects, typified by this East Cambridgeshire's statement "*The environment within local government is constantly changing. Increasing expectations mean that there are more projects on the go at the Council than at any other time. The ability to consistently deliver projects is increasingly becoming a measure of our effectiveness" (p.3*), going on to cite that in a recent regional survey that 30% of projects were cancelled before completion and that 88% of projects exceeded deadline, budget or both. Identifying some key reasons for project failure, as: "*lack of a good business case; failure to communicate with the right people; lack of clearly defined deliverables; inaccurate estimating of the time and effort; lack of visible senior management commitment; and, lack of appropriate skills or insufficient resources",* confirming Langley (2016) and NAO (2016) articulate common challenges, above.

However, though an investment in these easily accessible tangible resources is an essential feature of project management practice, alone they are not likely to offer any degree of competitive advantage as the resources are not rare amongst competitors and can be easily copied (Killen, Jugdev, Drouin & Petit, 2012). Thus, if local government including local authorities, councils and community collaborating schemes such as LASIS are to leverage at least temporary and hopefully sustained competitive advantage; it will be necessary to complement these required tangible assets, with other assets particular the intangible knowledge assets, which strengthens the rationale for *RQ1: Which project management asset endowments are valuable, rare, inimitable and are organisationally supported across LASIS?*

2.4.7 PM Practice in Local Authority Community Collaborating Organisations

Whilst local government community collaboration with the third sector, charities and to a lesser degree social enterprise organisation is adequately represented in the literature, when combined with project management practice within a community scheme research in this domain is in its infancy, with little empirical data and few practitioners guides available in this sphere (Hernandez

& Cormican, 2016**). Which reinforces the justification for the overall research aim:** *To identify which project management assets and associated processes and practices LASIS strategic managers need to deliberately: acknowledge, develop, deploy and exploit… when conceiving competitive strategies; to deliver i) impact from LASIS project management practice paradigm, and to ii) leverage sustainable competitive advantage post the 2008 global financial crisis, public sector funding retrenchment and reform paradigm?*

However, whilst at a strategic level Nisar (2013) concludes two significant factors in his multi-case empirical research into the implementation constraints in social enterprise and community public private partnerships, which is relevant throughout this research; i) **projects must be aligned to both the public and private organisations aims and objectives; an, ii) implement appropriate management structures and project practices established for obtaining alignment** (p.638). Significantly, though Nisar (2013) research unit of analysis was specific to Public-Private Partnership schemes, which are generally defined as filling the space between traditionally procured government projects and full privatisation (Grimsey & Lewis, 2005, p.346); the investigation objectives to identify success factors of project outcomes conclude that, i) strategic project management framework; ii) project management skills; and, iii) partnership relationships are areas of key improvement, which is relevant to LASIS. Thus, the limited research and Nisar (2013) key conclusions justify the rationale for RQ1: *Which project management asset endowments are valuable, rare, inimitable and are organisationally supported across LASIS?* and, specifically SRQ1d: *Identify the project management processes and practices providing organisational support?* operationalised by the VRIO framework.

Having explored project management practice in the public sector, summarised the main challenges of project management implementation in local government, and acknowledged a dearth of local authority community collaborating schemes and organisations applying project management practice, it is now necessary to review project management performance literature, from the perspective of how LASIS can develop a performance knowledge paradigm to achieve the UK Governments centre of expertise infrastructure and major projects authority (IPA), aspiration. *"We aspire to create the best-performing project system of any country in the world. To do this, we first need to be able to measure performance, so we can learn important lessons and make continuous improvements to the system over time",* Meggs (2017, p.3).

2.4.8 Project Management Performance

Whether in the private or public sector, manufacturing or service industries the media is awash with examples of project failures argues Prabhakar (2008). However, though the media report the traditional headline summaries of over budget not on time and not fit for purpose, they often fail

to counteract their assertions with a balanced argument that projects have many different 'axes to grind' to satisfy multiple project stakeholders, each with their own often conflicting objectives (de Wit, 1988; Baccarini, 1999). Whereas, one stakeholder, a company accountant maybe satisfied with an under-spend and another stakeholder say a technical engineer commissioned to the project is satisfied with the technical competence (Freeman & Beale, 1992), the end-user maybe the client or community user is far from satisfied for the saving on budget was at the expense of expected quality performance. This would suggest projects are at odds with two opposing groups those managing and delivering the projects with those using the project outcomes, in which different objectives decide the degree of project success. However, defining project performance in terms of project success is troublesome as success infers attaining a defined level of performance, which first needs to be objectively stated and then measured (Pinto & Mantel, 1990; Atkinson, 1999; Davis, 2013).

2.4.8.1 Defining project success – a multiple perspective

Traditionally and empirically supported in literature, defining project success is often in terms of time, cost and quality (Baker et al., 1983; Cleland, 1986; de Wit, 1988; Pinto & Slevin, 1988; Atkinson, Munns & Bjerimi, 1996; Baccarini, 1999; McLeod, Doolin & MacDonell, 2012), which subscribe to quantitative measurements from the management of project perspective. However, the understanding of project success and how success is measured has evolved and matured (Jugdev & Muller, 2005) reflecting the complexities and ambiguity in terms of definition and measurement contends McLeod et al., (2012) going on to argue that different stakeholder perspectives influence perceived project outcomes, adding support to the notion of project success is a matter of perception by multiple stakeholders (Baker et al., 1988; Crawford, 2002). This richer understanding supports earlier elucidation by scholars such as Pinto & Slevin (1988); de Wit (1998), Crawford (2002) and Cleland (1986) advocating project success is a combination of technical competence within the constraints of time, cost and quality, whilst providing a high level of stakeholder satisfaction and contribution to the strategic mission of the organisation; as summarised by Edkins, Kurul, Maytorena & Rintala (2007, p.762) as business critical.

2.4.8.2 Traditional measuring success paradigm

Project performance is difficult to define with no explicit academic definition (Parbhakar, 2008). From the management of projects perspective time, cost and quality objectives are useful to control and measure progress during the various project life cycles, which has been the traditional paradigm from the early days of project management and extensively represented in literature (Pinto & Mantel, 1990; Shenhar et al., 2001; de Wit, 1998; Toor & Ogunlana, 2010). A review of project management definition literature offers understanding why defining project management success has exploited the time, cost, quality Iron Triangle. For example, Cooke-Davies (2002)

cited in Toor & Ogunlana (2010), make the distinction that project management success is measured against the traditional objectives of time, cost and quality, whilst project success is measured against the overall project objectives (p.229), which are not necessarily quantifiable measures. Scholars and institutions include time, cost and quality or performance within their respective definitions of project management and project success. Oisen (1971) cited in Atkinson (1999) combines the use of diverse resources to accomplish a unique task within the constraints of time, cost and quality, as does, Shenhar & Dvir (2007); whilst Munns & Bjerimi (1996) link time, cost and project performance standards with controlling the achievement of project objectives. However, institutions such as the Project Management Institution (PMI); Association of Project Managers (APM); the British Standard BS6079; and, British Standards Institute BS ISO 21500 (2012) 'Guidance of Project Management' are now separating project management and project success definitions in Body of Knowledge literature. Of specific interest is the collective common language associated with a focus on processes in planning and controlling resources to achieve desired project outcomes and the link with stakeholder satisfaction as opposed to the traditional definition constraints of time, costs and quality or performance.

2.4.8.3 Definition conflict – two clear perspectives

Defining project success in terms of project delivery (Atkinson, 1999) has witnessed the evolution of subjective multi-variant performance measures frameworks, such as the 'Square Route' (Atkinson, 1999); the multi stakeholder 'Project Success Framework' (de Wit, 1998); Logical Framework Method (LFM) (Baccarini, 1999) and McLeod et al., (2012) perspective-based framework for evaluating project success. These frameworks and popular Body of Knowledge literature define project success within a complex and often dynamic internal and external operating environment. Common in project success literature are the links with stakeholder expectations and satisfaction and the agreed project success criteria to measure project performance. Specifically, APA BoK (2006) define project success as *"the satisfaction of stakeholder needs measured by the success criteria as identified and agreed at the start of the project"* (p.152), which is similar in context with Stuckenbruck (1986) opinion that different interest's groups have different views and therefore different criteria for measuring project success.

Conversely, though some project management scholars and practitioner's views on project success definitions are changing, for example Jugdev & Muller (2005) perspective of viewing project success over the entire life cycle and not limited to the implementation stage (p.19), the PMBOK 5th Edition (2013) are defiant in defining project success in traditional terms *"... the success of the project should be measured in terms of completing the project with the constraints of scope, time, cost, quality, resources and risk as approved between the project managers and senior*

management…" (p.35). The conflict of definitions supports literature evidence that there is no consensus within early and contemporary project management literature. Nonetheless, what does emerge is a line of reasoning, which clearly positions the evaluation of project performance from two distinct perspectives; the management of the project (project management success) and the overall project success (project success) as suggested by (Cleland, 1986; de Wit, 1988; Baccarini, 1999; Belassi & Tukel, 1996; Munns & Bjerimi, 1996; 1999; Cooke-Davies, 2001; Jugdev & Muller, 2005). Thus, the relationship between project success and project performance is divided between project management process success and overall project success. Though different scholars, academics and practitioners reflect different nuances Cooke-Davis (2002) distinction draws together the commonalities and defines *"project management success - measured against the widespread and traditional measures of performance against cost, time and quality; whilst, project success - measured against the objectives of the project"* (p.185). These two (dependant variables) perspectives will be covered further below.

2.4.8.4 Organisational Support

In defining project performance from the perspectives of project management process or overall project success, recognition towards project organisational support is relatively obscure and only loosely referenced in literature. For example, PMBOK (2013) refer to the agreed constraints between the project manager and senior management when defining project success (p.35). But, identifying project success factors from project organisational support is adequately represented in the literature. For example, Pinto & Slevin (1989) identify top management support as a critical success factor as do Cleland and King (1983) who also identify executive development and training. Other examples include Besner & Hobbs, (2008) correlation between practitioner usage of 'tools and techniques' increases with more organisational support; while a study into adopting an international recognised *project management methodology* IRPMM (McHuge & Hogan, 2010) found that in large organisations senior management must be supportive and committed to the implementation in order for it to be successful (p.644). Finally, organisational support for project management training (Loo, 1996) and notably the supporting of project teams and providing teams with strategic vision and direction (Johns, 1998).

Whilst specific project management practices command a level of organisational support, a paradigm of inclusive project management organisational support of alignment, communications and integration would be to the benefit of both individual projects and the wider strategic mission of the organisation and stakeholder satisfaction, as expressed by Jugdev et al., (2011); Mather et al., (2014); Perkins et al., (2018). In an empirical study linking the relationship between project management assets to project performance outcomes and the degree of competitive advantage project management practices provides organisations, Mather et al., (2104) posit project

management organisational support as an environment in which project management practices are in alignment with the organisations mission and the products and services on offer and that senior management are genuinely supportive of project management practices, are trusted and encourage an environment in which project team members and other stakeholders learn, share knowledge and information, trust and work well with each other, within an atmosphere of supportive leadership and effective communications and working relationships. Though a priori list of tangible and intangible conditions, Mather et al., (2014) hypothesize that the degree of project management support is a moderating variable on the level of project performance and any potential level of competitive advantage.

Evaluating project performance from a dyadic analysis in which project management success is based on quantitative criteria (Munns & Bjerimi, 1996), or Key Performance Indicators KPIs (Murray-Webster & Simon, 2007); and subjective multi variant frameworks to evaluate overall project success, it is clear that organisational support is a determinant in theoretical and the actual level of success achieved. Similarly, Jugdev et al., (2011) posit that the degree of organisational support provided to project management practices is a moderator in the determination of competitive advantage, **which is key concept of this research explored in more detail in the following chapters**. However, before reviewing how project success is measured it is necessary to explore in more depth how project management process success and overall project success is defined in the literature. **This is necessary to position the relationship between levels of competitive advantage from project management assets and associated processes and practices, and project performance; and the emerging performance knowledge paradigm identified in subsequent chapters**.

2.4.8.5 Project Management Success – Iron Triangle

In common with popular project management literature Pinto & Slevin (1988); Munns & Bjerimi (1996) define project management success within specific characteristics that include a defined beginning and end, a set of activities to deliver a desired preordained outcome within the constraints of a limited budget. Whilst the PMBOK 5th Edition Guide (2013) elaborate project management success to include the additional project constraints of scope, risk and resources (p.47). The acclaimed Iron Triangle Barnes (1969) became the traditional way of controlling project management performance based on the constraints of time, cost and quality later revised to time, cost and performance (Barnes, 1998, p.70); becoming the de facto method to define project success (Ebbessen & Hope, 2013). The premise of the Iron Triangle illustrated in figure 2.5 below, is based on an economic conundrum of balancing project objectives of time, costs and performance with the expectations of the client's project objectives.

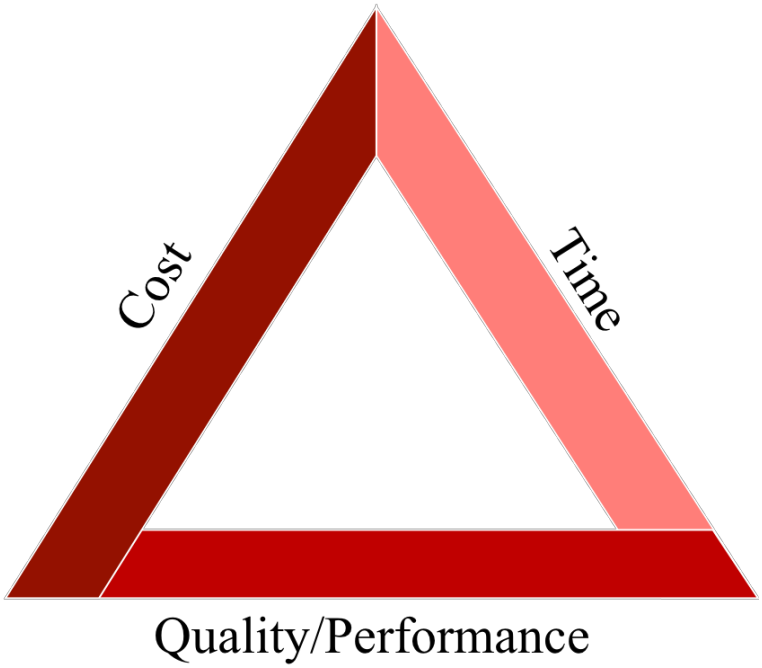

Figure 2.5: Dr Martin Barnes revised Iron Triangle (1998)

Controlling costs, working to a programme and controlling quality/performance have been accepted as the conventional criteria in measuring project management performance (Jha & Iyer, 2007); manifesting as the Iron Triangle, perhaps the most widely used control tool positioning the constraints of time, cost and quality/performance at the centre of project management success, suggests Ebbessen & Hope (2013). Whilst, scholars and project management practitioners (de Wit, 1998; Atkinson, 1999; Bryde, 2008) acknowledge the conventional usefulness of determining project management success based on the degree to which the Iron Triangle meets the stated objectives, White & Fortune (2002) conclude that in 2002 time, cost and quality was still the most commonly reported measures for project success, supported by Toor & Ogunlana (2010) assessment that performance measures in construction projects are dominated by the conventional measures of time, cost and quality (p.229). Moreover, whilst de Wit (1998) does infer that good project management effort measured on objectives of time, cost and quality/performance is a simplistic explanation of project success; de Wit counters the argument by the use of Hertzberg's hygiene motivation analogy in that the presence of quantifiable success criteria doesn't guarantee project success, but their absence is likely to result in project failure. This contention is further supported in literature with examples of project failure even though on time and within budget or successful projects, which are, over budget and exceed time schedules (Pinto & Slevin (1988), or perceived successful to the client but an unsuccessful venture to the contractor or users (Toor & Ogunlana, 2013).

Though contemporary literature does suggest a depart from the Iron Triangle as the sole measurement of project management success (Toor & Ogunlana, 2013; McLeod et al., 2012; Jha

& Iyer, 2007; Jugdev & Muller, 2005) the general perception amongst project practitioners is that a successful project is based upon these three criteria alone (Ebbessen & Hope, 2013; Shenhar & Dvir, 2007). Though seen as a simplistic balance between the economics and management of performance expectations, the Iron Triangle approach does provide project stakeholders with a multi-level objective framework. For example, objective, tangible time, cost and quality/performance measures (Baccarini, 1999) fall within the project management organisation (Pinto & Slevin, 1988) allowing for the evaluation of the project, the project manager and project team's performance (Jugdev & Muller, 2005).

Controlling project performance based on time, cost and quality/performance is a mechanism for the accountability of the project manager and overall project performance. However, if the degree of success attained by the project management process is to be measured on these criteria significant stakeholders including senior management, the client/customer, the project manager and the wider project team must understand, acknowledge and accept the balance between the Iron Triangles constraints throughout the projects entire life-cycle (Pinto & Slevin, 1988; Atkinson, 1999). Different project priorities impacting on the balance between the three Iron Triangle constraints are pervasive throughout the project cycle. Moreover, a different mix may be demanded if the schedule or budget is forecast to overrun, or a new quality/performance criterion is demanded by either of the stakeholders. Overall project management effectiveness (Bryde, 2008) is determined after the project closes (de Wit, 1988) and based on the measurable outcomes of the three stated Iron Triangle constraints. However, though tools and techniques are used to control and monitor project progression during the project life-cycle (de Wit, 1988) does a project managed within the preordained Iron Triangle objectives reflect the reality of a successful project in terms of expected outcomes and whether the project has delivered real impact?

2.4.8.6 Project Success

Whilst quantitative metrics are important efficiency measures of the project management process a divergence towards subjective and qualitative success criteria is evident in historical and contemporary project success literature including traditional time, cost and quality/performance scholars, such as (de Wit, 1988; Pinto & Slevin, 1988; Barnes, 1988; Atkinson, 1999). Defining project success goes beyond the traditional success determinants based on economic and technical criteria associated with the Iron Triangle. Cooke-Davies (2002) argues that project success is measured against the overall project objectives. Scholars including (Pinto & Slevin, 1988; Bryde & Brown, 2005; Jugdev & Muller, 2005; McLeod et al., 2012; Ebessen & Hope, 2013) warm towards stakeholder satisfaction, whilst others posit benefits to the organisation and wider stakeholder community (Atkinson, 1999), and the psychological satisfaction of project team or the happiness of end user with the results of the project (Bryde, 2008). Therefore, defining project

success is a subjective exercise often associated with intangible qualitative success criteria pertaining to the longer-term objectives of the project, which go beyond the short-term cost, and quality/performance objectives.

In spite of this project management success literature does support a priori of success criteria for the evaluation of long-term objectives. The challenge would be to select the most suitable mix and means of measurement most suitable for individual projects. This diversity is a divergence from the prescriptive notions of the Iron Triangle as it would be unreasonable to assume that all projects are the same and therefore require different mixes of success criteria and measurement, which is a line of reasoning supported by Shenhar et al., (2001).

Having discussed the epistemological perspective of project performance it is now necessary to explore how the two perspectives are measured and review the literature associated with project success and measurement in the public sector and collaborating third sector organisations.

2.4.9 Measuring Project Management Performance

2.4.9.1 Multiple perspective

Drawing primarily from the discipline of economics performance measurement has long been a central interest to managers (Otley, 1999) when assessing the financial performance of organisations. Indeed Kuwaiti (2004) advocates that traditional performance measurement systems provide operational control and financial reporting (p.55), and company success is measured on financial and economic indicators (Jugdev & Muller, 2005), and Moxham (2009) reports that financial accountability is a key driver for measuring performance. However, whilst the conventional nuance is associated with control and measurement of financial objectives organisational performance measurement isn't exclusively a financial and budgetary control doctrine. In today's competitive environment and heightened levels of accountability performance measurement is more about how organisations develop and define a mix of performance measures, which relate to corporate strategy and the diverse and often conflicting stakeholder expectations.

For example, Kloot & Martin (2000) argue that public sector reform has shifted performance measurement towards community impact as well as internal business processes and innovative learning, and Moxham (2009) concludes that there is evidence in the literature to support private and public-sector organisations having developed and adopted wider integrated improvement-orientated performance measurement systems. Finally, MacIndoe & Barman (2013) study into how Non-Profit organisations apply principles of outcome theory and outcome measurement to assess organisational effectiveness across three variables of resource providers, networks and

stakeholders. These examples and the traditional notion of economic measures proffer a broader contextual elucidation of organisational performance from a multi-variant perspective. Of specific relevance is the relationship between the performance of people in the organisation and organisational performance measured against preordained corporate objectives. This notional relationship is well represented in literature including human resource management, operations management and performance management fields of research and practice. Otley (1999) argues that the intention of performance measurement is to influence the behaviours of managers so that they act in the interests of the organisations, going on to conclude that performance measurement practices not only evaluate economic efficiencies but social, behavioural and managerial perspectives within the overall context of an organisation (p.382).

However, defining performance is problematic with no agreement amongst scholars suggests Kloot & Martin (2000), and can be an ambiguous term incapable of a simple definition (Otley, 1999). A generic definition of performance which satisfies a range of business, operations and human resource perspectives is offered by Lebas (1996) *"performance is defined as the potential for future success implementation of actions in order to reach the objectives and targets"* (p.23), implying that preordained objectives are defined with levels of performance which can be measured against a priori of targets argues (Otley, 1999).

2.4.9.2 Project management perspective – an introduction

This narrow generic appraisal of performance measurement is not dissimilar when elucidating the two distinctions of project success measurement particular the tangible short-term objectives of time, cost and quality/performance constraints. Here, agreed quantifiably project performance levels measure project progress and the attainment towards preordained objectives within tolerances and flexible constraints of the Iron Triangle objectives, which is well represented in project success literature. However, as highlighted above determining overall project success is somewhat subjective often involving intangible criteria from the perspectives of multi-variants accredited to (Atkinson, 1999; de Wit, 1998; Baccarini, 1999; McLeod et al., 2012). In this respect, precise measurement is an elusive act due to the diversity of the multi-variant frameworks. Simply, defining performance levels to measure longer-term project objectives are at odds with the many and often-conflicting subjective success criteria. One perspective of agreed performance level may be in conflict with another perspective made more convoluted if associated with different stakeholder expectations. However, whereas objective performance measurement can drill down to a disaggregated level, it may be more suitable to view the subject measure to evaluate overall project performance at an aggregated level.

The following subsections discuss the main methods and techniques currently used in measuring project management success, followed by an introduction regarding measuring overall project success from the perspective of societal impact, concluding with an appraisal of performance measurement in the public sectors including collaborating organisation.

2.4.9.3 Project Management Process

Notwithstanding that measuring project success has developed more of an inclusive approach (Jugdev & Muller, 2005; Toor & Ogunlana, 2010; McLeod et al., 2012), operation efficiency metrics are still widely used by project managers across all sectors and industries; clearly evidenced in Jugdev & Muller (2005) and Davis (2013) reviews of project success literature.

Early project management metrics were developed and deployed by project managers to determine the status of the project and inform stakeholders from the perspective of the Iron Triangle (Kerzner, 2011). This efficiency perspective is based on the implementation and operational life cycle of the project and therefore is perceived as an operational concept (Jugdev & Muller, 2005), in which tangible inputs of time, cost and quality/performance can be apportioned and easily monitored and controlled against. Therefore, metrics associated with measuring the Iron Triangle are often quantitative in nature and easily observable (Jugdev, Thomas & Delisle, 2001; Jugdev & Müller, 2005; McLeod, Doolin & MacDonell, 2012; Kerzner, 2017).

Measuring the degree of success of the project management process in terms of aggregated efficiency metrics informs a variety of stakeholders on project status and the performance of the project manager and team (Jugdev & Müller, 2005). Particularly, aggregated measures are useful to determine the level of success of an individual project or the overall performance of programmes or several disparate projects. Pinto & Slevin (1988, p.70) elucidate this concept as project efficiency within their 'model of project success' stating that project efficiency is measured against *time* – this project has/or will come in on schedule, *cost* – this project has/or will come in on budget, and *performance* - the project that has been developed works - or if still being developed, looks as if it will work (p.70).

2.4.9.4 Project Management Process Relationship with Competitive Advantage

Project management maturity models (PMMM) provide a guide for the strategic implementation of project management, a means of benchmarking an organisations project management competence, and to assess the maturity of the project management processes (Kwak & Ibbs, 2000; Jugdev & Thomas, 2002; Kerzner, 2011; Crawford, 2014; Turner, 2016). Indeed, Kwak & Ibbs (2000); Parvin & Levin (2006) and (Kerzner (2011) suggest that firms demonstrating the higher levels of maturity are likely to have some degree of competitive advantage, and if firm's can

continually improve competitive advantage may be sustained (Kerzner, 2011, p.33). However, Jugdev & Müller (2006) contest these claims on the grounds that PMMM's are based on tangible, explicit codified and easily transferred knowledge which are only likely able to provide temporary advantage at best and normally parity when another firm's quickly catch up.

Similarly, applying quantifiable iron triangle objectives to measure performance of the project management process are unlikely alone to provide more than a period of temporary competitive advantage as they are too tangible, explicit codified and easily transferred knowledge. However, in the unique context of this thesis; it will be demonstrated that **LASIS need to develop a performance knowledge paradigm, including the iron triangle objectives, as a basis for further developing project management assets and associated processes and practices as a strategic source of competitive advantage, and thus demonstrate societal impact and sustainability**, as illustrated in figure 2.6 below.

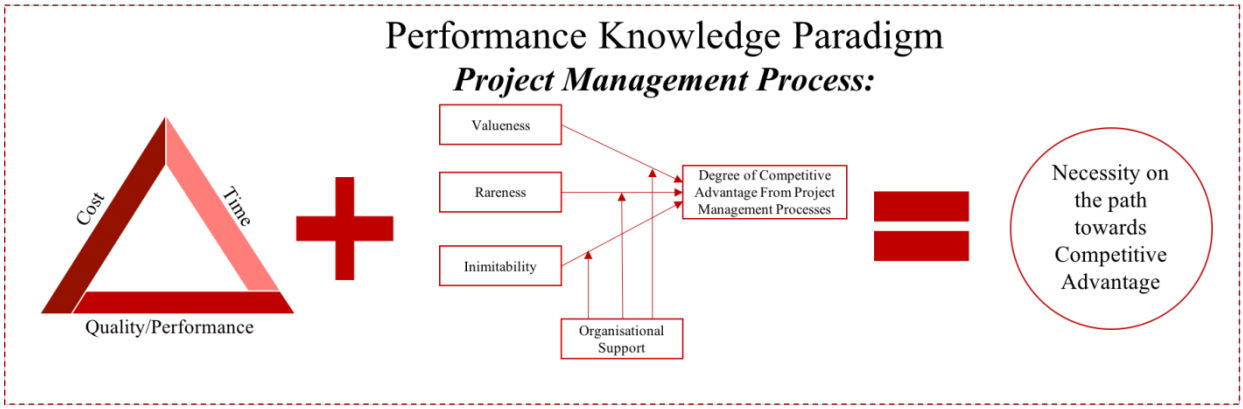

Figure 2.6: Relationship with Tangible objectives and CA

2.4.9.5 Project Success

Whist the project management processes measures will in effect assess the observable performance of specific projects, how to convert individual projects into measurable societal benefits is difficult in part due to the traditional paradigm of measuring project success based on time, cost, quality (De Wit, 1988), resource and risk constraints, as these measures are primarily tangible and objective project management process success factors. A second reason is the diverse subjective nature of measuring project success, which tend to be more qualitative and not easily measured in any objective manner such as inputs and outputs and are typically long-term and thus not necessarily measurable immediately (Munns & Bjerimi, 1996). Also, capturing social impacts is a difficult task, as social criteria is rather subjective and prone to changing perceptions, a point made by Estevez, Walshe & Burgman (2013). This is particular evident when measuring societal impact as societal projects are more commonly measured by the aggregated impact to society (Slootweg, Vanclay & Schooten, 2001) and the disaggregated impacts of specific individuals or

groups. Thus, the following subsection discusses measuring *project* performance from the *firm* level and from a wider societal impact perspective.

2.4.9.6 Project Success - Firm Level

Measuring *firm* level project success from the perspective of the overall project objectives as suggested by Cooke-Davies (2002) or from the standpoint of stakeholder satisfaction and expectations (Pinto & Slevin, 1988; Bryde & Brown, 2005; Jugdev & Muller, 2005; McLeod et al., 2012; Ebbesen & Hope, 2013) is a subjective exercise with many conflicting perspectives. However, scholars link the long-term measurement of project success with the performance of the firm in terms of achieving overall objectives and advancing the firm towards its strategic goals (de Wit, 1999; Cooke-Davies, 2002; Jugdev & Muller, 2006; MacLeod et al., 2012), which may be economic and business objectives (Shenhar et al., 1997) dynamically matching corporate strategy and business objectives (Cooke-Davies, 2002).

2.4.9.7 Project Success - Societal Impact

Firm level project success can be measured against defined subjective criteria (overall project objectives and stakeholder satisfaction and expectations), measuring the wider social impact from specific programmes and individual projects is a complex conundrum due to the diverse variation of social needs (Vanclay, 2002; Estevez et al., 2013) linked to the programme or individual project and that different stakeholders will assess performance in different ways (Polonsky & Grau, 2011).

Defining 'social impact' or 'social value' (Mulgan, 2010) there is no single authoritative definition. However, Mulgan (2010) opinions that it refers to wider non-financial impacts of programmes, organisations and interventions, including the wellbeing of individuals and communities, social capital and the environment, which is the overall objective of LASIS.

Impact can broadly be defined as the 'difference you make' (Cabinet Office – Office for Civil Society, 2013), and contextually defined as the broad or long-term effects of a project or organisations working include the effects of people who are direct users of the project or organisations work (Inspiring Impact, 2013, p.4). Social impact can be defined as the net effect of an activity on a community and the well-being of individuals and families (Centre for Social Impact – online, 2015). Other definitions include references to political indicators such as population change, job creation and use of services (Gramling & Frudenburg, 1992 – cited in Estevez et al., 2013). Whilst Estevez et al., (2013) clearly separates into two components of 'human impact' and 'social change process'.

First, the nuanced component 'human impacts' and 'people impact' (Wolf, 1982) is further

delineated by scholars such as (Slootweg et al., 2001; Vanclay, 2002; Estevez et al., 2013) as meaning the same as 'social impacts' preferred by Wong and HO (2015). Defining human impacts Estevez et al., (2013) state *"experienced by people whether in physical or psychological terms and are intrinsically subjective",* (p.609). This subjective notion enforces the difficulties in measuring social impact supporting the opinions of scholars that social impact has many perspectives, stakeholders and evolutions through the passage of time, economics and social policy (Burdge, 1987; Gramling & Freudenberg, 1992; Lane, Ross & Dale, 1997; Estevez et al, 2013).

Whereas, the component 'social change process' is a term to describe the mechanism in which deliberate interventions at a national, regional or local level that directly or indirectly impact on individuals and groups. Through the process of policy, programs plan and projects (Burdge & Vanclay, 2002; Vanclay, 2003), planned interventions are *"discrete, observable and describable process which change the characteristics of a society"* (Slootweg et al., 2001, p.27), meaning that specific social change can be measured albeit aggregated. However, context and setting are moderators as social change interventions are situation specific and dependent on the social, cultural, political, economic and the historic context of the community as well as the elements of the proposed intervention (policy, plans, programs and projects) argues Vanclay (2002).

Broadly based on the Interorganisational Committee on Guidelines and Principles of Social Impact Assessment (2003) and Burdge (1990) lists of impact categories, a rich diversity of classification has developed, including efforts to define and operationalise specific impact variables (Vanclay, 2002). For example, Armour (1990) cited in Gramling & Freudenberg, (1992, p.166) elucidate the importance of people's way of life, their culture and their community, systems of human environment. Though, Juslén (1995) argues that no list can be universally applied to all social impact interventions. Therefore, though social impact categories, classifications and lists are well represented in literature, there is no common consensus defining social impact variables. However, acknowledging the extant literature does provide practitioners a basis when designing social impact measures from their projects and other organisational work. Scholars including Vanclay et al., (2002), Estevez et al., (2012) and Wong & Ho (2015) make the link between social change interventions and social impact and argue that through deliberate interventions a more sustainable and equitable biophysical human environment can be fostered. These scholars and others (Brudge, 1990; Slootweg eta al., 2001; Becker, 2001; Cloquell-Ballester, 2006; Polonsky & Garu, 2011) all agree that formal social impact assessments or social impact analysis (Wang, Lassoie, Dong & Morreale, 2013) which measure potential and realised social impacts should be applied to social change interventions in the planning and review stage of all social change interventions including specific social orientated projects. This formal process operationalises the value of understanding

the potential and actual outcomes of projects, whether positive or negative, and that measurement of social impacts are critical aspects of decision-making processes involved in the design and planning of future social interventions contends Wang et al., (2013). Therefore, what to measure which defines the interventions goals and performance is a significant question social impact planning must pay particular attention argues Wong & Ho (2015).

Whilst the overall objective of LASIS is to develop sustainable societal impact, how LASIS define and measure disaggregated and aggregated impact from projects is not an objective of this thesis research. **However, it was necessary to explore societal impact literature to position two key elements of the thesis overall research aims and research questions; i) the link with VRIO characteristics and predictors of performance, as illustrated in figure 2.4 above; and, ii) how developing a project management knowledge paradigm has a positive relationship with *project* and *firm* performance, and thus delivering societal impact from the deliberate investment in project management VRIO assets and associated processes and practices,** which will be further explored in subsequent chapters. Figure 2.7 below illustrates these theoretical relationships.

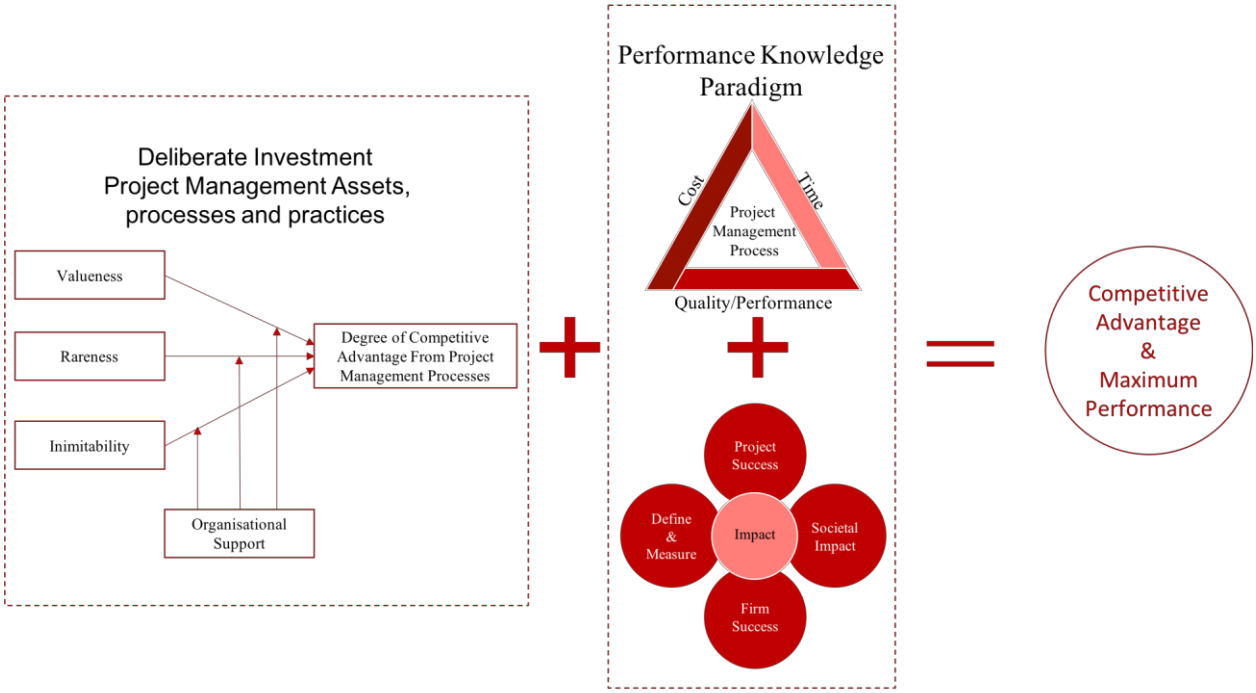

Figure 2.7: Theoretical relationship between VRIO investment, performance knowledge paradigm and desired outcomes

Thus, to conclude this subsection, whilst LASIS should apply tangible objectives to define and measure the project management process, they are encouraged to formally engage in frameworks (NPC, 2012) and guidance (HM Treasury, 2014) for developing strategies which recognise the importance of evidencing impact measurement. Positioning project management assets and

associated processes and practices as a source of competitive advantage is a strategic option to secure sustainable funding, which in turn provides resources for increasing staff skills and knowledge of what and how to measure societal impact, and reduce the barriers of impact measurement (NPC, 2012).

2.4.9.8 Project performance measurement in the Public sector

Measuring performance in the public sector is well represented in literature, particular from the perspective of delivering primary objectives (Kloot & Martin, 2000; Dooren, Bouckaert & Halligan, 2015), effectiveness and efficiency (Johnsen, 2005; De Bruijn, 2015; LÊgreid, 2017), and accountability (Fryer, Antony & Ogden, 2009). Similarly, though a dearth of research, Moxham (2013, 2014) highlights objectives, efficiency and effectiveness and accountability (Osborne et al., 1995, cited in Moxham, 2009) as reasons for performance measurement in the third and not for profit sectors. However, Moxham (2013) concludes that there is a weak link between performance measurement and performance improvement, stating that *"performance measurement appeared to be a mechanism for demonstrating compliance to expenditure stipulations or quantitative targets"* (p.198). Which adds weight to findings from an earlier study, in which performance measurement is usually applied to monitor the use of funds, citing five key factors detracting not for profit organisations from using performance measurement for improving performance (Moxham, 2012, pp.346-348), as illustrated in table 2.5 below.

Table 2.5: Detractors of not using performance measurement in not for profit organisations (adapted from Moxham, 2012. P 346-348)

Factor:	Main Findings:
Performance Management System Design	Lack of awareness of existing models, and how to be applied in third and not for profit organisations
Relevance of measurement criteria	Funders stipulated measurement criteria, which was driven by accountability of expenditure, and not the organisations mission, aims and objectives.
Use of performance measurement terminology	No common performance measurement terminology across the different funding bodies.
Capacity for medium and long-term planning	Funding insecurity impacted on ability to plan for the long term within a short-term funding period.
Internal resistance to objective setting	Staff and partners belief that delivering the activities is important, resulting in a philosophical resistance to define and measure outcome or impact performance

The relevance of Moxham's research and the identification of factors detracting not for profit organisations to use performance measurement as a tool for performance improvement with this thesis, **is the relationship between the project management knowledge performance paradigm, the deliberate investment in VRIO project management assets and associated processes and practice, with the degree of competitive advantage and level of project management performance,** which is further explored in subsequent chapters.

2.4.10 Project Management Theme Conclusion

In conclusion, the review of project management literature first identified that project management is increasingly been used as a strategic tool for organisational efficiency and effectiveness (Perkins, et al, 2018), and that specific tangible and intangible endowments of project management assets can be anchored to the VRIO framework for competitive advantage (Jugdev & Mathur, 2006; Jugdev, 2007; Mathur et al., 2007, 2013, 2014; Kim et al., 2015; Perkins et al, 2018). Second, the review identified that whilst project management success and measuring project performance is well represented in literature, it is a complex area that in general public sector organisations and not for profit organisations, such as LASIS *partner* organisations, find difficult to master. As a result, drawn from the strategic and project management themes the researcher was able to conceptualise a theoretical model underpinning how a deliberate investment in VRIO project management assets and a knowledge performance paradigm can leverage degrees of competitive advantage and maximise project performance, as figure 2.7 above, illustrates.

Having established the strategic and theoretical foundations of this research, and how the application of project management asset endowments can be acknowledged, developed, deployed and exploited for competitive advantage, it is now necessary to review the final construct of this thesis. Which is the contextual literature, particular the relationship between LASIS unit of analysis hierarchical position, as illustrated in table 2.6 below.

Table 2.6: LASIS unity of analysis hierarchical position

Philosophical: Gov.uk (2010 to-date) Big Society, Social Capital
Local Government: Traditional model of annual grant third-sector organisations
Specific Local Schemes: Impact and sustainability i.e. LASIS

2.5 LASIS Context

In this theme it is necessary to position the hierarchical context in which the unit of analysis *'Local Authority Social Impact Scheme'* exist. First, the UK Governments 'Big Society' agenda philosophical position post 2008 global financial crisis is presented to provide a strategic perspective. This is followed by the local position germane to Local Government, particular the impact of public-sector austerity measures on Local Authority traditional model of third sector annual grant paradigm. Finally, the specific position is explored in which local authorities collaborate with a miscellany of organisations to deliver a range of diverse services which demonstrate sustainable social impact at a regional and often very local level, for example the thesis unit of analysis LASIS. The theme concludes with a review of public sector competition and the nature of LASIS non-professional project management practitioner status.

2.5.1 'Big Society' agenda – UK Government Philosophical Position

2.5.1.1 A catalyst for change

The economic climate post 2008 global financial crisis radically redefined the distribution of social welfare in the UK and other first world economies (Hills, 2011; Joseph & Rowlingson, 2012; Putten & Green 2011). The unprecedented cuts in public spending argues Hills (2011) positioned the 2010 Comprehensive Spending Review (HM Treasury, 2010) as the harbinger of a new era of austerity imposed by UK Coalition Government to reduce the growing deficit inherited from the previous administration. Underpinned by radical reform not seen since the five 'giants' and three prior assumptions of Beveridge's 1942 revolutionary report and the subsequent creation of Attlee's modern welfare state (Fraser, 1984), CSR2010 on average cut department budgets by 19%, with Local Government fairing significantly worse with a 28% cut between 2010-14 (HM Treasury, 2010; Lowndes & Prachette, 2011; Murray, Erridge & Rimmer, 2012) and Local Authority (LA) funding cut by 7.1% per year over five years (Barnard, 2010).

2.5.1.2 'Big Society' Philosophy

The 2010 Coalition Governments 'Big Society' social project was an ideology watershed in which the philosophy of big government would in part transfer to localism whilst implementing fiscal retrenching and reform of social and welfare policy. Though New Labour's top-down institutional power (Painter, 2012) did see a significant growth in the third sector the 'Big Society' project restructured the relationship between the state and society (Pattie & Johnston, 2012; Painter, 2012) emphasizing a greater role for the third-way sector (Giddens, 1999, 2003). A pillar of the Coalition Government's social agenda the 'Big Society' empowered local communities with: i) powers to determine and shape their community; ii) encouragement and support for people wanting to take an active role in their community; iii) the transfer of power from central to local government providing local authorities more financial autonomy and localised decision making; and, iv)

support the creation and expansion of co-ops, mutual, charities and social enterprises in greater involvement in running of public services (Cabinet Office, 2010). In doing so the third-sector landscape dramatically changed and now included the broadening definition of social enterprise organisations within the sector (Teasdale, 2011) to *"allow for the inclusion of almost any organisation claiming to be a social enterprise"* (p.99). Albeit within the general definition of the Cabinet Office of the Third Sector (2006, p.10) *"a business with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or the community, rather than being driven by the need to maximise profits for shareholders or owners",* this broad definition allows social enterprise organisations to achieve their social motivated objectives through trading in the market (Thompson & Doherty, 2006; Teasdale, 2010).

The mixed economy of many developed nations was undergoing a period of rebalance and fiscal retrenchment of public sector services following the 2008 global recessions. In this context, fiscal retrenchment can be considered an amalgam of Pierson (1996) seminal works on welfare state retrenchment, which *"generally requires elected officials to pursue unpopular policies that must withstand the scrutiny of both voters and interest groups"* (pp.143-144); with Hastings, Bailey, Gannon, Besmer & Bramley (2015) local government reality check of coping with cuts, as the *"actions which reduce the council's role in terms of the services it provides and for whom"* (p.606); with specific government policies of fiscal cut backs in response to state debt and budget deficits following the 2008 global financial crisis (Kickert, 2012).

However, academics such as Bernard & Boucher (2007) contest those countries that invest in social sustainability are more likely to rebalance the tri-lemma of job security and growth, income equality and fiscal restraint thus paying for social programs for example in education, health and care (p.214). Similarly, the concept of the Big Society is a restructuring of the relationship between the state and society in which charities, voluntary organisations and social enterprises play a larger role (Pattie & Johnston, 2011) in the delivery of publicly-funded services (Teasdale, Alcock & Smith, 2012) by drawing from social capital theory argues Westwood (2011).

2.5.2 Austerity - The local position

2.5.2.1 Reform and Retrenchment

Radical reform of public services including changing the way services are delivered and a redistribution of power away from central government to localism (Westwood, 2010) and sustainable long-term improvements were the cornerstones of the Coalition Government and CSR2010 (HM Treasury, 2010). The impacts of these austerity measures are far-reaching and go beyond a mere readjustment of soaring public expenditure leading up to the 2008 global financial

crisis and the subsequent worst recession for 100 years (Murray et al., 2012). Hill (2011) argues that the ratio of public sector spending as a percentage of Gross Domestic Product (GDP) continued to rise during the periods 2007-10 as a deliberate plan to counter and ward off the emerging recession. However, during this short period of fiscal intervention public sector expenditure raised from 41.1 to 47.3% of GDP (HM Treasury, 2010a) fuelling an expanding public sector and raising public expectations of future service provision, which Hills (2011) argues became the new standard thus making it all the more severe as CSR2010 intended to reduce public sector expenditure back to 2008 levels or put another way cutting £33 billion off the public-sector finances.

2.5.2.2 Reform and Retrenchment Challenges

Though the 2010 round of austerity measures were directed on public sector services, both private and third-sector suppliers to the public sector were facing significant procurement challenges in the new economic paradigm of deficit reduction (Ball, 2010). A significant challenge was the retrenching of local authority grant dependant third-sector funding made all the more severe following the development of the third-sector since 1997 (Alcock & Kendall, 2011). Traditionally, local authorities would enter a collaborative contract with third-sector organisations to deliver services across a wide range of social needs, enabling local authorities to reach many citizens their resources would otherwise prohibit. However, the CSR2010 settlement and the Coalition Governments austerity pledges to reduce the deficit by a third within the parliamentary period (HM Treasury, 2010; Macmillan, 2013) had a drastic impact on third-sector funding (Milbourne & Cushman, 2012) and its ability to function and continue providing the levels of service provision the public and local authorities had come to expect (Patties & Johnston, 2011).

2.5.2.3 More Reform and Retrenchment

A second wave of retrenchment imposed via the 2013 Comprehensive Spending Review (CSR2013) confirmed the fears of the Local Government Association (LGA) own assessment that there will be a gap of £1.4 billion in Local Authority Council revenue to expenditure by 2013/14 raising to over £16.5 billion in 2019/20 (Local Government Association, 2012). Provoking debate as to the future sustainability of the existing model's ability to deliver current services levels without radical reform in the way local services are funded and organized and a change in citizen expectations in what local councils will in future provide (LGA Funding Outlook, executive Summary, 2012). Typically, local authority councils were faced with prioritising services across their entire area of responsibilities, which were divisive and wide hitting.

2.5.2.4 Yet more Reform and Retrenchment

As already discussed, successive UK public spending reviews (CRS2010 & 2013) combined with radical reform in the way public services are delivered, has seen local government budgets cut by

28% between 2010-2015. Continuing with the reform and retrenchment theme the 2015 Spending Review and Autumn Statement (HM Treasury, 2015) department settlements resulted in the Department of Communities and Local Government with further retrenchment of 29% in real terms by 2019-20 (HM Treasury, 2015; LGA, 2012 & 2015) through better financial management and further efficiency (HM Treasury, 2015, p.98). The key message of the 2015 Spending Review (HM Treasury, 2015) was reforming public services to increase state productivity (p.11) and supply-side reform to deliver sustainable services increasing the standard of living (p.13). Specific reform initiatives were related to welfare (p.18), adult social care (p.33) and local government reform (p.58).

However, whilst the ideology of the 'Big Society' and 'Localism' was central to local government reform, particular the notion that *"devolving unprecedented power across the country to give people control over decisions that affect their local communities"* (HM Treasury, 2015, p.4), and transforming local government to become self-sufficient, the reality was that the government's spending choices included a significant reduction in central government grants to local authorities, equal to £6.1bn by 2019/20 (p.98). Which when compared to the realities of expenditure and squeezed funding the so called 'graph of doom' (Lowndes & McCaughie, 2013) the projected 2019/20 funding gap for local authorities looks ominous, as illustrated in figure 2.8 below, adapted from the LGA 2012 and 2015 models (LGA, 2012 & 2015), which project a minimum £9.5bn gap between net expenditure and funding.

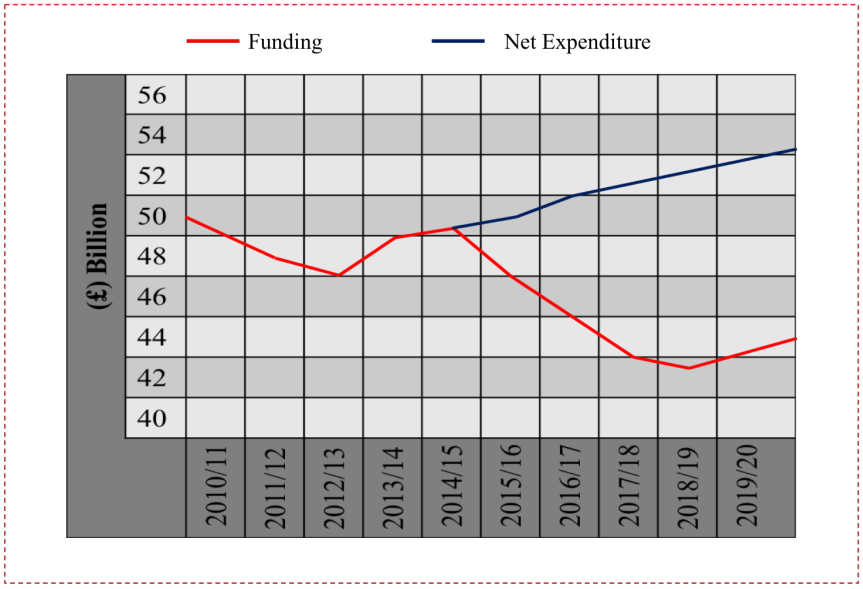

Figure 2.8: Income against expenditure 2011/12 to 2019/20 (adapted from LGA, 2012 & 2015 models)

As figure 2.8 illustrates the funding gap poses significant future challenges particular the UK governments doctrine of local government fiscal sustainability by the end of the current parliament (HM Treasury, 2015). **Thus, these pervasive fiscal retrenchment and reform challenges make**

claim for the justification of the overall research aim: *To identify which project management assets and associated processes and practices LASIS strategic managers need to deliberately: acknowledge, develop, deploy and exploit… when conceiving competitive strategies; to deliver i) impact from LASIS project management practice paradigm, and to ii) leverage sustainable competitive advantage post the 2008 global financial crisis, public sector funding retrenchment and reform paradigm?*

2.5.3 A New Dawn – The Specific Position

2.5.3.1 A slow start

As already explored above, third sector and local community organisations since 1997 have increasingly taken on a growing share of services which were previously delivered through statutory agencies (Alcock, 2010; Coote, 2011; Milbourne & Cushman, 2012). From the 'Big Society' ideology emerged localism empowering communities to have a bigger voice in how service is provided (Adamson & Bromiley, 2013). However, the realities of this early implementation were in general one in which public-sector agencies, including local councils and authorities, were not prepared to adequately respond to this policy change, conclude Adamson & Bromiley, (2013), suggesting that public sector community empowerment requires adequate staff training, support mechanisms for community participants, and community partnerships roles and responsibilities clearly defined (p.190).

2.5.3.2 A shining light

In contrast, one North of England local council in 2013 introduced an innovative community investment fund (CIF) scheme, *"The community Investment fund aims to improve the quality of life of local individuals by empowering our communities to use their local knowledge and expertise to develop locally-determined solutions to challenges and opportunities"* (Wigan Council, 2017), which can be operationally summarised as: An informal contract between the council and residents with a commitment from both sides to work together to make the council a better place. Local residents are encouraged to get involved in their community, in which the CIF will allow communities to help solve some of the borough's biggest social problems. Since launching the fund in 2013 the council have supported community groups and projects who are working towards improving outcomes for local residents with £9m invested by the end of 2017, demonstrating the council's commitment to supporting local communities. The ethos of the community investment fund is based on local residents know the local area better than the council do which is why the council created the opportunity for the community to take control and make a difference (Wigan Council online, 2018).

2.5.3.3 Supporting a new dawn

Through the supporting auspices of organisations and councils such as the Local Government Association (LGA), community capacity builders such as Local Trust and the Scottish Community Development Centre; and specific local government community investment funds such as the originating Wigan Council (active since 2013), City of Stoke-on-Trent (active since 2017), Hampshire County Council (active since 2017), East Ayrshire Council (active since 2018), or nuanced titles such as Neighbourhood Investment Fund such as Manchester City Council (active since 2015), and a plethora of other local council orientated community investment schemes set up since the success of Wigan Council, the traditional annual grants paradigm enjoyed by the third sector is a dying model. In common with all supporting resources and specific 'funds' is the challenge to demonstrate real societal impact and sustainability through delivery of key local council objectives, such as, i) strong and sustainable economic growth and prosperity; ii) live safe, healthy and independent lives; iii) enjoy a rich and diverse environment; and, iv) enjoy being part of strong, inclusive communities (Hampshire County Council – online, 2018), or Manchester City Councils key themes, i) supporting groups of residents back into employment or training; ii) stablishing new community groups; iii) supporting established groups, new groups and delivering local projects; iv) clean ups, planting, recycling and reducing waste projects; and, v) other activities important to your neighbourhood (Manchester City Council - online, 2018).

However, a diversity of community priorities across an equal diverse range of local government structures means that *"the nature and type of partnership working in community action projects is wide-ranging: no single approach is appropriate for all"* (LGA – online, 2018). Thus, the LGA publish guiding principles when entering local community partnerships involving the third sector, voluntary groups, community-based groups and social enterprise organisations (LGA – online, 2018), which was applied when Wigan Council entered into formal arrangements with the original 2013 Community Investment Fund Partners, the forbearers to the researcher's colloquially termed *Local Authority Social Impact Scheme* (LASIS), in which this thesis applies as the unity of analysis.

2.5.3.4 Challenges ahead

However, though the retrenchment and reform challenged both central and local government a new era of third sector self-sustainability and the promotion of local community entrepreneurs emerged out of the 2008 global financial crisis. With the financial landscape radically changing and local authorities charged with doing more with less, Evans et al., (2011) local authority councils were unable to continue the annual grant system enjoyed by traditional voluntary

organisations. Local authorities were moving towards self-sustainable local social and community organisations reinvesting surpluses back into the organization for the benefits of society (Public Services Social Value Act, 2012). However, this new ideology was thwart with challenges not the least an investment in new social and community entrepreneurs with little or no business or voluntary experience, Hopp (2012).

Having explored and determined the hierarchical position of LASIS unit of analysis, it is now prudent to discuss the competitive environment to justify the rationale for conceiving strategies based on internal resource endowments, which may leverage sustainable advantage, from the lens of the RBV VRIO framework. Thus, the next subsections provide a foundation and justification for *RQ2: Which project management assets have the potential to leverage certain degrees of competitive advantage, and how is this competitive advantage provided?*

2.5.4 Public Sector Competition

2.5.4.1 UK Government Competition

Though the industrial revolution and the shift towards a capitalist society of the early 19th century had a foundation built on liberalism, free trade and enterprise autonomy (OECD, 2002), it was not until post Second World War that the UK government introduced a regime of statutory competition policy (Scott, 2009). Successive government administrations created departments (for example Office of Fair Trade, Department of Trade and Industry and the Competitions Commission – formally the Monopolies and Mergers Commission) who both introduced and regulated competition legislation across a wide and varied spectrum of market conditions, including: Monopolies and Restrictive Practices Act 1948; Restrictive Trade Practice Act 1956 amended 1956 & 1976; Resale Prices Act 1964; Competitions Act 1980 amended 1988; and the Enterprise Act 2002. Though the key principle of UK statute competition policy is to provide a 'fair and just' playing field for businesses and companies it also encourages i) enterprise; ii) efficiency; iii) innovation; iv) choice for consumers; v) reduce price; and vi) increase quality (Office of Fair Trade OFT, 2010; EU Commission, 2012), since the late 1970's competition principles have been instrumental in UK reform and privatisation of public sector service, thus reducing the size of state provision (OECD, 2002). Whilst there are numerous institutional, governmental and academic definitions of 'privatisation', at its most elementary Domberger & Jensen (1997) argue that privatisation *"refers to the transfer of ownership of physical assets from public to private ownership"* (p.68). Notable UK privatisation schemes include: Water Utilities (Hunt & Lynk, 1995); Electricity Utilities (Jennings, 2000); Railway Network (Wellings, 2014), Royal Mail (Parker, 2015).

2.5.4.2 Public-Sector Competition

Notwithstanding the strategic nature of transferring state-owned services to private competitors, since the early 1970's competition has been at the forefront of public-sector reform and fiscal retrenchment (Moore, 1991). From the Thatcher reign (1979-1990) to the present era (Theresa May Conservative government 2016) successive governments have exploited market driven competition to reform public-sector services as an efficient means of allocating societal resources. Reform intervention policies such as privatisation, liberalisation, de-regulation and 'contracting-out' of public competences became the mainstream of public sector policy (Scott, 2010, p.3), in which many central and locally provided services were under the governance of private sector companies, third-sector organisations and more recently social enterprise organisations (Defourny & Nyssens, 2008; Alcock, 2010; Teasdale, 2011) often in collaboration with partner public-sector providers.

Alongside successive UK government's statutory drive of 'fair and just' competition in private sector markets, public-sector reform driven by fiscal climates fueled the rise in semi-quasi public-sector competition transferring more and more services out of the direct control of central and local government. Through fiscal initiatives such as 'contracting out', compulsory competitive tendering, public-private partnerships (PPP) and private finance initiatives (PFI), during the period 1970s – early 2000s increasingly more public services were transferred to the private sector. For example, 'contracting out' via compulsory competitive tendering of major infrastructure projects, national projects such as IT installations or prison, single event projects such as G4S security of 2012 London Olympics, and smaller local services but more directly interfaced with consumers such as Local Authority refuse collection, housing services, social care services hospital catering and cleaning services. Whilst 'contracting out' transferred ownership and control from public to private and occasionally third-sector organisations, Public-Private Partnerships and Private Financing Initiatives schemes fill the space between traditional government ownership and full privatisation argues Grimsey & Lewis (2005). These schemes further expand public sector competition for private sector involvement. However, these schemes differ in principle to 'contracting out' schemes. First, in return for a paid sum for the delivery of public projects and services the private partner has imposed strict performance regimes including governance, managerial, financial and technical resources required to a standard of service delivery expected by the public-sector partner (Grimsey & Lewis, 2005). Second, whilst overall responsibility for delivering the service remains with the public-sector (Minow, 2003; Grimsey & Lewis, 2005) ownership is often shared between public and private partners (Spackman, 2001; Minow, 2003; Grimsey & Lewis, 2005). Third, transfer of risk of achieving the service specification lays with the private partner (Spackman, 2001; Grimsey & Lewis, 2005), though recent empirical criticism

suggests that Value for Money (VfM) assessments do not consider risk and uncertainty exemplified in some NHS PFI/PPP hospitals vulnerability to the 2008 credit crunch and subsequent financial, economic and political crisis content Santandrea, Bailey & Giorgino (2015). Whilst, Khadaroo (2014) argue that the governments philosophy of sharing risk between the public and private partners provides better VfM than if the public partner retains all risk is a flawed concept, suggesting that the mechanisms for risk calculation are socially constructed and may be manipulated to justify PPP decision (p.154). Spackman (2005) draws on these contrasting views and argues that whilst the government's ideology is underpinned by private markets ability to remedy *"a lack of dynamism in traditional public service delivery"* (p.286), he draws out the sociological perspective that public service should be driven by social concern rather than for financial profit, Prentice (cited in Spackman, 2005), and points to the Institute of Public Policy Research (IPPR) 2001 report 'Building better partnerships' findings that public opinion is one of apathy towards private finance and private companies involvement in public services and making commercial profit.

Exploring early public-sector competition at an elementary level separates out the rationale and impact of the various initiatives. While the ideology of these transfers of ownership policies is the reduction of fiscal burden on central and local governments without scarifying the quality of the services (Domberger & Jensen, 1997), early public-sector competition policy discourse centered on the top down approach (Bovaird, 2007) and largely neglected the service user perspective. However, since New Labour and the Third way philosophy of Tony Blair's 1997 Labour government a radical repositioning of public sector service delivery ideology has emerged. The so called Third-Way or middle-way (Coaffee & Johnston, 2005) approach of centralising the socialist left and the market driven right politics is generally associated with Tony Blair's 1997 Labour government (Lee and Woodward, 2002; Giddens, 2013a & 2013b). Furthermore, early Labour's *New Localism* policies (McLaughlin, 2005) transferred autonomy and democracy from central government down to a local government level (Pratchett, 2004; Coaffee & Johnston, 2005), thus, decentralising power to local people, contend Featherstone, Ince, Mackinnon, Strauss and Cumbers (2011). Consequently, the polemic political third-way approach has a foundation on third-sector investment. In addition to non-government organisations (NGOs), cooperatives and charities (Haugh & Kitson, 2007, p.975) the voluntary sector, community sector and the growing social enterprise sector has received significant government support, operating alongside both the private and public sectors in delivering employment, education, health and social care, housing and environmental policies (p.973). The ideological transfer towards community engagement, participation and coproduction of local public services by local people does have merits in the generation of social capital, particular local communities managing and the governance of local

third-sector organisations, contends (Haugh & Kitson, 2007). It also promotes competition between local third-sector providers themselves, SMEs and larger providers (Milbourne, 2009; Milbourne & Cushman, 2013), who also content the fear of poor local knowledge by outsiders tendering for local commissions would impoverish service provision (p.24). This is particular community problem by the loss of local workers with specific local knowledge and expertise as a result of the involvement of outsiders often from different localities, eroding community trust in local service delivery, Milbourne & Cushman (2013, p.9) further posit.

Whilst the background to the 2010 Coalition government was austerity and global political challenge (Hills, 2011; Joseph & Rowlingson, 2012; Putten & Green 2011; Lowndes & Pratchett, 2012), Labour's *New Localism* ideology was further supported by the new Conservative, Liberal Democrat 2010 Coalition administration, with the introduction of the Localism Bill 2011 and the arrival of the 'Big Society' agenda (Lowndes & Pratchett, 2012). Similar to the Third-ways principles, though both polices effect the governance of local services, at the centre of the political ideology is the participation of the third-sector in the planning and delivery of local service (Alcock, 2010; Alcock & Kendall, 2012). However, whereas the Localism Bill 2011 legislates decentralised power to local communities, empowering communities and encouraging the active participation of local people in local democracy and service delivery and the discretion to determine local objectives and community needs, the so called 'Big Society' is an abstract notional political ideology (Padley, 2013), which favours middle-class voluntarism communities (Featherstone et al., 2012). Though at the heart of the Localism Act 2011 was empowering local communities within the structures of local government and governance; new rights for communities and individuals, including the right to challenge existing delivery of public services and the right for communities and third-sector to bid (compete) to buy and run community assets (Padley, 2013, pp.344-345), Featherstone et al (2013) 'Big Society' critique is politically operationalised as an integral part for public sector retrenchment (Bach, 2012), a cover for government spending cuts (Pharoah, 2011) and the most popular criticism, a means of reducing or shrinking the state (Bach, 2012; Diamond; Grimshaw & Rubery, 2011; Pharoah, 2011; Fenwick & Gibbon, 2017).

Having discussed public sector competition at a structural level it is now necessary to position how competition at the local level manifests and impacts on local public services.

2.5.4.3 Local Government Competition

Within a context of local government competition, the fiscal, monetary and policy roles of central government is deciding how the country is run and for managing things, day to day i.e. setting taxes, choosing what to spend public money on and deciding how best to deliver public services

(Parliament UK, 2016). Whilst autonomy and democracy are at the heart of localism it is at the central or state government level where the rules, polices and doctrines are passed into the legislative structure of a country.

Scholars agree that constructing a clear definition for local government is difficult due to regional context at a particular point in time (Bailey, 1999, p.2), constant reorganisation and boundary changes and a focus on centralism policy-making (Briffault, 1996; Wilson & Game, 2011, p.4) and the diversity of needs and expectations (Pratchett, 2014). Despite these difficulties scholars largely agree that local government is the voice of local communities, providing public sector services for communities within the stated jurisdiction (Bailey, 1996; Briffault, 1996; Clarke & Stewart, 1994). Within the regulatory powers laid down from central government namely the Local Government Act 1988, and the Localism Act 2011, local government, or the more the likely termed *local authorities* (Gilbert, Stevenson, Girardet, & Stren, 2013, p.4), and or *councils* (LGA, 2011), work with partners such as the third-sector, charities, local businesses, other public service providers, local residents and local communities (LGA, 2001), and more recently social enterprise organisations (Alcock, 2010), to determine, priorities and deliver local services, either provided directly by the local authority or commissioning outside organisations (LGA, 2011). Local authorities provide both mandatory and discretionary services. Though local authorities have discretion over the type and level of mandatory services, they may decide not to provide certain discretionary services or may charge users for accessing certain discretionary services (LGA, 2011). Typically, local authorities are responsible for providing locally determined priorities in the follow principled services: i) children and adults; ii) housing, iii); highways, roads and transport; iv) environmental; v) cultural; iv) planning and development; iiv) protection; and the catch all iiiv) central and other services (LGA, 2011), often using different forms of service delivery as alternatives to the traditional in-house provision (Stanford, 2016).

Thus, via delegated powers local authorities have always had the legal power to use alternative delivery methods including the commissioning out on competitive models. Indeed, prior to 1988 public sector services have been subject to voluntary competitive tendering (Syzmanski, 1996). However, the monopoly conditions of local authority services, limited the take up of this policy. Therefore, to introduce economic theory under the Local Government Act 1988 compulsory competitive tendering was introduced for all local services Syzmanski, 1996), though this was replaced by the 'Best Value' regime under the Local Government Act 1999 (Stanford, 2016). Furthermore, the rhetoric posturing of the 2010 Coalition Government's, 2011 white paper *'open public services'* and the public-sector reform and retrenchment program compelled local authorities to open public services to a range of providers competing to offer a better service (HM

Government, 2011). Including increased collaboration and partnerships with voluntary, community and private sectors, thus offering greater choice for users of public service (OFT, 2010; HM Government, 2011, Gash & Roos, 2012). Alternative delivery approaches commonly practiced in local authorities include, *'in-house'* services (Stanford, 2016), *'contracting out'* to voluntary, private and social enterprise providers, sharing services with other local authorities (single or multiple), *'insourcing'* (contracting back service by providers of poor performance), and the increasing use of '*local authority trading companies'* (LATCs) trade for profit, providing revenue streams for local authorities (Stanford, 2016), *'partnerships'* with other local bodies, '*local enterprise partnerships*' public private partnerships created by local social enterprises (Thornton, 2014).

Although a brief review of public sector competition is presented the central theme is that public sector competition is here to stay and propensity for increased expectation by service users. Whilst competition at the aggregated central government level will continue to dictate the structural landscape and pace of reform and retrenchment at the disaggregated level application of competition will severely impact on both the responsible local authority and individual service provider, including mutually agreed collaborating schemes.

Finally, having described the hierarchical position and competitive context of LASIS, it is necessary to briefly discuss the significant challenge posed by the non-professional nature of LASIS project management practice.

2.5.5 Non-Professional Project Management Practitioners

2.5.5.1 Traditions of the Professional Occupations

Professional occupations are traditionally associated with medicine; law and finance argue Laurison & Friedman (2016), though Friedman, Laurison & Miles (2015) also consider engineers, scientist, higher education teachers, journalist and senior managerial roles including CEO, directors and presidents as elite occupations (p.265). Professions are characterised as processing autonomy of professional judgement and decision-making, self-control, and immunity from regulation and evaluation from others (Friedson, 1984; Evetts, 2008). Furthermore, Watson (2012) contends that professional occupations are considered to be relatively successful in gaining high status "*on the basis of a claimed specialist expertise over which they have gained a degree of monopoly control"(p.340),* supporting Millerson (1964, 2013) qualifying associations of professional occupations: i) skills based on theoretical knowledge; ii) the provision of training and education; iii) test of member competences; iv) the existence of a professional body; v) adherence to a code of practice; and vi) the profession is organised, and Evetts (2008) description that

professional institutions have monitored educational and training requirements, accredited institutional training requirements, awarded and renewed professional licences and self-regulation of authority and legitimacy to run their own affairs (p.341).

2.5.5.2 Project Management as a Professional Occupation

Despite its rapid growth (Hodgson, 2002; Hodgson & Paton, 2016), project management has only been in vogue since the early 1980's (Garel, 2012). However, though a relatively short period in time, project management has elevated its status to resemble a quasi-profession, or more precisely a knowledge based 'expert occupation' argues Hodgson and Paton (2016). The professionalisation of project management more or less aligns with Watson's (2012) definition, Millerson's (1964) qualifying associations, and Evetts (2008) description. Ability to continually learn and understand expert knowledge (Ayas, 1996), body of knowledge (Hodgson, 2002; De los Ríos-Carmenado, Rodríguez, & Sánchez, 2015), accredited training programs (Hodgson & Paton, 2016), test of member competences (De los Ríos-Carmenado, et al, 2015; Turner, 2016), professional body or institute (Turner, 2016) in particular APMP and PMI (Hodgson & Paton, 2016, p.808), with the later formally declaring that the *"acceptance of project management as a profession indicates that the application of knowledge, processes, skills, tools and techniques can have a significant impact on project success",* PMBoK, A. (2013). However, to counter argue Fournier (1999) articulation that professionals establish legitimacy to run their own affairs in the eyes of those who they govern (p.285), how can project management really be classified as a true professional discipline when members of the occupation are seldom the governor, but often governed by others, such as clients, project executives and other functional managers, exercising varying degrees of member autonomy and authority varying between companies, and further moderated by the size of project and type of client (Pheng & Chuang, 2006).

2.5.5.3 Project Manager the Professional

Notwithstanding the limitations imposed by the traditionalist perspective of professional occupations, and the tensions of reconciling the professional status with the constraints of the employment context (Hodgson & Paton, 2016), the quasi professionalisation of project management to expert occupational status or similarly the *"professional discipline"* argued by Hodgson (2002), parallel initiatives, including formal internalisation of the discipline, accredited formal training programs and development of 'Body of Knowledge'; fueled the raise and raise of project actors particular project managers thus gaining their own professional status (p.807). Hodgson further articulates that for project managers to demonstrate professional status they must understand and employ the required terminology, which in turn acts to reinforce the growing ontology of project management as a professional discipline. Hence the establishment of project management professional associations, namely but not exclusive, PMI and APMP, each with their

own definitions, *methodologies*, developing core 'Body of Knowledge' and formal qualification routes. However, whilst these associations do offer a base for professionalisation, Morris, Crawford, Hodgson, Shepard & Thomas (2006) challenge the validity of Bodies of Knowledge (BoK) and their certification programs, on the grounds of whether the associations are equipped to act as professions and the value of the certification, suggesting further research is necessary to clarify the traits of a project manager, aligning the different BoK, defining preferred practice and *methodology* into one BoK, and the value of universities teaching project management and researching practice and theory (p.720).

2.5.5.4 Non-Professional Project Practice

Thus, if literature cannot establish that project management is a professional occupation, then it would be reasonable to make the assumption that all actors involved in delivering business objectives through project management principals and methods are more correctly termed practitioners. However, this argument may hold no traction on the grounds of training; experience; association membership; and, ability/competence, suggests Crawford (2005). Which learns towards a second group of so-called project practitioners based on limited or no project management training, experience, and demonstrated ability/competence. In other words, the management of business objectives and projects, which are delivered by novice participants (Cicmil, S., Williams, T., Thomas, J., & Hodgson, D, 2006). Including, novice project leaders and novice project teams (Longman, 2004); whom have a responsibility, either as a delegated role or informal expectation, for project management practice as either a manager or team with no formal project management designation (Perkins et al, 2018). Which are the specific circumstances in which the LASIS unit of analysis exist.

2.5.6 LASIS Context Theme Conclusion

In conclusion, the review of LASIS context theme first identified the hierarchical position of the LASIS unit of analysis within the ideology of the 'Big Society' and 'Localism' agenda of the UK 2010 Coalition Government, and the austerity challenges of local government, particular the traditional model of the third sector annual grant paradigm. Second, whilst a new dawn was emerging of community collaboration fuelling tangible impact and sustainable funding, local authorities and community collaborating LASIS were exposed to competition from within the boundaries of their jurisdiction, and within the sectors irrespective of specific organisation locality. Finally, it was established that whilst project management can be defined as a quasi-professional occupation (Hodgson, 2002), **participants of LASIS including management roles, paid staff and volunteers are project management novices, with limited or no training and experience in project management practice, posing a significant challenge in delivering LASIS aims and objectives on time, within budget and to the quality and performance expectations.**

2.6 Literature Review Conclusion

Having presented the three key literature themes underpinning this thesis, it is now necessary to conclude the overall chapter by identifying two key gaps in the reviewed 'body of knowledge'; and three central research questions which emerged from the review of literature. Additionally, whilst not a defined objective of this doctoral research, a third gap in the RBV 'body of knowledge' is introduced to indicate an area of future investigation the researcher is developing, extending the literature inspired conceptual model, illustrated in figure 2.10 below. Thereafter, the researcher presents two further conceptual models, illustrated in figures 2.11 and 2.12 below; which visualise the interrelationships between the three key literature themes, and to support the parsimonious model presented in figure 2.9 below, that represents the overall research aim: ***To identify which project management assets and associated processes and practices LASIS strategic managers need to deliberately: acknowledge, develop, deploy and exploit… when conceiving competitive strategies; to deliver i) impact from LASIS project management practice paradigm, and to ii) leverage sustainable competitive advantage post the 2008 global financial crisis, public sector funding retrenchment and reform paradigm?***

2.6.1 Body of Knowledge Gap 1:

There is limited empirical investigation into project management assets as a source of competitive advantage (Jugdev, 2004; Jugdev & Mathur, 2006; Jugdev et al., 2007; Mathur et al., 2007, 2013, 2014; Pinto, 2012; Perkins et al., 2018) and precious few practical empirical investigations into specific project management asset endowments as a source of competitive advantage, notably Jugdev & Mathur (2006); Mathur et al., (2007, 2013, 2014); and Perkins et al., (2018) investigations. However, to date there is no empirical research, which investigates project management assets and associated processes and practices as sources of competitive advantage in the public-sector arena from the RBV lens VRIO framework. This contextual setting particular sustainable public-sector local government community collaboration schemes involving third-sector, charities, community groups and social enterprise organisations is an under researched area (Hernandez & Cormican, 2016) with the potential to offer new and significant practitioner insight.

2.6.2 Body of Knowledge Gap 2:

The role of the project manager is well represented in literature, as is competitive advantage. However, the limited empirical research in this field of study (project management [assets] as a source of competitive advantage) has a focus on participants who are project management professionals with project management designation certification (Mathur et al., 2013, 2014) in private-sector organisations who recognise the value of such strategic practices. To date there is no empirical research in which non-professional project management practitioners in a public-sector context are the primary participants in a specific project management themed investigation.

This underrepresented area of research is pertinent for non-professional practitioner's particular the project actuality and the lived experience (Cicmil et al., 2006; Sampaio et al., 2014) associated with novice practitioners such as public-sector local government community collaboration with sustainable third-sector organisations, such as LASIS.

2.6.3 Body of Knowledge Gap 3: Future Research

Emerging from the review of literature is an understanding that whilst acknowledging developing, deploying and exploiting project management asset endowments may leverage organisations with certain degrees of competitive advantage, the static nature of the VRIO framework challenges whether competitive advantage can be sustained in today's dynamic environment. RBV theory needs to be agile to enable managers to timely react and respond to changing circumstances, which may challenge the suitability of existing project management asset endowments, and the need to refresh, renew, or indeed harvest obsolete assets.

Addressing the RBV and VRIO criticism that of a static theory (Priem & Butler, 2001; Newbert, 2007; Ambrosini & Bowman, 2009), and responding to Hitt, Xu & Carnes (2016) assertions that there is little research extending RBV as a progressive theory of sustainable competitive advantage; the key outputs from this doctoral investigation offers an opportunity to further the RBV body of knowledge. Initially at a conceptual level, followed by empirical testing, the researcher postulates that by interrelating the key outputs from this doctoral research with the meta-competences i) knowledge-based view (KBV) and ii) dynamic capabilities (DC), the RBV VRIO has the potential of being a progressive framework, as illustrated in figure 6.9 and 6.11 below, extending this doctoral conceptual model presented in figure 2.10 below.

2.6.4 Research Questions

To structure the research, three central research questions (RQ) and nine sub-questions (SRQ) were developed:

Addressing the broad and challenging research aims, through the adoption of a mixed-methodology, the research investigation identified three central research questions; RQ1: *Which project management asset endowments are valuable, rare, imitable and are organisationally supported across LASIS?* RQ2: *Which project management assets have the potential to leverage certain degrees of competitive advantage; and how is competitive advantage provided?* RQ3: *Which project management assets and organisationally supported processes and practices are likely to predict LASIS performance?*

To address the central research questions, nine sub-questions emerged from the review of literature, which is presented in figure 2.9 below.

Research Question 1: operationalise the VRIO framework, thus each of the sub-research questions start by with the same introduction, which is stated here once to reduce duplication 'Operationalising the VRIO framework (Barney, 1995; Barney & Wright, 1998), this sub-research question is necessary to identify which project management assets, from a priori of twelve (Mathur et al., 2013)…..'

SRQ1a: *Which project management assets are valuable?* LASIS believe are economically valuable (Barney, 1991, 1995); improve an organisations financial position and are a source of strength (Mathur et al., 2013). It will be argued in the review of literature that valuable assets alone only leverage parity advantage and normal performance (Barney & Wright, 1998), and thus value alone is a pointless strategy LASIS should adopt.

SRQ1b: *Which project management assets are rare?* LASIS believe to be rare amongst their competitions (Barney, 1991, 1995); unique and believe that few if any competitors have them (Mathur et al., 2013). It will be argued in the review of literature that rare assets must also be valuable assets to leverage a period of temporary advantage and above normal performance (Barney & Wright, 1998). However, the temporary nature and performance will be apportioned away when competitors catch up. Hence, a competitive strategy based on valuable and rare project management assets alone would only be an interim or a short-term strategy LASIS should adopt.

SRQ1c: *Which project management assets are inimitable?* LASIS believe to be imperfectly inimitable (Barney, 1991, 1995); and difficult for competitors or other organisations to copy or imitate (Mathur et al., 2013). It will be argued in the review of literature that assets which are valuable, rare and difficult to copy or imitate may leverage sustained advantage and enjoy prolonged above normal performance (Barney & Wright, 1998). However, it will also be argued in the review of literature that organisational assets (Barney, 1995, Barney & Wright, 1998) particular project management asset endowments (Mathur et al., 2013) require organisational support if they are to provide any degree of competitive advantage. Thus, LASIS adopting a sustained competitive advantage strategy must concurrently support the project management asset endowments.

Thus, the following two sub-questions are related to the degree of organisational support provided to the identified valuable, rare and imitable project management asset endowments.

SRQ1d: *Identify the project management processes and practices providing organisational support?* This sub-research question is necessary to identify which project management processes and practices, associated with project alignment, project communications and project integration (Mathur et al., 2013), LASIS believe offer organisational support (Barney, 1991, 1995). It will be argued in the review of literature that whilst organisational support is necessary to satisfy the conditions of Resource-Based View competitive advantage (Barney & Wright, 1998); it also acts as a moderating variable influencing the degree of competitive advantage (Pinto & Slevin, 1988; Jugdev & Müller, 2005; McHuge & Hogan, 2010; Jugdev et al., 2011).

SRQ1e: *Which project management assets are organisationally supported?* This sub-research question is necessary to identify which of the twelve project management assets (Mathur et al., 2013), LASIS believe are organisationally supported (Barney, 1995; Barney & Wright, 1998; Jugdev et al., 2011; Mathur et al., 2013). It is necessary not only to identify the supporting project management processes and practices, and which assets are empirically supported, but also to gain an understanding of the emerging project management paradigm in both the *parent* and *partner* organisations and the collective LASIS. This is necessary to develop empirical models of degrees of project management competitive advantage and an understanding of how advantage is provided, which is the topic of the next set of sub-research questions.

SRQ2a: *Which endowment of project management assets leverage 'parity', 'temporary' and 'sustainable' competitive advantage?* From the empirical findings in RQ1, this sub-research question is necessary to determine the endowment mix of project management assets providing LASIS with certain degrees of competitive advantage. It will identify the combination of tangible and intangible project management assets (Jugdev & Mathur, 2006; Mathur, Jugdev & Fung, 2007; Kraaijenbrink, Spender & Groen, 2010; Killen, Jugdev, Drouin & Petit, 2012; Almarri & Gardiner, 2014), providing degrees of competitive advantage; **which will enable the development of empirical models LASIS may consider when conceiving deliberate competitive strategies based on particular endowments of project management assets.**

SRQ2b: *For each degree of competitive advantage, how is it provided?* From the empirical findings in RQ1, this sub-research question is related to understanding how the degrees of competitive advantage is provided, particular the relationship between tangible and intangible project management assets. Consequently, this will enable the development of practitioner models in conceiving and developing competitive strategies based on the deliberate investment in project management assets and associated processes and practices.

Whilst it is first necessary to identify and understand how project management assets and associated processes and practices contribute to certain degrees of competitive advantage, it is also judicious to understand which endowments are likely to predict certain levels of organisational performance; which the next set of sub-research question will address, thus:

SRQ3a: *Which organisationally supported processes and practices are criterion for project and firm level performance?* Operationalising the VRIO framework (Barney, 1995; Barney & Wright, 1998), this sub-research question is necessary to identify the variables contributing to *project* and *firm* level performance in terms of cost, quality, time, scope and social impact for *project* level performance; and, in terms of sustainable funding, customers and communities, and customer satisfaction, innovation and improvement for *firm* level performance (Mathur et al., 2013). Moreover, this question will consider literature to identify project management performance criteria, such as project objectives and constraints, project management process, project success, organisational performance, societal impact, and project management measurement (Pinto and Slevin, 1988; Barnes, 1998; de Wit, 1998; Atkinson, 1999; Cooke-Davis, 2002; Vanclay, 2002, 2003; Bryde, 2008; Toor & Ogunlana, 2010; Killen et al., 2012; Ebbessen & Hope, 2013**). Finally, this question will juxtapose the empirical findings with literature to explore and attain an understanding of the developing project management practice and project management performance knowledge paradigm.** Which in turn will contribute to the development of practitioner conceptual models relevant in the early stages of LASIS implementation and strategies for sustaining competitive advantage from a deliberate investment in a project management paradigm.

SRQ3b: *Which endowments of project management assets and organisationally supported processes and practices are likely to predict project and firm level performance?* In the final operationalisation of the VRIO framework (Barney, 1995; Barney & Wright, 1998), this sub-research question is first necessary to identify empirical parsimonious models (Field, 2009) more likely to predict levels of organisational performance. Then secondly, when triangulated with other research data, the development of a final composite predictor of performance model.

2.6.5 Research Question Structure

Based on a hierarchical structure, where it is necessary to answer RQ1 first followed by RQ2 and so on: figure 2.9 below presents the research questions, in particular how the sub-research questions relate to the three central research questions.

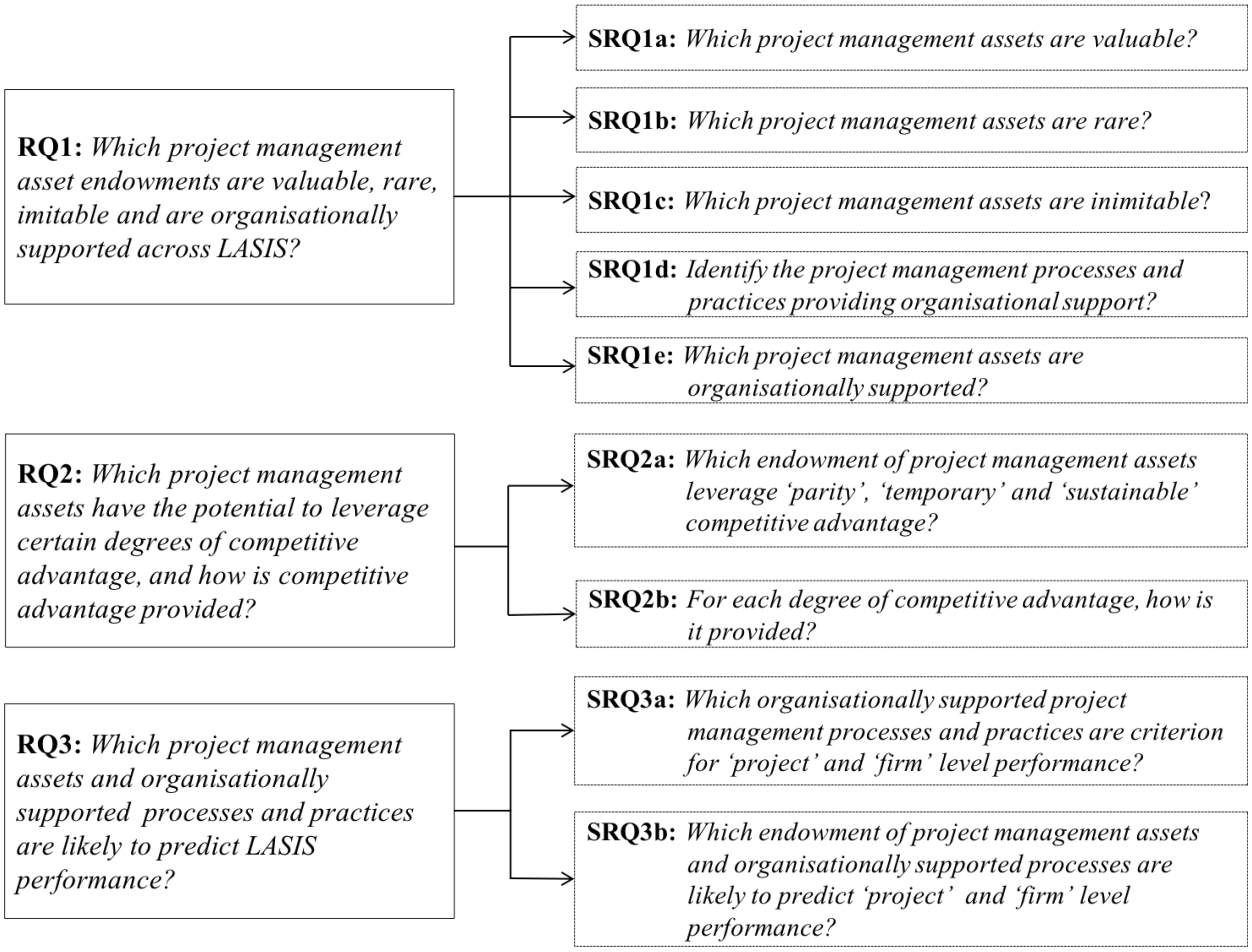

Figure 2.9: Research Questions Structure

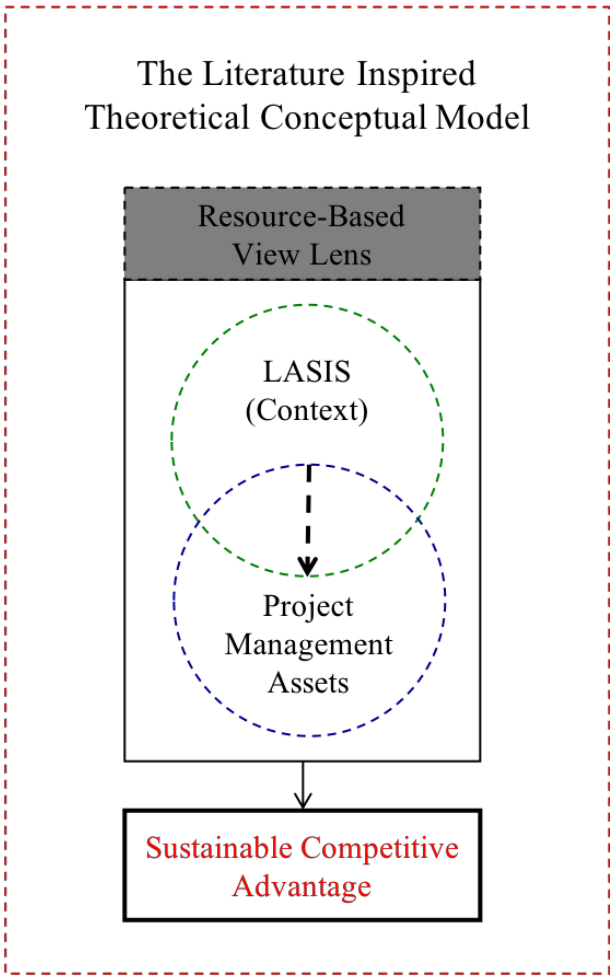

Figure 2.10: Literature Inspire Conceptual Model

Finally, to visualise the literature interconnections the researcher developed two mind maps to demonstrate the interconnections between the key strategy concepts, project management concepts and LASIS context concepts (figure 2.11); and the main authors associated with these concepts (figure 2.12). The rationale for the tri colour depiction (strategy - black; project management assets – blue; LASIS context – green) was to clearly illustrate the relationships between two or more literature themes. Additionally, and importantly the red lines illustrate the significant relationships between concepts across all three themes and competitive advantage.

Having presented the extant literature informing the research aims, objectives and research questions it is now necessary to describe the overarching methodology and the pragmatist paradigm borrowed to undertake this investigation to undertake this mixed-method empirical, cross-sectional survey research, within a case-study environment.

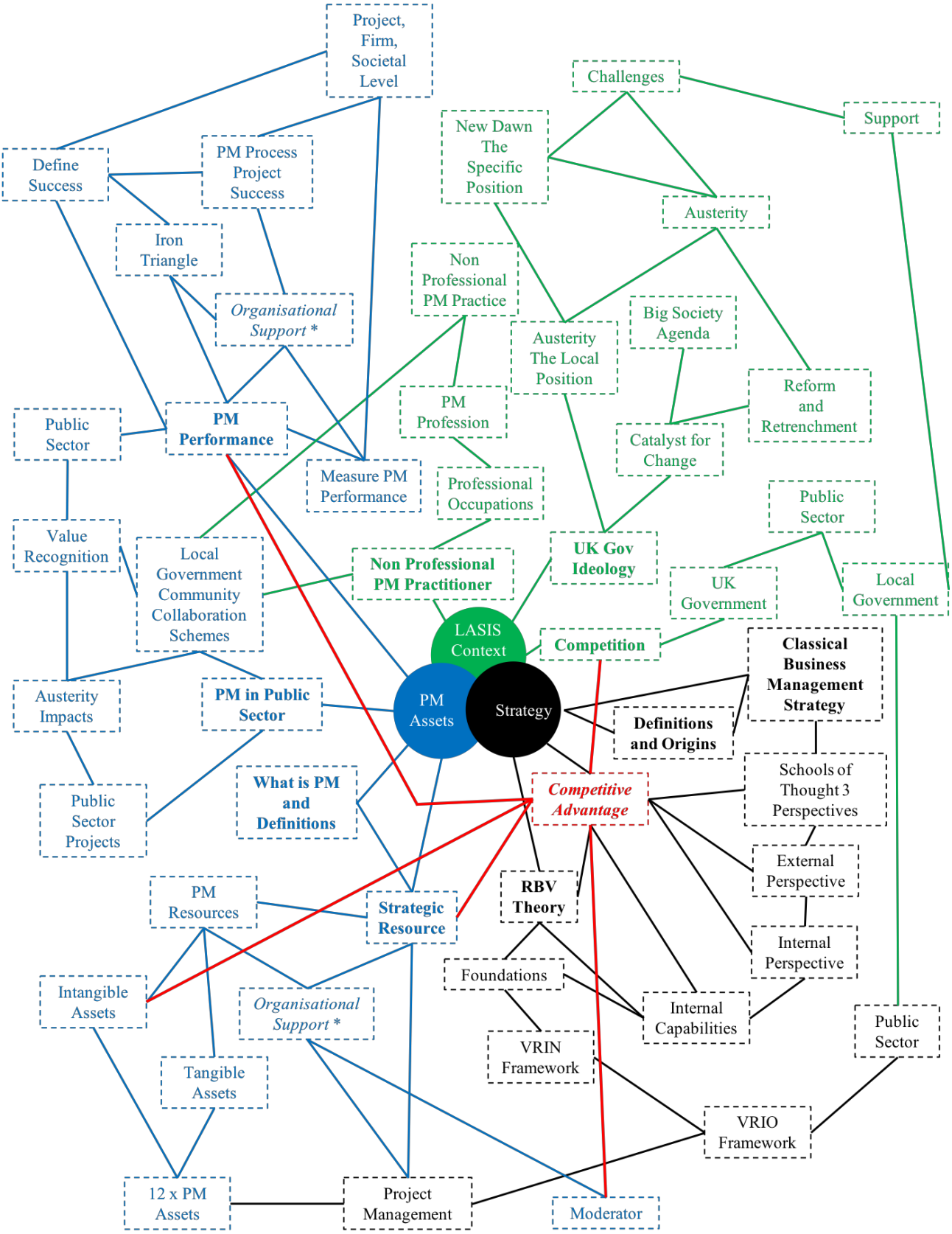

Figure 2.11: Literature Themes a Conceptual Model

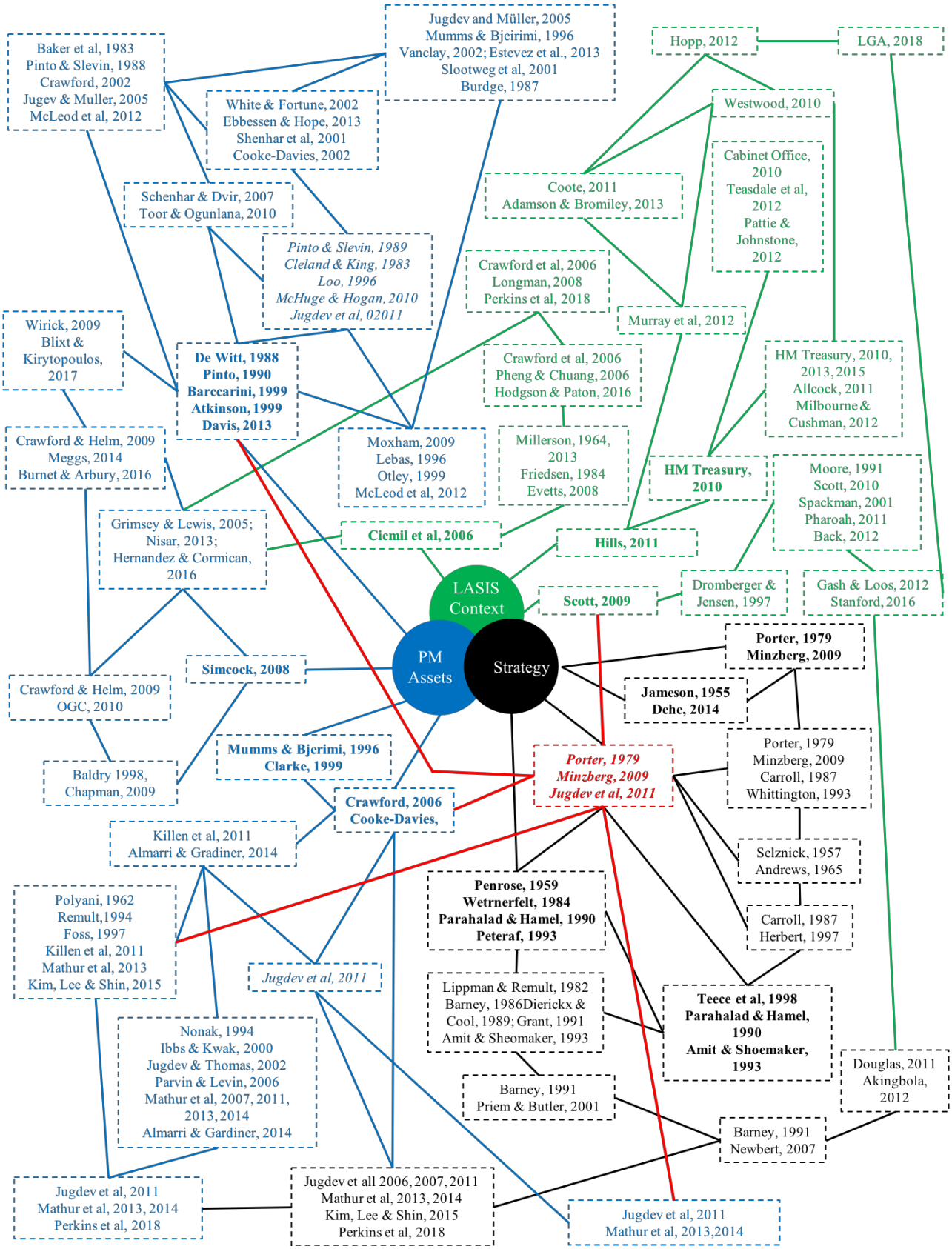

Figure 2.12: Literature Key Authors a Conceptual Model

Chapter 3 – Research Methodology

3.1 Introduction

Unlike natural science research in which the dominant paradigm is associated with testing phenomena involving observation and experiments (Kuhn, 1962; Burrell & Morgan, 1979; Collis & Hussy, 2014; Easterby-Smith, Thorpe & Jackson, 2015), social science research is a complex conundrum converging political/social and scientific perspectives, as Burrell & Morgan (1979) illustrate. However, what is common amongst scholars such as Morgan & Smircich (1980), Collis & Hussey (2104) and others, is that in social science the research paradigm is based on the researchers own philosophical assumptions particular their ontological views about the nature of reality, and their epistemological views about the most appropriate ways of enquiring knowledge into the nature of the world (Easterby-Smith et al, 2015). Thus, enter a lexicon of alternative possibilities. Moreover, the research approach, design and methodology choices should take into consideration the actual phenomena under investigation, and thus is consequential upon the ontological and epistemological assumptions, which in turn, effect the researcher world view and chosen research paradigm and methodological choices, as suggested by Holden & Lynch, (2004). However, before introducing the research methodology selected for this investigation and the rationale for the chosen research paradigm it is first necessary to: i) contextualise, position and rationalise the research; and, ii) re-affirm the research aim and research questions.

3.1.1 Research Context Description

As discussed, and presented in Chapter's 1 and 2, the post 2008 global financial crisis redefined the distribution of social welfare in the UK (Hills, 2011; Joseph & Rowlingson, 2012; Putten & Green, 2011). A result of successive UK public spending reviews (CRS2010 & 2013) combined with radical reform in the way public services are delivered, has seen budgets cut by 28% between 2010-2015, with further retrenchment of 29% by 2019-20 (HM Treasury, 2015). Thus, Local Authorities now operate in a funding paradigm that is no longer predictable and reliable. Moreover, as explained Local Authorities are exposed to more competition and are compelled to provide more sustainable partnerships, whilst delivering increased services. Thus, a significant challenge was the retrenchment of local authority grant dependant third-sector funding, in which local authorities would traditionally enter a collaborative contract with community based and third-sector organisations to deliver services across a wide range of social needs. These collaborating arrangements were either withdrawn or redefined with the expectations of becoming operationally sustainable within a relatively short time scale, otherwise funding would be permanently withdrawn. In response to reform and funding cuts one North of England Local Authority, through the auspices of their Community Investment Fund (CIF) pump-primed a number of local voluntary groups and community organisations (collectively LASIS) with a

responsibility for providing specific and directed community services whilst becoming financially and operationally sustainable within three years (North of England Local Council, 2013). The opportunity here is achieving sustainability through effective project management practices, in particular the acknowledgement, development, deployment and exploitation of project management assets, processes and practices (Jugdev, 2004). However, as discussed, LASIS face significant challenges: i) the general liberalisation of Public-Sector competition (Scott, 2010) is now discernably evident at a local authority level; ii) the non-professional nature of LASIS project management context; and, iii) how to develop a paradigm which sustains competitive advantage from project management assets and associated processes and practices. Thus, in collaboration with the North of England consciously formed LASIS, this mixed-methodology research was designed to investigate, which project management assets, processes and practices are essential for competitive advantage and which asset endowments predict performance.

This was achieved through the RBV lens, particular the VRIO framework (Barney, 1991, 1995), supporting project management as a source of competitive advantage (Mathur et al., 2014), and Killen et al., (2012) experience that determining sustainable competitive advantage through project management is better assessed by asking participants to assess their own organisation against other similar organisations rather than rating their own organisations competitive advantage (p.529).

3.1.2 Research Aims and Research Questions

The identified research problems and a detailed appreciation of extant literature led to the understanding of a specific research aim:

- *Operationalise VRIO to identify which project management assets and associated processes and practices LASIS strategic managers need to deliberately: acknowledge, develop, deploy and exploit, when conceiving competitive advantage strategies; to deliver: i) impact from LASIS project management practices/paradigm; and, ii) to leverage sustainable competitive advantage post the 2008 global financial crisis, public-sector funding reform and retrenchment paradigm.*

Addressing this broad and challenging research aim, through the adoption of a mixed-methodology, the research investigation identified three central research questions; *RQ1: Which project management asset endowments are valuable, rare, imitable and are organisationally supported across LASIS? RQ2: Which project management assets have the potential to leverage certain degrees of competitive advantage, and how is competitive advantage provided? RQ3: Which project management assets and organisationally supported processes and practices are likely to predict LASIS performance?*

Moreover, informed and driven by theory and the literature nine sub-questions were developed, each addressing specific aspects of one of the three central research questions.

- *SRQ1a: Which project management assets are valuable?*
- *SRQ1b: Which project management assets are rare?*
- *SRQ1c: Which project management assets are inimitable?*
- *SRQ1d: Identify the project management processes and practices providing organisational support?*
- *SRQ1e: Which project management assets are organisationally supported?*
- *SRQ2a: Which project management assets leverage 'parity', 'temporary' and 'sustainable' competitive advantage?*
- *SRQ2b: For each degree of competitive advantage, how is it provided?*
- *SRQ3a: Which organisationally supported project management processes and practices are criterion for 'project' level and 'firm' level performance?*
- *SRQ3b: Which endowments of project management assets and organisationally supported processes and practices are more likely to indicate 'project' and 'firm' level performance?*

Whilst each of these sub-research questions can be addressed on their own merit, it is their interrelatedness and their combined connectivity (Hitt et al., 2016) that add value to the three central research questions and the overarching research aim, that support the claimed academic and practitioner contribution. Thus, it is important to acknowledge that the development of the sub-research questions is underpinned by literature particular theoretical concepts related to competitive advantage, resource-based view, project management and project performance knowledge, and LASIS non-professional project manager practitioner nature.

3.1.3 Research Purpose Statement

According to Creswell (2009) and supported by Tashaskkori & Abbas (1998) a research purpose statement is an important declaration establishing the intent of the entire investigation. Specifically, the purpose statement indicates what the research aims to achieve, and how it will be undertaken. Thus, in this study the investigations relate to the individual *parent* and *partner* organisations and the collective LASIS.

Research Investigation Purpose Statement of Intent:

> *"The purpose of this multi-phased, mixed-methodology investigation is to discover: i) which project management assets and associated processes and practices leverage degrees of competitive advantage, and how is competitive advantage provided; and, ii) which endowments of project management assets and associated processes and practices predict*

LASIS performance. Thus, the outcomes may inform LASIS strategic managers in conceiving competitive advantage strategies to deliver impact from LASIS project management practice/paradigm and to leverage sustainable competitive advantage.

In the first explanatory phase, based on Mathur et al., (2013) survey instrument; quantitative research questions were developed to identify which project management assets and associated processes and practices LASIS respondents (n=70) believed leveraged degrees of competitive advantage in comparison with other similar organisations, and the degree LASIS project management paradigm was aligned to organisational mission, aims and objectives, project integration, project communication and project performance. Sequentially, the second exploratory phase, in which selective qualitative semi-structured interviews (n=13) was used to help both explain and probe some significant anomalies from the quantitative results. Results from this first phase was explored further in a qualitative second phase, and then in the final third phase abductive logic was applied to develop theoretical explanations from the empirical observations and emerging patterns to work out a plausible theory.

The reason for combining quantitative and qualitative data was first, to obtain statistical results from the quantitative sample and then follow up with a few selected semi-structured interviews to better help explain the results in more depth, and second, to better understand the quantitative results by converging broad numerical trends as a means of quantitising the data as suggested by Saunders et al., (2015), and detail what emerged from the qualitative semi-structured interviews. Aggregated results from the first two phases enabled the exploration at a conceptual level of how LASIS can sustain long-term competitive advantage and performance from project management assets and associated processes and practices.

Finally, the rationale for choosing this mixed methodology design was to enable triangulation from different data sources (Easterby-Smith et al., 2015) and a confirmation, highlighted by Gray (2017, p.37) in that the central research questions were asking different things".

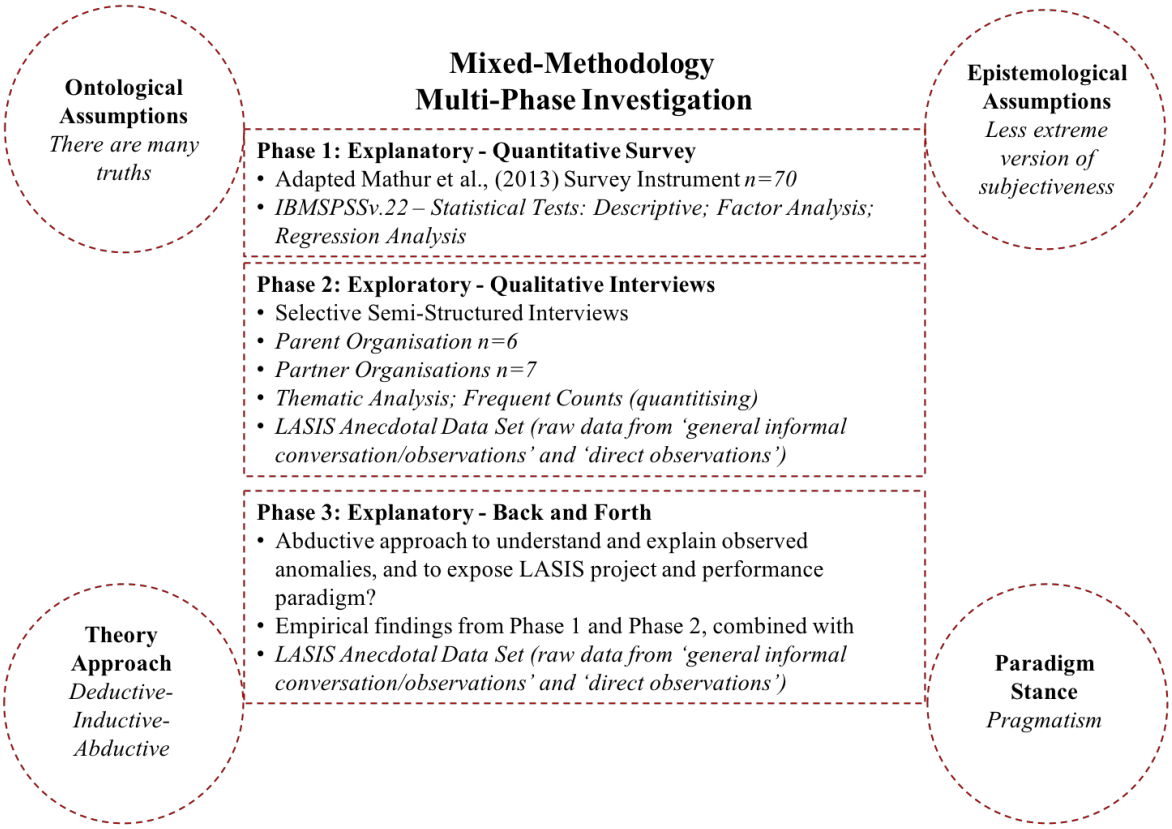

Figure 3.1: Purpose Statement and Philosophical Perspectives

Though a purpose statement highlights the mechanisms in which the data will be collected and analysed at each phase; alone, it is not sufficient to fully articulate how and why the researcher made these methodological choices (Saunders, Lewis & Thornhill, 2016) or, methods and technique (Easterby-Smith et al., 2015) choices. It is therefore also necessary to introduce the researchers' philosophical assumptions and paradigm stance, which ultimately support and justify the final data collection and analysis choices. Moreover, it is also necessary to clarify approaches to theory development and the time horizon the investigation concerns. However, whilst table 3.1 below, presents these considerations, the researcher acknowledges that the actual investigation did not follow a systematical linear process, but emerged in a dynamic and iterative process, over a three-year period. Thus, for ease of explanation the researcher applied the concepts of Saunders et al., (2015, p.126) research onion metaphor to structure the top-down approach; from the philosophical assumptions and paradigm stance to the strategy choices and techniques and procedures used to collect and analyse the data to address the central research questions.

Table 3.1: Research Methodology Summary – based on the onion metaphor (Saunders et al., 2015, p.124)

Research Philosophy:	
Ontological Perspective	There are many truths (Relativism)
Epistemology Perspective	Less extreme version of subjectiveness
Research Paradigm	Pragmatist
Approach to Theory Development:	Deductive-Inductive-Abductive
Methodological Choice:	Multi-Phase Mixed-Methods
Research Strategy:	Survey, integrated within a single case
Research Problem:	Research Questions
Time Horizon:	Cross-Sectional Study
Data Collection Instruments:	Survey Questionnaire Survey Semi-Structured Interviews General Informal Conversations/Observations Direct Observations
Data Analysis Techniques:	Statistical Tests (Descriptive, Factor Analysis, Regression Analysis) Thematic Analysis, Frequency Counts (quantitising), Post-it-note technique

Finally, whilst an overview and summary of the applied research methodology has been presented above, the purpose of this chapter is to position and defend the components, to investigate, which project management assets and associated processes and practices LASIS should acknowledge, develop, deploy and exploit to leverage competitive advantage and demonstrate improved LASIS project performance, and how LASIS can sustain long term competitive advantage from a positive project management paradigm. Applying Saunders et al., (2015) research onion metaphor the eight components are: i) pragmatism as the borrowed research paradigm; ii) the ontological and epistemological philosophical assumptions; iii) the deduction-induction-abduction approach to theory development; iv) multi-phased design consisting of explanatory/exploratory/explanatory phases; v) survey integrated within a single case-study strategy and the cross-sectional time horizon; vi) mixed-methods to answer the central research questions; vii) the techniques and procedures used to collect the research data: survey instrument, semi-structured interviews, informal conversations/observations and direct observations; and viii) the techniques applied to analyse research data: statistical tests, thematic analysis and quantitising qualitative data, unique post-it-note technique.

Having presented a summary of the researchers applied methodology and described the format for the chapter, it is now necessary to launch this discussion and rationalisation with the researchers' own philosophy. Whereas according to Collis & Hussey (2014) the borrowed research paradigm *"….is a framework that guides how research should be conducted…."* (p.43), it is the ontological and epistemological assumptions that underpin the borrowed pragmatists paradigm, therefore the ontological and epistemological assumptions is where we should begin.

3.2 Research Philosophy

As already mentioned above, a simple definition suggests that a research paradigm is a framework of how research should be conducted (Collis & Hussey, 2014). Moreover, in social science research the involvement of the actual researcher is of primary concern, particular their set of values and philosophical assumptions (Gray, 2017), and their cluster of beliefs (Bryman & Bell, 2003) or their basic belief system (Guba & Lincoln, 1994, p.107). However, to arrive at the borrowed paradigm, which for this investigation is aligned to that of the pragmatists, the onus on the researcher is first to answer their own ontological and epistemological assumptions. Therefore, to focus on a research paradigm which embodies the nature of Collis & Hussey (2014) definition, the researcher anchors the philosophical stance on Collis & Hussey (2014) ontological, epistemological and paradigm definitions.

- ***Ontological Assumption:*** *a philosophical assumption about the nature of reality (p.343).*
- ***Epistemological Assumption:*** *a philosophical assumption about what constitutes valid knowledge in the context of the relationship of the researcher to that being researched (p.341).*
- ***Paradigm:*** *a framework that guides how research should be conducted based on people's philosophies and their assumptions about the nature of the world and the nature of knowledge (p.343).*

3.2.1 Ontological Perspective and Assumptions

As aforementioned, ontology is defined as the *nature of reality* (Collis & Hussey, 2014). The perspective here is how the researcher observes reality and thus according to Saunders et al., (2016) shape the way you see reality and study the research objects. From a duality approach (Maylor & Blackmon, 2005) observing reality as either objectivist or subjectivist, with the former associated with only one reality and the later associated with multiple realities, as illustrated by Collis & Hussey (2014, p.46) and Gray (2017, pp.21-22), or reality as a concrete structure or process, or socially constructed and human imagination (Morgan & Smircich, 1980, p.492). Thus, researchers should question whether they view the objects to be researched as objectively external to the researcher, or whether reality is subjectively socially constructed as a product of one's mind from interactions with the world (Collis & Hussey, 2014; Burrell & Morgan, 1979; Gray, 2017). From this short explanation about the nature of reality as being either objective or subjective to the researcher, by overlaying Maylor & Blackmon (2005) duality approach with Easterby-Smith et al., (2015) ontology typologies, four ontological positions are summarised in table 3.2 below. Here, based on a continuum of assumptions the four ontological positions provide a framework in which researchers can anchor their standpoint of reality. Also, it is important to understand that the ontological assumptions and their associated positions are relevant in making methodological

and research design (methods and techniques) choices (Easterby-Smith et al., 2015) and addressing methodological questions (Guba & Lincoln, 1994).

Table 3.2: Framework of four Ontological Positions
(Adapted from Easterby-Smith et al., 2015, p.50; and Maylor and Blackmon 2005, p.157)

Duality of Reality	Ontological Assumptions	Ontological Positions
Objective	Single truth, facts exists and can be revealed	Realism
Objective	Truth exists but is obscure, facts are concrete, but cannot be accessed directly	Internal Realism
Subjective	**There are many truths, facts depend on viewpoint of observer**	**Relativism**
Subjective	There is no truth, facts are all human creations	Nominalism

Thus, the framework suggests that a social science researchers' ontology position is a manifestation of how they perceive reality, truth and the tangibleness of the facts that underpin the basic assumption.

Before concluding this sub-section of declaring the chosen ontological position and how it relates to this investigation, it is necessary to make clear that the researcher's ontological assumptions are based on their own perception of the nature of reality, and that the chosen ontological position greatly effects the research epistemology assumptions, which is explained in 3.2.2. below. Moreover, while research questions (particular in mixed methodology) provide a framework for conducting the investigation, organising the research, giving it relevance, direction and coherence, as well as determining the boundaries of the research (Onwuegbuzie & Leech, 2006); Creswell & Plano (2007) suggest that the ontological assumptions have to be coherent with the actual research questions under enquiry. Thus, for reasons of question coherence both ontological assumptions 'truth exists, but is obscure' and 'there are many truths' are relevant at different phases of this investigation. This is most evident from the nature of the non-professional project management status of LASIS participants (both, *parent* and *partner* organisations). Particular the relationship between what project management assets and associated processes and practices leverage competitive advantage (as a concrete structure, Morgan & Smircich, 1980), and how this actually manifests in reality across individual *parent* and *partner* organisations and the collective LASIS (as a social construction reality, Morgan & Smircich, 1980).

Thus, whilst the intention of the investigation is first to identify a particular real concrete phenomenon (Easterby-Smith et al., 2015, p.49), the primary aim is to understand how the

phenomenon plays out in a socially constructed reality. Therefore, to answer the three central research questions, and to conceptualise how LASIS can sustain long-term competitive advantage from their deliberate investment and development of a positive project management and performance paradigm, the researchers' ontological assumptions embody that 'there are many truths (and) facts depend on the viewpoint of observer', which is the lessor extreme of the subjectivism ontological position. This is a relevant ontological position for this investigation as the underlying assumptions mirror the *what* and *how* type of research questions, and acknowledge that novice and inexperienced non-professional project management practitioners may not understand the relevance of positioning project management assets as a strategic source of competitive advantage. It is also associated with the assumption that whilst there is a single reality (*truth*) in the initial identification of degrees of competitive advantage from project management assets and associated processes and practices, in reality this concrete extraction may be tempered as a result of anomalies in quantitative data analysis, as a result of the researchers unintended observational conclusions. Moreover, whilst identifying the project management and performance paradigm and how to maintain long term competitive advantage will be based on deductive and inductive logic, measuring may prove difficult, particular the relationship between exploited project management assets and associated processes and practices, and organisational performance, which is a concern for researchers applying a social science internal realist position, suggested by (Easterby-Smith et al., 2015, p.49).

The next sub-section will look at and consider the epistemological perspective of this ontological assumption. It will consider the extreme duality epistemological perspectives available to the social science researcher. In particular positivism associated with realism and internal realism ontologies, and interpretivism (constructivism) associated with relativism and nominalism ontologies (Easterby-Smith et al., 2015).

3.2.2 Epistemological Perspective and Assumptions

Seth (1894) explained that besides the theory and validity of knowledge, epistemology is a *"critical analysis of knowledge in the widest sense, that is to say, a critical analysis of all the conceptions by which we endeavor to interpret the world"* (pp.578-579). Here, the social science researcher's epistemic reflexivity view of reality (single or multiple truths) is a central issue, concerning whether the social phenomena can be studied according to the same principles, procedures and assumptions as that of the natural sciences, suggests Bryman & Bell (2007); and as Easterby-Smith et al (2015) point out, whether the researcher is engaged or detached to the research context or phenomena under investigation. Thus, addressing these epistemological issues can lead the researcher to transform these meta-philosophical assumptions into implementing a

research structure (Wong & Wong, 2011), which is coherent with the investigation's objectives and research questions (Creswell & Plano, 2007).

However, although the objective/subjective, single/multi-truth, engaged/detached debate offer the researcher a means to map their own philosophy perspective, as Easterby-Smith et al (2015), Crotty (1998) cited in Gray (2017) demonstrate, the terminology applied across the array of theoretical perspectives and methodologies is often inconsistent or even contradictory. Wong & Wong (2011) illustrate, there are many epistemological and paradigm domains which proliferate each dimension with some sitting on the fence, so to say, as illustrated by Easterby-Smith et al., (2015) in figure 3.2 below. Moreover, as Wong & Wong (2011) argue, there is no particular epistemological or paradigm domain that can be considered right or wrong, perfect or imperfect, as illustrated in their assimilation of critical realism and pragmatist on the engaged ontology and objective epistemology dimension, in comparison with Easterby-Smith et al (2015) mapping (refer to figure 3.2 below).

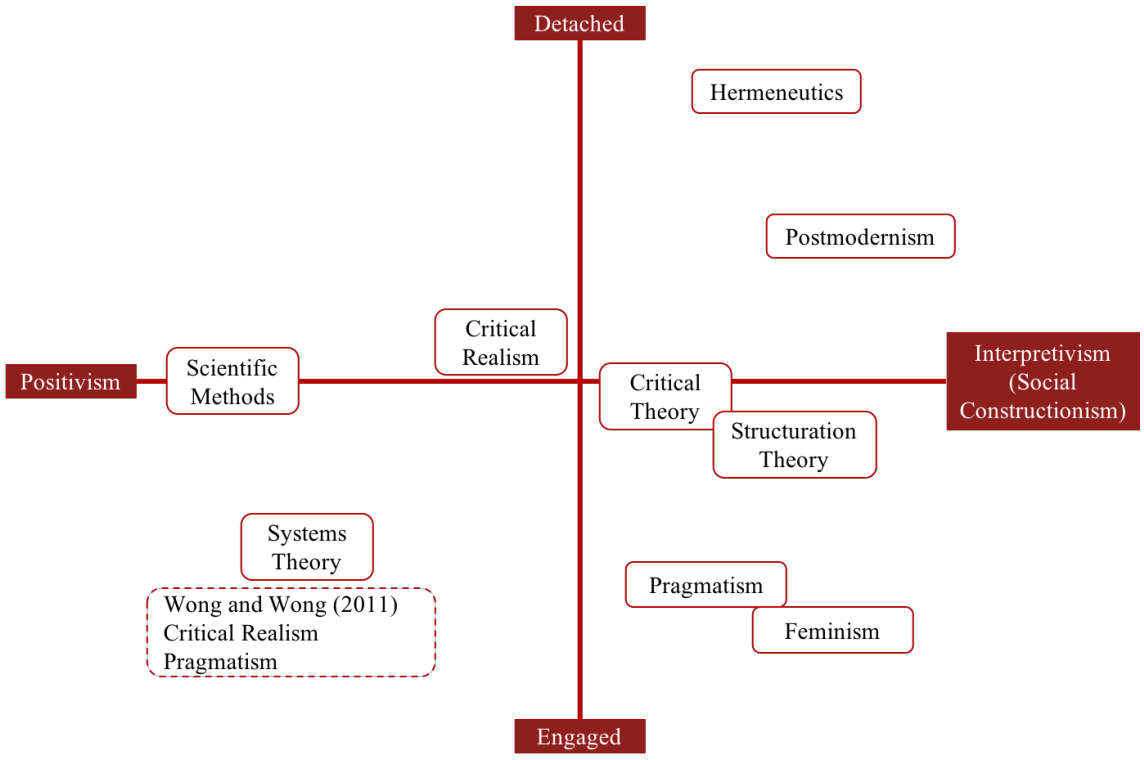

Figure 3.2: Epistemology and research paradigm mapping
(Adapted from Easterby-Smith et al., 2015 and Wong and Wong, 2011)

Before exploring paradigms and the chosen stance for this investigation, it is first necessary to briefly explore the two perspectives of positivist and interpretivism (constructionism), and how their respective epistemological assumptions influence research methodologies, strategies and the techniques and procedures applied to collect and analyse data.

3.2.2.1 Positivist and the Interpretivist Perspective and Assumptions

Assumptions of epistemology pose the researcher with some interesting challenges, suggest Morgan & Smircich (1980). None more than the nuances of what constitutes adequate knowledge as one pass along the ontological continuum of extreme objectiveness and extreme subjectiveness. Thus, the dualist approach of positivism and interpretivism proffered by Collis & Hussey (2014), Bryman & Bell (2007) and similarly positivism and constructionism (Easterby-Smith et al, 2015) is now briefly presented and summarised in figure 3.3 below.

The norms of the extreme positivist perspective, according to Collis & Hussey (2014, p.43) *"…. rests on the assumption that social reality is singular and objective and is not effected by the act of investigating it…."*. Hence, social science researchers see organisations and other social entities as real in the same way as physical objects and natural phenomena are real (Saunders et al, 2015). Thus, the social researcher's epistemology would be one of discovering observable and measurable facts to build knowledge of the social phenomena under investigation. Moreover, gaining knowledge is a result of empirical verification through research which *"…. involves a deductive process with a view to providing explanatory theories to understand social phenomena"* continue Collis & Hussey et al (2014, p.43). Here the scientific approach of the role of theory would formulate theory first and test second (Nalylor & Blackmon, 2005), which is the deductive approach preferred by the extreme positivist. Thus, similar with the natural science researcher, new knowledge would identify casual relationships to create law like generalisations to explain and predict behavior and phenomena in organisations, suggest Saunders et al (2015). Questions such as what, how much and how many (Naylor & Blackmon, 2005), expressed as cause effect variables will be involved to verify or falsify hypotheses, chiefly from quantitative data collection and analysis methods (Guba & Lincoln, 1994). For the social science researcher, this may be achieved by developing theory driven propositions or hypotheses, and the use of large surveys to collect data, and the use of statistical tools and testing techniques to analyse data sets, and thus draw gerenalised conclusions from the sample to the population (Collis & Hussey, 2014) of the social phenomena under investigation.

Whereas, the norms of the extreme interpretivist (social constructionist), according to Collis & Hussey (2014, p.44) *"…. rests on the assumption that social reality is in our minds, and is subjective and multiple, therefore, social reality is affected by the act of investigating it…."*. Here, positivism is challenged by the polar opposite ontological assumption that there are many truths or indeed no truths (Easterby-Smith et al., 2016), and that reality is socially constructed or a projection of human imagination, argues Morgan & Smircich (1980). Hence, for social science researchers, central to their epistemology is understanding how social reality of a phenomena is

created. Which is subjective and conditional on the different interpretations of meaning from social actor's different backgrounds, under different circumstances in different times, and so, creating different social experiences (Saunders et al., 2005). In contrast with this deductive approach associated with positivism, the interpretivist social science would use the ethnographic approach of inductive logic in the role of theory, in which theory would formulate through pattern analysis, which is in contrasts with that of the positivist approach of theory first, then collect and test data, as already explained (Maylor & Blackmon, 2005). Here, knowledge would be created by a richer understanding and interpretations of social worlds and contexts, particular from the perspectives of different groups within the phenomena under investigation, suggest Saunders et al., (2005). Questions such as how and why (Maylor & Blackmon, 2005), expressed as narratives and discourse, and dialectical interactions between and amongst the investigator and the respondents are involved, chiefly from qualitative data collection and analysis methods (Guba & Lincoln, 1994). For the social science researcher, this may be achieved by getting close to the phenomena to understand the context or setting of the participants (Cotty, 1998 cited in Creswell, 2009). Figure 3.3 below provides a summary of the epistemological assumptions and contrasting implications associated with both the positivism and interpretivism (social constructionism) perspectives.

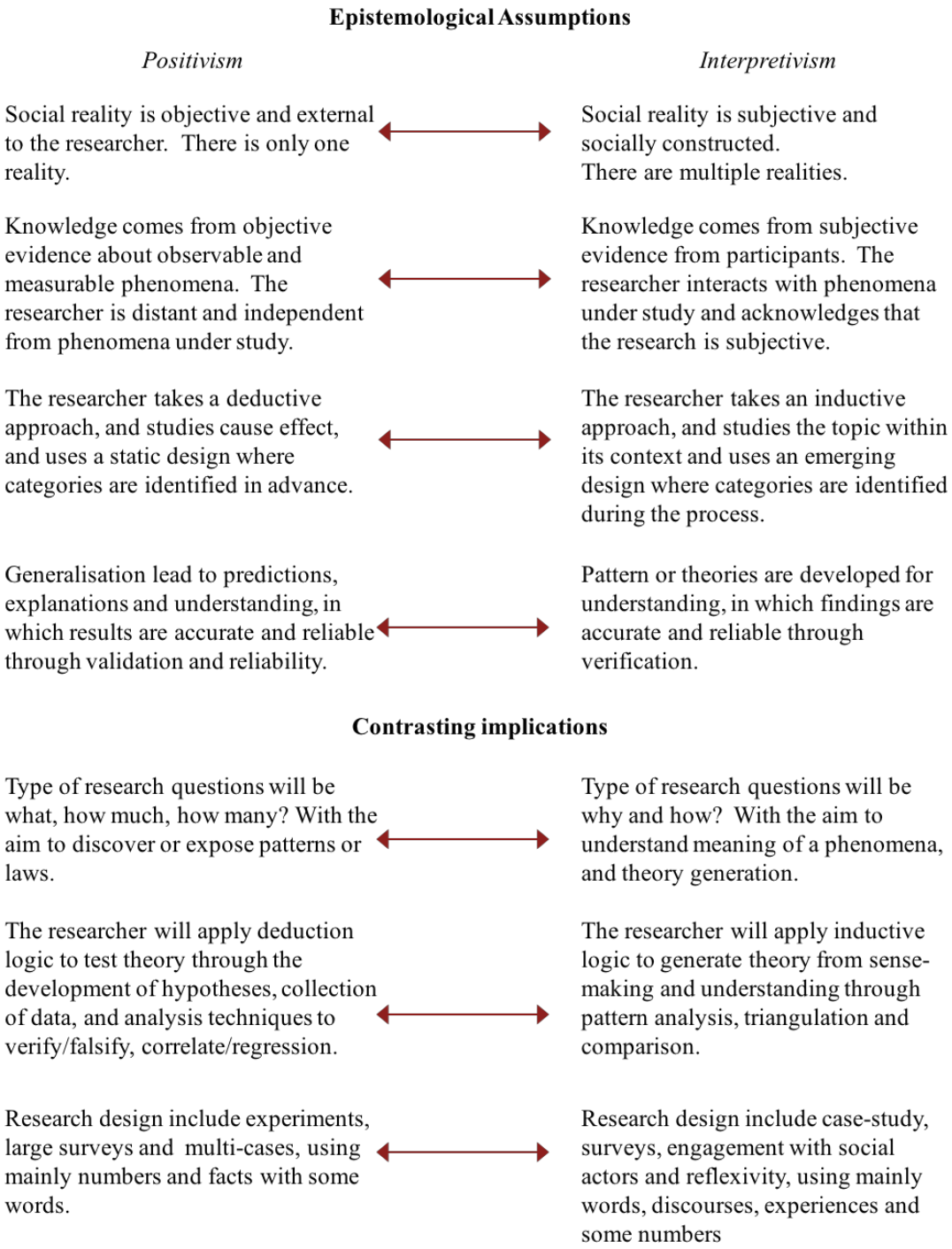

Figure 3.3: Epistemology assumptions and contrasting implications (Adapted from Collis and Hussey, 2014, pp.46-50; Easterby-Smith et al, 2016, pp.53-54; and Naylor and Blackmon, 2005, p.158)

3.2.3 Paradigm Stance

Collis & Hussey (2014) point out that the starting point in research design is to determine the research paradigm one should use to conduct the research. Whilst, Kuhn (1962) define paradigms as *"universally recognised scientific achievements that for a time provide model problems and solutions to a community of practitioners"* (p.10), in response to the inadequacies of the dominant positivist paradigm, the emergence of the social sciences has led to the development of new

research paradigms, suggest Collis & Hussey (2014). Therefore, reverting back to Collis & Hussey (2014) paradigm definition in 3.2 above, and the epistemological domains of Easterby-Smith et al., (2015) and Wong & Wong (2011) presented in 3.2.2. above, pragmatism will be considered as a research paradigm framework to guide how this research investigation was conducted (Easterby-Smith et al., 2014).

3.2.3.1 Pragmatism

Based on assumptions that an ideology or belief is true if it works and generates practical consequences for society (Gray, 2017), the pragmatist main focus is whether a proposition (or research question) suits a purpose and is capable of creating action, and not whether it fits a particular ontology (Rorty, 1998, cited in Gray, 2017). Similarly, Collis & Hussey (2014) and Creswell (2009) point out that pragmatism is not constrained by one philosophy and recognises that pragmatist emphasises the research problem (or research question) and should be free to mix methods based on their usefulness to understand the phenomena under investigation, and to answer the research question(s). This pluralist approach of crossing the divide between quantitative and qualitative enquiry is the appeal of pragmatism, in *"…. its attention to contextual knowledge"* argues Ruwhiu & Cone (2010, p.113). Here, what constitutes knowledge is conditional on the situation and the actions of actors on the phenomena under investigation.

Thus, by ignoring the philosophical assumptions about reality and the nature of knowledge, the weakness of one enquiry (quantitative/qualitative) can be offset by the strength of the other (qualitative/quantitative), suggests Collis & Hussey (2014). Moreover Creswell (2009) point out that pragmatism provides a flexible philosophical basis for business and management research enquiry, linking the assumptions of the mixed methods researcher, as illustrated in table 3.3 below. Thus, using Collis and Hussey (2014) definition: *"pragmatism contends that the research question should determine the research philosophy and the methods from more than one paradigm can be used in the same study"* (p.54), Creswell's flexible philosophical basis highlights what works in the development of knowledge, particular, freedom of choice to determine data collection and analysis methods and techniques; and that the world is not an absolute truth, which is in line with the ontological assumptions 'truth exist, but is obscure' and 'there are many truths'. Thus, whilst Rorty (1990, 1998) posits that there is no real truth, truth is contextual and does not exist as a singular reality, Plano Clark & Creswell (2008) retort that *"instead of searching for metaphysical truths and realities, pragmatists consider truth to be what works"* (p.16).

Table 3.3: Comparison between Pragmatism and Mixed Methods Assumptions (Adapted from Creswell, 2009, pp.10-11)

Philosophical Assumptions: A basis for Pragmatism Research	**Mixed-Methods Research Assumptions**
Not committed to any one system of philosophy.	Draw liberally from both quantitative and qualitative assumptions.
Freedom of choice that best meet the needs and purposes of the research.	Free to choose the methods, techniques, and procedures of research.
Do not see the world as an absolute unity.	Look to many approaches for collecting and analysing data rather than subscribing to only one way (e.g. quantitative or qualitative)
Truth is what works at the time, and not based on duality between independent of the mind or within the mind.	Use both quantitative and qualitative data because they work to provide the best understanding of the research phenomena or research problem.
Focus on what and how to research based on the intended consequences – where there want to go with it.	Researchers need to establish a purpose for their mixing, a rationale for the reasons why quantitative and qualitative data need to be mixed in the first place.
Agree that research occurs in social, historical, political, and other contexts.	May include a postmodern turn, a theoretical lens that is reflective of social justice and political aims.

Thus for the mixed methods researcher, pragmatism opens the door to multiple methods, different worldviews (philosophies) and different assumptions, as well as different forms of data collection and analysis

However, the philosophy of pragmatism is not conditioned to either end of the dualist debate, as Easterby-Smith et al., (2015) and Wong & Wong (2011) illustrate in figure 3.3 above. Thus, though the empirical characteristics lean towards the subjective end on the ontological debate (Dehe, 2014), this is not an absolute truth. Unlike the incompatibility of positivist and interpretivist paradigm methods (positivist quantitative methods, interpretivist qualitative methods) a major tenant of pragmatism is that quantitative and qualitative methods are compatible (Howe, 1988, p.13), and as Plano Clark & Creswell (2008, p.17) argue, the pragmatism paradigm allows researchers the use of mixed methods in social and behavioural research. Which in the very nature of the presented assumptions, pragmatism is a paradigm that allows social science researchers the freedom of choice of what works to understand the phenomena under investigation and answer the specific research questions, without being constrained by one particular ontological position, epistemological perspective or paradigm stance.

Consequently, to investigate this research phenomena and to address the central research questions of: i) which project management assets and associated processes and practices leverage degrees of competitive advantage; ii) how they provide competitive advantage; and, iii) which assets and associated processes and practices predict performance both quantitative and qualitative data was collected and analysed, within a mixed methods design (Saunders et al., 2015). This research was first operationalised through a survey strategy within a single case study environment, and then conceptualised to develop practitioner models and frameworks. Whilst the role of the researcher was at times detached, a degree of engagement was necessary throughout the research process and development of actual and real new knowledge.

In this section, the major philosophical assumptions were presented. Highlighted were the assumptions and implications for the business and management researcher from a dualist approach to ontology and the associated epistemology perspective. This allowed for the introduction and justification of the pragmatist paradigm reproduced for this investigation. Applying Saunders et al., (2015) onion metaphor the following sections will concentrate upon the approach to theory development; research strategies; methodological choice; time horizons; techniques and procedures and describe how this multi-phase (p.142) investigation was conducted.

3.3 Research Logic and Methodological Choice

According to Creswell (2009) and Saunders et al., (2015) researchers have three options: quantitative, qualitative, and mixed-methods when deciding how to conduct a particular study. Whilst neither are inherently superior, the dictum amongst organisational and management researchers is that the research objectives must determine the most suitable methods (Tashakkori & Teddlie, 2003), which concurs with Creswell & Plano Clark (2007) assertions that the ontological assumptions have to be coherent with the actual research questions under enquiry.

Though quantitative research methods have dominated academic research history, particular the natural sciences that invoke the positivist worldview (Creswell, 2009), it was not until the 1980s that the social science community embraced qualitative research methods of inquiry, such as ethnographic, grounded theory, case-study, phenomenological research and narrative research. Here, researchers reject that there is but one single truth of the positivist, and favour the techniques associated with constructivism and the interpretivist ontological debate.

However, common between the quantitative and qualitative researcher and indeed the third choice, mixed methods approach, is as Saunders et al., (2015) explains, the approaches to theory development (p.144). Generally speaking, quantitative research applies the practices and norms associated with the positivist epistemology and apply deductive logic on the testing of theories; whereas, qualitative research applies techniques to understand how individuals interpret their world in a social reality that is constantly shifting, which is associated with the interpretivist epistemology, applying inductive logic to generate new theory (Bryman & Bell, 2007), and illustrated in table 3.4 below.

Table 3.4: Differences between Quantitative and Qualitative Research Strategies (Adapted from Bryman and Bell, 2014, p.28)

	Quantitative	**Qualitative**
The role of theory in relation to research:	Deductive, testing of theory	Inductive, generation of theory
Epistemology:	Natural science model, in particular positivism	Interpretivism
Ontology:	Objectivism	Constructionism

However, the dualist quantitative/qualitative debate is an inconclusive argument for reasons previously presented. Therefore, emerged a third middle ground option, which takes elements from both quantitative and qualitative paradigms, supporting the pragmatist contentions for mixed-methods (Tashakkori & Teddlie, 2003; Johnson & Onweugbuzie, 2004, Creswell & Plano Clark, 2007; Creswell, 2009). This introduction has briefly presented the connections between a studies objectives/questions, development of theory, the chosen research method, and the relationship with epistemology perspectives. The next section will develop these concepts in more detail and how they apply to this thesis.

3.3.1 Research logic: Deductive, Inductive and Abductive

Before describing how the logic of theory development applies to this research, it is necessary to clarify certain terminology between different research scholars. Whilst, Tashakkori & Teddlie (2003, p.552) argue that research design terminology is not a major issue influencing the use of research design, there is some ambiguity amongst scholars, such as Creswell (2009) reference to research designs as *"strategies of inquiry"* (p.11); Maylor & Blackmon (2005) differentiation between the scientific and ethnographic approaches; and, Easterby-Smith et al., (2015) holistic view of research design methodology. Thus, for consistency the researcher defaults to Saunders et al., (2015) onion metaphor in defining research logic *"approaches to theory development"* and research design, as *"methodological choice"* (pp.144, 165).

As already described, a deductive and induction approach to theory development are associated with positivist/quantitative assumptions and interpretivist/qualitative assumptions respectfully. Researchers with a preference towards deductive analysis are concerned with whether data is consistent with prior assumptions constructed by the researcher and empirical testing of theories and hypotheses; whereas, inductive analysis is concerned with generating or building theory (often expressed as a conceptual framework) that emerges from data particularly from the discovery of patterns through the researcher's interpretations made from raw data (Johnson & Onweugbuzie, 2004; Thomas, 2011; Saunders et al., 2016).

However, a third central option (Model, 2009, p.213), abduction logic is available which derives from a researcher's preference to *"develop theoretical explanations on emerging observations"* Model, 2009, p.213), in which the researcher moves between induction and deduction (Suddaby, 2006), combining deduction and induction logic to generate theory or modify existing theory (Saunders et al., 2016). Abductive logic, also referred as analytical induction (Suddaby, 2006, p.639) is about developing theoretical explanations from empirical observations and emerging patterns to work out a plausible theory (Model, 2009; Saunders et al., 2016) by uncovering the

best set of explanations to understand the results of the phenomena (Johnson & Onweugbuzie, 2004), thus, generating new conceptual views of the empirical world (Peirce, 1903, p.216, cited in Suddaby, 2006, p.639). Moreover, Dubois and Gadde (2002) argue that abductive logic is a legitimate case study approach (p.555), in which researchers go 'back and forth' between theory and empirical observations to understand the reality of the investigated phenomena. Systematic combing (Dubois & Gadde, 2002) is the process where theoretical frameworks, empirical fieldwork and case study phenomena analysis evolve simultaneously, and is useful in developing new theories, in case study investigations. Thus, abductive logic is an appropriate approach in this thesis investigation; to understand the theoretical frameworks of project management as a source of competitive advantage from the RBV lens, and the reality of the case study phenomena exposed in the anomalies of LASIS empirical observations in both the questionnaire and thematic analysis activities. Additionally, abductive logic is consistent with the researcher's pragmatist paradigm and is viewed as (Peirce, 1998), and thus an appropriate approach for with study mixed-methodology design.

In summary, Saunders et al., (2016) provide a useful table comparing the three research logic approaches. Table 3.5 below presents a composite comparison of key assumptions for the three research approaches to theory development.

Table 3.5: Comparison of research approaches to theory development.
(Adapted from Saunders et al., 2016; Maylor & Blackmon, 2005; and Johnson & Onweugbuzie, 2004)

	Deductive	**Abductive**	**Inductive**
Research questions that can be answered	What, how much, how many	What and how the phenomena can be explained	Why, how
Logic (Approach to theory development)	When the premises are true, the conclusions must also be true.	Known premises are used to generate untested conclusions.	Known premises are used to generate untested conclusions.
Role of theory	Testing theory through the development of hypotheses, collection of data and verification.	Incorporating existing theory where appropriate, to build or generate theory or modify existing theory	Generation of theory through pattern analysis.
Starting point	Structure for data, you know what you need to collect - theory led	Observation of a surprising fact, then back and forth between deduction and induction to understand and explain the phenomena	Unstructured – what you need emerges, data led
Process	Predominantly linear, sequential, predetermined	Rule, result, case to explanation (Kovács and Spens, 2005)	Predominantly iterative, overlapping and messy
Generalisability	Generalising from the general to the specific	Generalising from the interactions between the specific and the general	Generalising from the specific to the general
Use of data	Data collection is used to evaluate propositions or hypotheses related to an existing theory	Data collection is used to explore a phenomena, identify themes and patterns, locate these in a conceptual framework and test through subsequent data collection and so forth *(in this thesis proposed new research from RQ4 output)*	Data collection is used to explore a phenomena, identify themes and patterns to create a conceptual framework
Typical methods	Quantitative	*Quantitative and Qualitative*	Qualitative

This pluralist approach to theory development and the preceding quantitative/qualitative, ontological, epistemological and paradigm debate is one that social science researchers are compelled to master and defend if they are to demonstrate a coherent philosophy (Onwuegbuzie & Leech, 2006; Creswell & Plano Clark, 2007), that underpins the methodological choice, research strategies and the tactics (techniques and procedures of data collection and data analysis) Saunders et al., (2016, p.165); designed and applied to address the investigations overall research aims and objective, and should be of primary consideration in addressing central research questions (Bamford & Griffin, 2008, p.220).

Hence, quantitative research will answer questions of what and how much and will be linked to a deductive approach to theory; whereas the qualitative research will answer questions of how and why and will be linked to an inductive approach to theory. In a quantitative inquiry, social reality is objective and external to the researcher (single truth, or truth exist but is obscure), and a positivist epistemology from observable and measurable evidence; whereas, in a qualitative inquiry, social reality is subjective and socially constructed (many truths, or there is no truth), in which the researcher interacts with the phenomena, and an interpretivist epistemology based on subjective evidence from participants. However, in research which incorporates an abductive approach to theory, the researcher assumes elements of both the quantitative and qualitative perspectives to arrive at a plausible explanation for a phenomenon such as an unexpected observed empirical anomaly (Kovács & Spens, 2014, p.136). Moreover, the logic of abduction is closely associated with pragmatism (Peirce, 1998), and thus an appropriate approach for certain aspects associated with this study mixed-methodology design.

Consequently, in line with a pragmatist stance, addressing the central research questions this study incorporates elements from both quantitative and qualitative perspectives, applying all three theory development approaches. Which is coherent with the researchers' ontological position (there are many truths, facts depend on viewpoint of observer) and the less extreme constructionism epistemological perspective. Thus, the researcher's methodological choice consisted of a deductive-inductive-abductive-combined approach (Saunders et al., 2016, p.149), illustrated in figure 3.4 below.

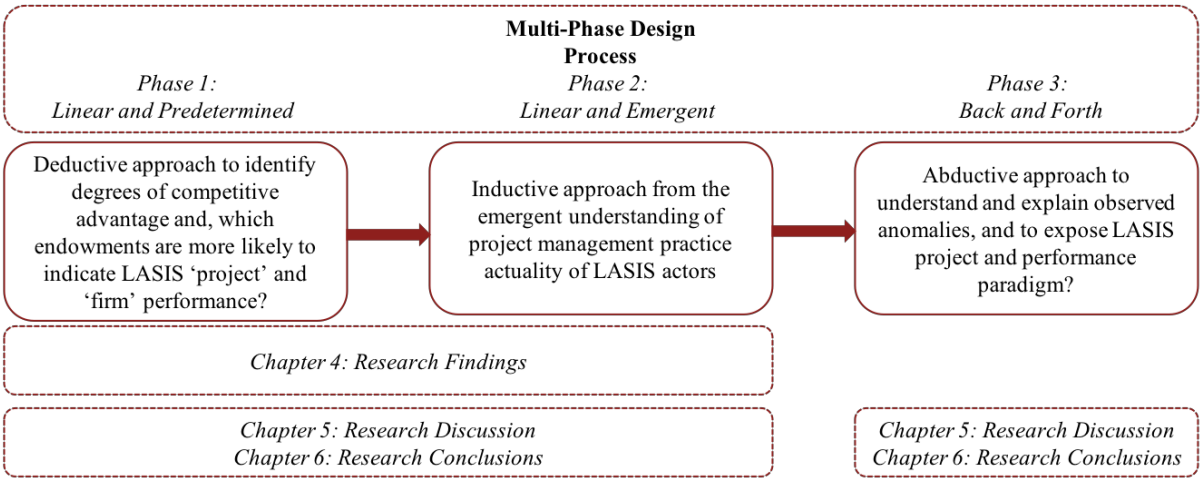

Figure 3.4: Deductive-Inductive-Abductive Multi-Phase Design

Thus, in accordance with Bryman & Bell (2007) understanding, the deductive phase will identify which endowments of project management assets and associated processes and practices LASIS believe to leverage degrees of competitive advantage in comparison with their competitors; and, which endowments are more likely to indicate organisational (*project* and *firm* level) performance; whereas, the abductive phase will explore the reasons for the unexpected empirical observations (Kovács & Spens, 2014) to provide a plausible explanation for LASIS poor project and performance paradigm. As figure 3.4 above demonstrate, the findings and subsequent discussions will be extensively presented in Chapters 4, 5 and 6 of this theses. However, it is first necessary to present and defend the multi-phase approach used to address the research objectives and the three central questions, which is covered in the next sub-section.

3.3.2 Methodological Choice: Multiple Methods Design

Saunders et al., (2016, p.166-67) differentiates methodological choice as either mono or multiple methods. In this research mono methods are rejected as they comprise of only one type of data collection and analysis associated with either quantitative or qualitative study. Thus, the researcher has adopted the multiple methods approach, in which elements of both quantitative and qualitative approach are adopted. This is in line with the pragmatist stance necessary for this study.

In designing the research approach Creswell (2009, pp.207-8) suggests researchers consider four important aspects: timing (concurrent or sequential); weighting (priority given to quantitative and qualitative approach); mixing (integrating, connecting or embedding data sets); and, theorising (explicit or implicit), thus, this multi-phase research features, equal weighting, integration of data, and explicit theorising (RBV lens). The multi-phase design will now by explained.

To address the three central research questions the study is divided into three distinct phases. The quantitative phase 1, and qualitative phase 2 were sequentially conducted to address the three

central research questions and the nine associated sub-research questions. Phase 3 was the interpretation phase and was conducted sequentially following the completion of the first two phases. Whilst quantitative and qualitative are two different approaches (Creswell, 2009), data for each phase was collected and analysed separately and only mixed at the interpretation phase 3. The method of mixing phase 1 and phase 2 was integration by transforming the qualitative data themes into frequency counts (Creswell, 2009; Saunders et al, 2016) to compare with the descriptive quantitative data. Combining Creswell (2009) important aspects researchers should consider this multi-phased approach (Creswell & Plano Clark, 2010; Tashakkori & Teddlie, 2010), which for this research study is illustrated in figure 3.5 below.

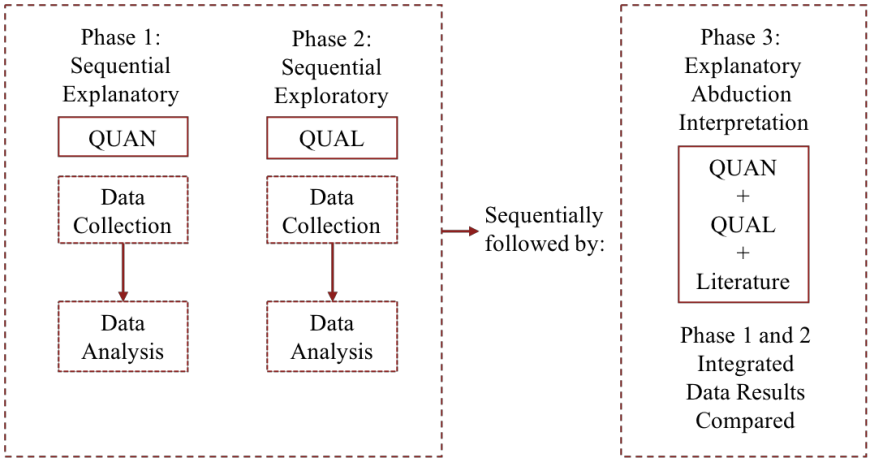

Figure 3.5: Multi-Phase Research Design
(Adapted from Creswell, 2009, pp.207 and 209-10)

Whilst the multi-phase design has elements of a mixed-methods design, which will be explained in more detail in the following sections; figure 3.6 below outlines the multi-phase design.

The first two phases are associated with deductive-inductive logic to establish: i) which endowments leverage degrees of competitive advantage and how is competitive advantage provided; ii) which endowments predict organisational performance; and, iii) to explore the reasons for the unexpected quantitative empirical observations. This was achieved by an explanatory and exploratory sequential study employing both quantitative and qualitative data and analysis techniques. Whereas, phase 3 is associated with abductive logic; to interpret phase 1 and phase 2 findings and conceptualise how LASIS can sustain long-term competitive advantage from their deliberate investment in project and performance paradigm. This was achieved through an explanatory sequential study, in which the VRIO findings are conceptualised with other relevant social theoretical perspectives (Creswell, 2009). Combining approaches to theory development and types of research study is an approach used by researchers, often in a mixed method design, suggests Saunders et al (2016, pp.149, 176).

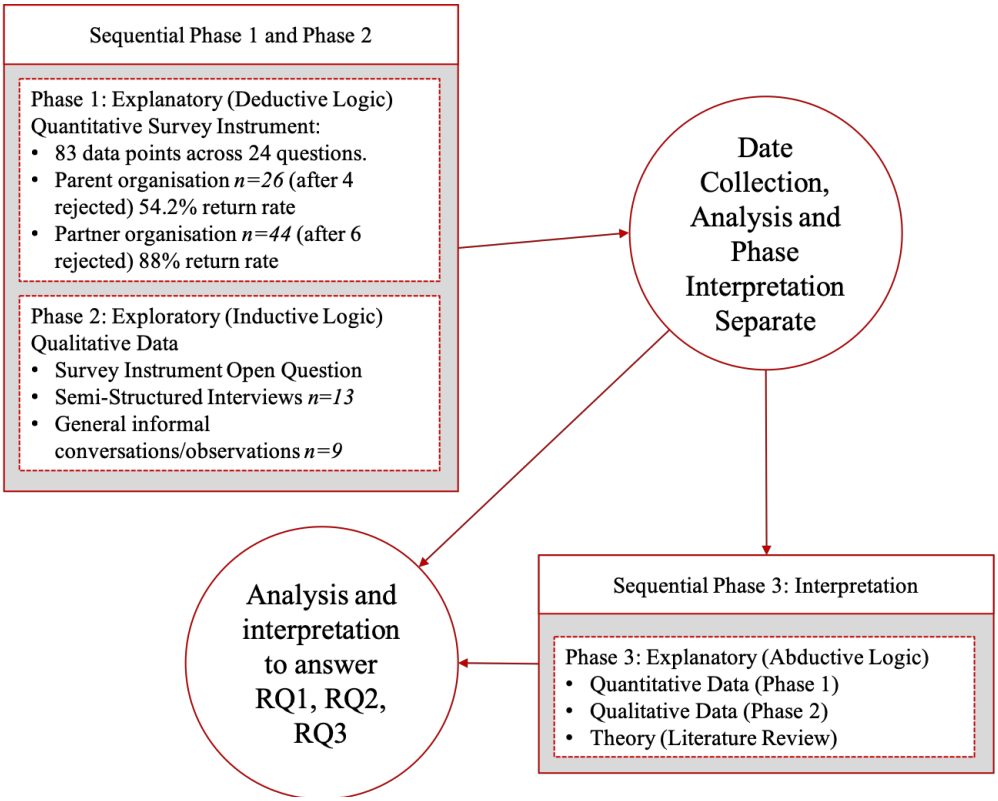

Figure 3.6: Multi-Phase Design

3.3.2.1 Sequential Explanatory/Exploratory/Explanatory Design

This sequential three stage phase began with a quantitative element to: i) identify the initial degrees of competitive advantage leveraged from project management assets and associated processes and practices; ii) how competitive advantage is provided; and, iii) which endowments predict organisational performance. Here, based on extant literature, an existing survey instrument (Mathur et al., 2013) was first piloted and then adapted for LASIS specific non-professional project management practitioner usage. Sequentially, phase two involved a qualitative element of semi-structured interviews to support or challenge the quantitative findings, and to explore the reasons for the unexpected empirical observations and to better understand and explain LASIS existing project management and performance paradigm. Finally, phase three was the formal interpretation of phase 1 and 2 applying triangulation, which is an acceptable technique for a mixed-method design (Model, 2009; Teddlie & Tashakkori, 2003). The details of the data analysis associated with the first phase will be presented extensively in Chapter Four and discussed in Chapters Five and Six.

However, to outline the sequence of activities associated with the three phases, figure 3.7 below, provides an overview of the key activities performed between April 2014 and March 2016. For phase one it was necessary to consult with Professor Kam Jugdev, Athabasca University, Alberta,

Canada and her team to seek permission to use their survey instrument they use in their suite of professional project manager practitioner studies in North America and Canada. Moreover, after a first draft modification it was necessary to pilot the survey with a selection of academics, and a range of respondents across the LASIS *parent* and *partner* organisations. The analysis and interpretation across the three phases enabled the researcher to address individually each sub-research question, and thus collectively the three central research questions.

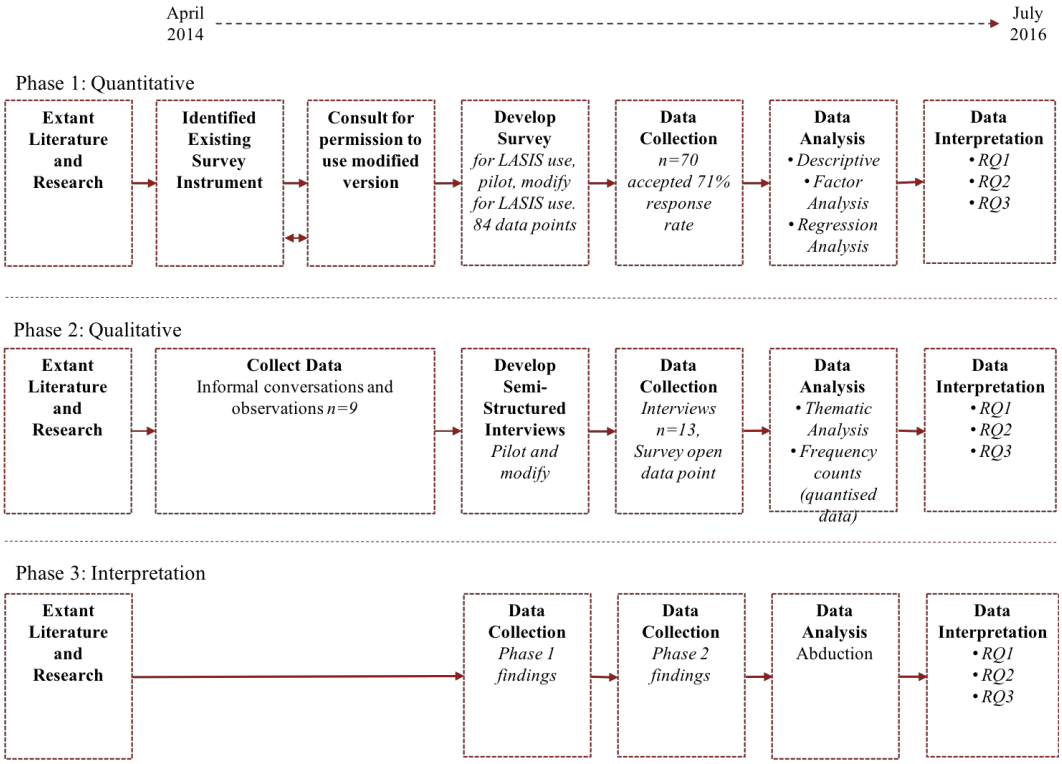

Figure 3.7: Sequential Steps within Phase One Concurrent Design

In summary, this sub-section presented the methodological choice anchored to Saunders et al., (2016) multiple methods – mixed methods approach. As described the researcher adopted a three-phase sequential approach. In line with the pragmatist paradigm stance and the notion of 'what works' (Plano Clark & Creswell, 2008), in developing an understanding of the phenomena and the creation of empirical and conceptual outputs, this mixed method methodological choice enabled the researcher to take a more dynamic interactive and iterative approach (Saunders et al., 2016, p.171; Tashakkori & Teddlie, 2010, p.273) in respect to the linear conception represented in figure 3.7 above. Finally, before concluding this research logic and methodological choice section, it is necessary to defend the mixed methods design.

3.3.3 Methodological Choice: Mixed Method Approach

Defining mixed methods, Johnson, Onwuegbuzie & Turner (2006) offer the following definition:

> *"Mixed methods research is the type of research in which a researcher combines elements of qualitative and quantitative approaches (viewpoints, data collection, analysis, inference*

techniques) for the broad purpose of breath and depth of understanding and corroboration" (p.123). Going on to suggest that a *"mixed method program would involve mixing within a program of research across closely related set of studies"* (p.123)

It is argued that pragmatism is a philosophical *partner* for mixed-methodology (Johnson et al., 2006, p.14) and that the research questions are the central focus when data collection and analysis techniques are chosen that are more likely to provide insights with no allegiance to any one paradigm, suggests Scott, (2016, p.555). Thus, Johnson et al., (2006) definition and Scott (2016) researcher question focus supports the application of mixed based on the philosophical position and the nature of this studies different type of research questions. However, Creswell, Plano Clarke & Garrett (2008) remind researchers to be cautious when conducting mixed method research designs. Moreover, they and other mixed methods protagonists such as Bryman (2006); Tashakkori & Teddlie (2003); and Suanders et al., (2016) have developed schemas covering the reasons, advantages, problems and limitations of adopting a mixed methods design. Thus, presented below are the main considerations (previously highlighted above) used to defend the application of a mixed method design for this study.

First, to extensively explore the different type of research questions, both quantitative and qualitative elements (collection, analysis, and interpretation) and deductive, inductive and abductive approaches to theory development was necessary to satisfy the research aims and objectives. This is supported by Creswell & Plano Clarke (2011, p.12) principle that mixed methods can adopt multiple worldviews or paradigms, thus in line with the pragmatism stance. Additionally, whilst quantitative and qualitative data was given equal weighting and priority, triangulation across the three phases enabled the researcher to combine quantitative and qualitative data to ascertain corroboration with each other, thus providing greater validity (Bryman, 2006) and confidence of interpretation (Saunders et al., 2016). This also, allowed the researcher to offset (Bryman, 2006) or compensate (Tashakkori & Teddlie, 2003) for the weakness of one approach by utilising the strength of the other approach. Moreover, mixed methods allow researchers to transform one type of data to be compared with another (Caracelli & Green, 1993), particular quantitising qualitative data (Onwuegbuzie & Leech, 2006, p.49; Saunders et al., 2016, p.172), which is a procedure performed in the second phase of this study. Furthermore, and importantly, a mixed methods approach allows the researcher to explore unexpected results (Bryman, 2006), contradictory findings (Tashakkori & Teddlie, 2003) or problem solve unexplainable results (Saunders et al., 2016), which is a major feature from the empirical observations exposed in the first phase, particular as LASIS participants voice is not available (Creswell & Plano Clark, 2011, p.12) in the extensive empirical VRIO analysis. Complementing the above reasons is the practical

nature of a mixed methods approach, particular in the sense that researchers are free to choose methods of 'what works', to address a research problem or question; and that researchers tend to solve problems with numbers and words as well as employing deductive and inductive logic to better understand the world or phenomena under investigation, suggest (Creswell & Plano Clark, 2011).

Finally, though the researcher is confident with this mixed method approach, founded upon its consistency with Kuhn (1962) incommensurability contention, the pragmatist paradigm stance reproduced, and the notion of 'what works' (Plano Clark & Creswell, 2008), the researcher is aware of challenges associated with skills, time, resources (collecting and analysing), mixed methods design acceptance in the scholarly community (Creswell & Plano Clark, 2011, p.12), and researcher access, had to be carefully considered.

Having positioned mixed methods as the underpinning methodological choice, in the following section additional details about the research strategy and time horizons are provided. The section will explain how this multi-phase research, starting in July 2013, established as a cross-sectional empirical survey research strategy, within a case-study environment (LASIS), to expose insightful and meaningful understanding of the research phenomena, so as to develop and create practitioner solutions and add to the body of knowledge.

3.4 Research Strategy and Time Horizons

Much of this chapter is devoted to defending the research philosophy in which this study is set. Particular, the ontological position, epistemological perspective, paradigm stance, approaches to theory development, and the methodological choice. It is now necessary to continue with Saunders et al., (2016) onion analogy to analysis and defend the research strategy and time horizons associated with this thesis study. Thus, there are four integrated strands that portray this research, and its multi-phase mixed methods approach: i) the cross-sectional strand; ii) the empirical focus and overtones strand; iii) the survey strategy strand; and, iv) the case-study environment strand in which the research is operationalised.

3.4.1 Cross-Sectional Strand

According to Bowen & Wiersema (1999, p.626) cross-sectional methods are the predominate mode of analysis in empirical strategy research. However, whilst the literature associates a cross-sectional study in relation to its timeframe, a snapshot in time, and the use of survey strategy (Collis & Hussey, 2014; Saunders et al., 2016; Gray, 2017), there is no common definition to delineate the interconnectedness between: a single point in time; more than one case; quantitative

and qualitative data collection and analysis; and, the examination of the relationships between variables and patterns of association, as Bryman & Bell (2003, p.55) illustrates. Thus, within Bryman & Bell (2003) explanation; the cross-sectional strand associated with this thesis has limited application but can be defined as the period between May 2014 and September 2014. Here, specific data was collected (survey questionnaire and semi-structured interviews) in two different contexts (LASIS *parent* organisation and LASIS *partner* organisations) but at the same time. However, outside these main participant data collection periods, there was a longer data collection period of informal conversation/observations, which was conducted between July 2013 and May 2016. During this period the researchers LASIS access facilitated several brief 'observer as participant' opportunities (Adler & Alder, 1988). In which the researcher was able to collect contextual data during the brief periods the researcher was informally conversing with specific LAIS participants. In this specific 'observer as participant' role the researcher acted mainly as an interviewer with little involvement or participation (Bryman & Bell, 2003) other than to collect contextual data, which proved to reveal significant anomalies in the empirical quantitative findings. Additionally, on one occasion the researcher acted as an 'observer as participant' in a formalised setting initiated by the *parent* organisation. The purpose being to observe and comment on a specific *parent* organisation CIF review process. Here the researcher was provided with an opportunity to collect data regards the actuality of LASIS project management paradigm and the lived experience of the non-professional project management nature of the collective LASIS. Here, Bryman and Bell (2003) observation schedule was considered an appropriate method for data collection which would both complement and support the other data collection analysis, as illustrated in the development of thematic codes, described in 3.5.2.6 below.

Therefore, though the study does demonstrate elements of a cross-sectional study, it can only be rationalised in the context that the study does indeed provide a snapshot analysis of LASIS during a period of economic fiscal retrenchment and public-sector reform and scrutiny, as presented in Chapter 1 – Introduction, above.

The next sub-section positions the empirical focus and the significance to which this study undertakes competitive advantage from project management assets and associated processes and practices, under the pretext of the Resource-Based View Lens and the VRIO framework (Barney, 1991, 1995).

3.4.2 Empirical Focus and Overtones Strand

Simply, empirical research, as defined by Gray (2017) is the *"research methods in which data are collected"* (p.774). Whilst Gray's definition implies no allegiance to any epistemology perspective, the general rule is that empirical research is allied with testing through observations

or experiments typically associated with quantitative research (Bryman & Bell, 2003), in which, theory will result from the observed data. Whilst phase one of this thesis mixed methods design has elements of the deductive approach to theory development, qualitative elements in phase two demonstrate what Bryman & Bell (2003, p.627) refer as empirical overtones. Here, qualitative data collected through direct contact with the social phenomena can be the starting point for any investigation, or indeed initiate deeper analysis to understand the reasons for unexpected or contradictory findings from empirical quantitative observations. In this study, qualitative empirical overtones are discernible in understanding LASIS project management and project performance knowledge paradigm; collected through informal conversations/observations conducted with participants from the *parent* organisation, *partner* organisations and the collective LASIS.

Whilst a central focus of empirical research in strategic management has been to understand the link between a firm's competitive environment, its strategy and its performance (Bowen & Wiersema, 1999), there is little empirical research which measure sustainable competitive advantage from the Resource-Based View lens (Newbert, 2007; Bromiley & Rau, 2016). Moreover, Jugdev et al (2011); Mathur et al (2014); and, Perkins et al (2018) point out that there is negligible empirical research associated with project management as a source of competitive advantage applying Barney & Wright (1998) VRIO framework. Considering that a goal of empirical research is to advance theory, and as Newbert (2007) suggest, prescribe practitioner advice, this thesis research offers the opportunity to contribute to the resource-based theory and operations management body of knowledge (Hitt et al., 2016). Moreover, an underlying consideration of this research was that, project management as source of competitive advantage in LASIS is a unique context, which has yet to define an acceptable paradigm, and thus is at the pre-paradigm stage (Kuhn, 1962), and will remain at this stage until more research develops and progresses the paradigm (MacKenzie & House, 1978). Consequently, it is relevant to undertake an empirical study, and develop both theoretical and conceptual models and frameworks, in contemplation of contributing to the strategic management, project management, and the developing LASIS bodies of knowledge and, practitioner insight for *communities of practice*. As there are no dominant theory establish in this tripartite field (project management, RBV VRIO, and LASIS context), the research strategy, used to undertake this empirical study, was survey, within a case-study environment. Hence, the next sub-section will present, analyse and defend the survey strategy strand, used in this study.

3.4.3 Survey Strategy Strand

In the context of research strategies, in general terms, a research strategy is a defined plan of how the researcher will answer the research question(s) Saunders et al., (2016, p.177), and the

methodological link between the researcher's philosophy and subsequent choice of methods to collect and analyse data (Denzin & Lincoln, 2011). Whilst there are research strategies which are aligned across the full range of the epistemological continuum, no one strategy is inherently superior or inferior, and strategies should not be thought as being mutually exclusive (Saunders et al., (2016). What matters is the degree of coherence throughout the research design, from the researcher's ontological position, epistemological perspective to the techniques and procedures choices for data collection and analysis. Thus, as Saunders et al., (2016) and others point out, throughout this methodology discussion, the choice of research strategy will be guided by the research questions and aims and objectives, Saunders et al., (2016, p.178) view that strategies are not mutually exclusive and may be combined as with mixed method designs.

Bryman & Bell (2003) summaries survey research as *"comprising of data collection methods, predominantly by questionnaires and structured interviews on more than one case and at a single point in time in order to collect a body of quantitative or qualitative data in connection with two or more variables, which are then examined to detect patterns of association"* (p.56). Whilst, Bryman and Bell (2003) specify 'structured interviews', Fink (2002) is more general and categories 'interviews' as one of the four survey instruments (p.22). Moreover, Gray (2017) explains that the use of 'semi-structured' interviews allows the interviewer to cover a pre-determined list of questions and probe deeper to explore subjective meanings (p.399). Arksey and Knight (1999) argue that semi-structured interview quantitative data is easy to analyse and it allows researchers to view knowledge from a positivist and non-positivist perspective. Thus, for this research investigation the use of semi-structured interviews in the survey strategy is consistent with the researchers borrowed pragmatist paradigm.

Saunders et al., (2016) explains that the survey strategy is usually associated with a deductive approach to theory development and is most frequently used to answer 'what', 'who', 'where', 'when', 'how much', and 'how many' type of questions. They also explain, as do others (Forza, 2002; Collis & Hussey, 2014; Easterby-Smith et al., 2015) that the data collected can be easily analysed and used to suggest relationships or inferences between variables and to produce models of these relationships. Academic research, for example strategy, marketing and organisational psychology; business and management; and operations management predominately use surveys, and as Saunders et al., (2016) points out, are an accepted research strategy and perceived as authoritative by people in general. Such surveys are aimed at establishing relationships between variables and concepts, such as confirmatory/explanatory/theory testing surveys (Forza, 2002, p.155); analytical survey (Collis & Hussey, 2014, p.63); and inferential surveys (Easterby-Smith et al., 2015, p.75). While the different use of terminology they all assume that the researcher has

developed a theoretical framework from literature identifying the dependent and independent variables in the relationships.

Thus, in this study; the survey element is linked to the initial VRIO analysis to determine which project management assets and associated processes and practice LASIS participants believe to leverage degrees of competitive advantage, and which endowments are more likely to predict project performance. Here the researcher took a detached role associated with the weaker positivist epistemological perspective of 'truth exist, but is obscure'. However, the actual 'lived experiences' (Cicmil et al., 2006; Sampaio et al., 2014) associated with novice LASIS project management practitioners were a fundamental aspect of understanding the real LASIS project management and project performance knowledge paradigm. Thus, data collection elements comprised of a questionnaire, semi-structured interviews (quantitised for comparison), and informal conversations and observation, which was in line with the pragmatist stance and a less dominant epistemology perspective of 'there are many truths', which is commensurate with Forza (2002) statement that two epistemological approaches can be used in the same study (p.190).

The researcher established an informal long-term collaboration with a specific North of England Local Authority (LASIS *parent* organisation) and several local community charities, social enterprises and community groups (LASIS *partner* organisations), running between July 2013 and June 2016. Both the LASIS *parent* and *partner* organisations, were keen to understanding how project management assets could be placed as a strategic source of competitive advantage and became actively involved in trying out new approaches and ideas to improve their current project management and project management performance knowledge paradigm. To this end, the researcher made 18 separate visits to one or more organisation, acting as an informer on project management practice, and an informal observer of practice, and collector of research data.

The final strand, associated with this research strategy, is the case-study environment. In this research, the LASIS case-study is used as the contextual setting to conduct the tripartite research (project management assets, RBV VRIO framework, LASIS contextual setting). Whilst the overall tripartite combination identified a gap in knowledge, the research claims to make a contribution to each element in their own right, particular, empirical contributions to the growing field associated with mutually collaborating Local Authorities and community groups (whether charities, social enterprises or smaller local community groups), here defined as Local Authority Social Impact Schemes (LASIS).

3.4.4 Case Study Environment Strand

Contradicting Saunders et al., (2016) onion metaphor, case-study is neither a strategy or methodology, as it does not prescribe to one particular type of evidence, or the application of one particular data collection and data analysis method (Yin, 1981, p.58). Though, increasingly common among business and management research, case-study research is viewed as an alternative approach to the often criticised traditional positivist realist/objectivist approach, argues Simons (2009, p.13). However, the breath and diversity of this type of research uniquely positions case study virtually across the full spectrum of the ontological/epistemological debate. First, Yin (1981, 2003, p.13) define case study research as an empirical investigation into a contemporary phenomenon within a real-life context, when the boundaries between the phenomenon and context are not clearly evident, and further explains the technical characteristics: many variables of interest; multiple sources of evidence, and data convergence; and, prior development of theoretical propositions, which firmly anchors case-study research in the positivist perspective. Whereas, Sake (1995, p.xi) argues that case study is the study of the particularity and complexity of a single case, coming to understand activities within important circumstances, from a pure qualitative perspective, drawing data and socially constructed interpretation from naturalistic, holistic, ethnographic and phenomenology methods, which is aligned to the constructionist perspective. Thus, to understand the dynamics of a phenomena under investigation, a single case (Sake) or multiple case (Yin) study can be designed, though this is dependent on the developed questions, suggest (Flyvberg, 2006; Eisenhardt & Graebner 2007; Baxter & Jack, 2008).

As already extensively discussed above, this study is grounded on perspectives and techniques aligned to both ends of Yin and Sake's case-study continuum. Thus, Eisenhardt (1989) and later Eisenhardt & Graebner (2007) middle ground case-study approach of building theories in which deductive and inductive logic are valid approaches in drawing out rich insight through interactions with reality, offers a pragmatist option. Moreover, context of a phenomena is important, as Eisenhardt (1989) refers context as a focus on *"understanding the dynamics present within a single setting"* (p.534), and Eisenhardt & Graebner (2007) emphasis that this deductive-inductive approach to theory-building is deeply embedded in rich empirical data (p.25), and thus would appeal to the positivists who are comfortable in being flexible about empirical observations in the real-world reality. Furthermore, this middle ground approach would accommodate embedding (Yin, 2013) or integrating or combining (Gable, 1994, p.112) survey methods and case-study approach in the same design. These contrasting elements and notions appear to align with the pragmatic paradigm stance.

Case Study offers better insight into new areas of research (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2003). This was of particular interest to this research, as research into project management assets from the RBV lens is extremely limited and non-existent within the context of a LASIS. Consequently, whilst this research is a collaboration with one larger *parent* organisation and twenty-six smaller *partner* organisations, a case study (referred to as the collective LASIS case) has been used as a vehicle to, contextualise the tripartite combination (project management assets, RBV VRIO framework, and contextual setting), and to anchor the operation of the VRIO framework by conducting the survey strategy across the LASIS case. The rationale for using LASIS as a collective single case was the notion of generalisability of the empirical data, and a richer understanding of the challenges associated with the non-professional project manager practitioner positioning project management as a strategic source of competitive advantage, particular LASIS project management and project performance knowledge paradigm.

This section hierarchically linked, detailed and defended the research strategy and the concepts across the four key strands. The next section will introduce, discuss and defend the techniques and procedures used for data collection and data analysis.

3.5 Data Collection and Data Analysis Tools and Techniques

To collect and analyse research data, specific techniques and procedures (Saunders et al., 2016) were employed in line with the mixed methods research design. The techniques and procedures are presented in chronological order as they were used in the multi-phase design, starting with; the survey questionnaire, followed by the semi-structured interviews and informal conversations used to address the sub-research questions.

3.5.1 Phase 1: Quantitative - Survey Questionnaire and Statistical Tests

Development of the data collection instrument was based on Mathur et al., (2013, 2014) survey questionnaire of 212 Project Management Institute® members from North America and Canada. This research focused on the relationship between project management assets and performance outcomes from RBV theory and VRIO framework. Using a previously validate and published data collection instrument is acceptable and can be used to compare results from other studies (Boynton & Greenhalgh, 2004). The rationale for using Mathur et al (2013,2014) pre-existing instrument was: i) the alignment of commonly accepted project management tangible and intangible assets anchored to the VRIO framework and thus the relationship between competitive advantage (if any) and performance; and, ii) replication in an incongruent, unique and divergent context (LASIS: novice non-professional project manager practitioner context), in which the

concepts and variables have already been validated and tested in previous studies (Biemer & Lyberg, 2003, p.28; Hyman, Lamb & Bulmer, 2006, p.3).

The survey questionnaire instrument was a key technique applied to collect both participant profile and contextual data, and to operationalise the VRIO analysis. The survey instrument was developed to capture data from the two distinctive groups (LASIS *parent* organisation and LASIS *partner* organisations) and was divided into two sections. Section one was designed to collect general demographic data about the participant and the organisation they represent, and the participants project management role within the organisation and their level of project management knowledge and experience. Section two was developed by integrating Mathur et al., (2013, 2014) pre-existing questionnaire based on project management assets, processes and practices and the VIRO framework. In total, there were eight constructs. The first three constructs aligned to 'valuable', 'rareness' and 'inimitability' (each with 12 items), followed by three constructs aligned to 'organisational support' (3 items, 3 items and 6 items respectfully), with a final two constructs aligned to *project* and *firm* performance each with 6 items). The VRIO aligned constructs were the independent variables, whereas the two performance constructs were the dependant variables. After securing approval from the instrument's originators, the researcher slightly modified the performance constructs to better reflect the LASIS context (one new item for each of the two performance constructs). Also, an additional item was included aligned to project management maturity level.

Appreciation of the two contrasting contextual settings did merit refinement of the survey questionnaire to reflect the disparities between professional project managers (PMI) and LASIS. Refinements focused on developing item questions into a language that LASIS respondents understood whilst retaining the construct integrity, and the inclusion of two new item questions to reflect contextual setting of LASIS For example, Mathur et al., (2013) q1.8 *"Project social capital – the network of strong or weak relationships a person has with others within or outside the company, is a valuable resource at my company"* was changed Q16.8 '*Project personal contacts* – the network of relationships a person has with others within or outside the organisations, is a valuable resource at my organisation (e.g. with *parent*, *partner* organisations, and other CIF organisations). (*cf.:* Appendix1 Survey Instrument). Table 3.6 below, is a summary of the constructs and their VRIO and variable relationship. However, note that the maturity item is not included as it does not feature within the VRIO framework or as a dependant variable.

Table 3.6: Survey instrument constructs and variable relationship

Value	Economic value of project management assets	12 items	Independent Variable
Rare	Rareness of project management assets	12 items	Independent Variable
Inimitable	Difficulty to imitate or copy project management assets	12 items	Independent Variable
Organisational Support	Alignment of project management practices	3 items	Independent Variable
Organisational Support	Project management communications	3 items	Independent Variable
Organisational Support	Project management integration in the organisation	6 items	Independent Variable
'Project' Performance	In terms of 'cost', 'time', 'quality' and 'impact' of delivered projects	6 items	Dependent Variable
'Firm' Performance	In terms of 'innovation', 'improvement', 'satisfaction' and 'sustainable communities'	6 items	Dependent Variable

Whilst not essential (Gray, 2017), to reduce the incidence of non-response or incomplete questions it is desirable to pilot the questionnaire (Bryman & Bell, 2007) prior to administering a self-completion questionnaire. In this investigation piloting was essential as the questionnaire was based on an existing instrument used in studies in which the participants were project management professionals; whereas in this investigation LASIS participants are non-professional in project management with little or no project management understanding. The assumption here is that LASIS participants may not fully understand the questions and therefore unable to select or make the most reflective answer. Moreover, piloting can be used to ensure that the survey questions operate well, and that the whole instrument operates well, suggests Bryman and Bell (2007, p.273). Furthermore, Gray (2017) argue that you need to pilot everything to ensure that the questionnaire is accurate, unambiguous and simple to complete, suggesting a check list to consider: i) instructions given to participants including any accompanying letters; ii) style and wording; iii) content of questions in relation to what they are asking; iv) formality of questionnaire; v) length of questionnaire; vi) sequence of questions; vii) quality of questions in terms of whether the participants understand what is being asked; and viii) scales and question format use i.e. Likert scale, yes/no responses.

Thus, the development of the initial survey was piloted by a group of six academics (all with doctoral qualifications including a professor of operations management), four LASIS *parent* organisation managers, and six people from LASIS *partner* organisations. Based on feedback adjustments were made to reflect concerns regarding: i) revising order of items to ease participants into questionnaire and early engagement (participants profile and contextual data first, followed by the VRIO analysis); ii) provide the option N/A if participants believe their organisation do not

have the project management asset (this refers to the constructs 'value', 'rareness', and 'inimitableness'); iii) questionnaire instructions to provide a short glossary of terms used in the questionnaire (this links with the non-professional project manager nature of the target group); and, iv) terminology of items to reflect the non-professional project manager nature of the target group. These last two issues provided the biggest challenge to the core message of using the pre-existing survey. However, appropriate changes to academic language and the use of the glossary of terms was the solution that satisfied all parties whilst maintaining the core essence of the original pre-existing questionnaire.

Once the survey had been modified and satisfied the institutions ethical approval conditions, it was hand delivered to key contacts in the *parent* and *partner* organisations, who through their own channels distributed the questionnaire pack to a list of previously agreed identified participants. Distribution of the survey was based on separate sampling rationales. For the *parent* organisation specific criteria were used to select respondents based on a defined project management responsibility either explicit in job description or as a wider expectation of current role: *n=48*. Whereas, for the *partner* organisations all delegates attending a project management awareness training session were identified: *n=50* delegates from *n=26* organisations. An initial return rate of 81.6% returned questionnaires (62.5 % *parent,* 100% *partner)*. However, after rejecting ten (4 *parent*, 6 *partner*), a return rate of 71.4% (*n=26,* 54.2 % *parent*; *n=44,* 88% *partner*) fully completed and returned the questionnaire. The *parent* survey remained open for three weeks during May/June 2014, whereas, the *partner* survey was completed on attending the first of four-weekly project management awareness training session, stating on 4 June 2014. In total, *n=70* valid completed questionnaire was returned, which is considered a good response rate for small sample size between >50 but <100, points out Stevens (2002). The explanation for the comparatively high *partner* organisations response rate, was the agreement to partake in the survey for attending the free project management awareness training.

IBMSPSSv.22 was used to analyse the data. Section one items (participant profile and organisation context) was a selection of *descriptive nominal, numerical interval continuous, numerical internal discrete,* and *descriptive dichotomous.* Whereas, section two (VRIO, *project* and *firm* performance, and project management maturity constructs) were ranked ordinal items based on Likert Scales. The rationale for adopting Likert scale questions was that specific questionnaire items were asking participants to rate the intensity of their opinion, and thus a degree of flexibility was needed to encourage participants to make the most reflective response, as Collis and Hussey (2014) illustrate. Moreover, whilst Bryman and Bell (2007) argue that a vertical format is the preferred alignment on the grounds it employs less confusion for the participant

(p.248), horizontal alignment was favoured to save space in the 84-construct questionnaire. Thus, as discussed above it was essential to pilot the questionnaire. Additionally, the adoption of Likert scales allowed the researcher to pre-code each item making it easier to measure at the analysis stage, as (Bryman & Bell, 207; Collis & Hussey, 2014; Gray, 2017) point out.

Thus, for the construct's 'value', 'rareness', and 'inimitableness', a 7-point Likert scale (1 = very strongly disagree; 2 = strongly disagree; 3 = disagree; 4 = neither agree or disagree; 5 = strongly agree; 7 = very strongly agree) with the N/A option, if the participant believes that the organisation do not have the asset. The three constructs for 'organisational support' and the two constructs for *project* and *firm* level performance' consisted of a 7-point Likert scale (1 = very strongly disagree; 2 = strongly disagree; 3 = disagree; 4 = neither agree or disagree; 5 = strongly agree; 7= very strongly agree) with no N/A option. The rationale for the no N/A was based on the assumption that both LASIS *parent* and *partner* organisations are able to recognise the items associated with *organisational support* 'integration', 'alignment' and 'communications'; and acknowledging how their respective project management processes and project management resources allows them to deliver 'project' and 'firm' level performance. Finally, based on the P3M3 Project Management Maturity Model, the project management maturity construct consists of a 5-point Likert scale (1 = initial Level; 2 = repeatable level; 3 = defined level; 4 = managed level; 5 = optimising level).

Descriptive data is reported in the Chapter 4 – Research Findings. First, participant data is reported in 4.3.2.1 below, which include gender; project management experience; project management qualifications and training; and, educational level across the two disparate groups and the collective LASIS group. This is followed by reporting the tests of normality and tests of reliability in 4.3.2.2 and 4.3.2.4 respectfully. Finally, factor analysis results, and hierarchical regression analysis outcomes are reported in 4.3.3 and 4.3.4 respectfully, with a concluding section summarising phase 1 quantitative analysis in 4.3.5 below.

In the next sub-section, the thematic analysis in phase 2 will be described. In addition to the semi-structured interview instrument, other data collection instruments will be presented and discussed. Selection of specific participants (*parent* and *partner* organisations) was identified prior to conducting the questionnaire instrument. However, whilst initial analysis of SPSS raw data input (completed end June 2014) confirmed these participants, evaluation of participant profiles and organisational context identified two additional participants, one each from *parent* and *partner* organisations.

3.5.2 Phase 2: Qualitative – Thematic Analysis

Whilst thematic analysis is the search for themes in qualitative data (Teddlie & Tashakkori, 2009), the process of making sense of the rich raw data often follows a system or series of steps, such as Creswell (2009) iterative 6-Steps (p.185), Boyatzis (1998) four stages of sensing, doing it reliably, developing and interpreting (p.12) or Kolb's learning cycle (Kolb, 1985, cited in Boyatzis, 1998; Maylor & Blackmon, 2005). Additionally, thematic analysis allows for structured analysis and the statistical analysis of qualitative data (Maylor & Blackmon, 2005), which complements the favoured logic of the previous quantitative approach. Therefore, the following section presents the analysis of latent themes by following Creswell's six-step iterative model, illustrated in figure 3.8 below, and Boyatzis (1998) deductive-inductive hybrid approach of using theory, existing research and raw data to identify codes and subsequent themes. The purpose of this analysis was to elicit a deeper understanding of the VRIO and performance quantitative analysis and other areas not directly analysed by the questionnaire particular how LASIS employ project management performance knowledge in developing project management assets as a source of competitive advantage.

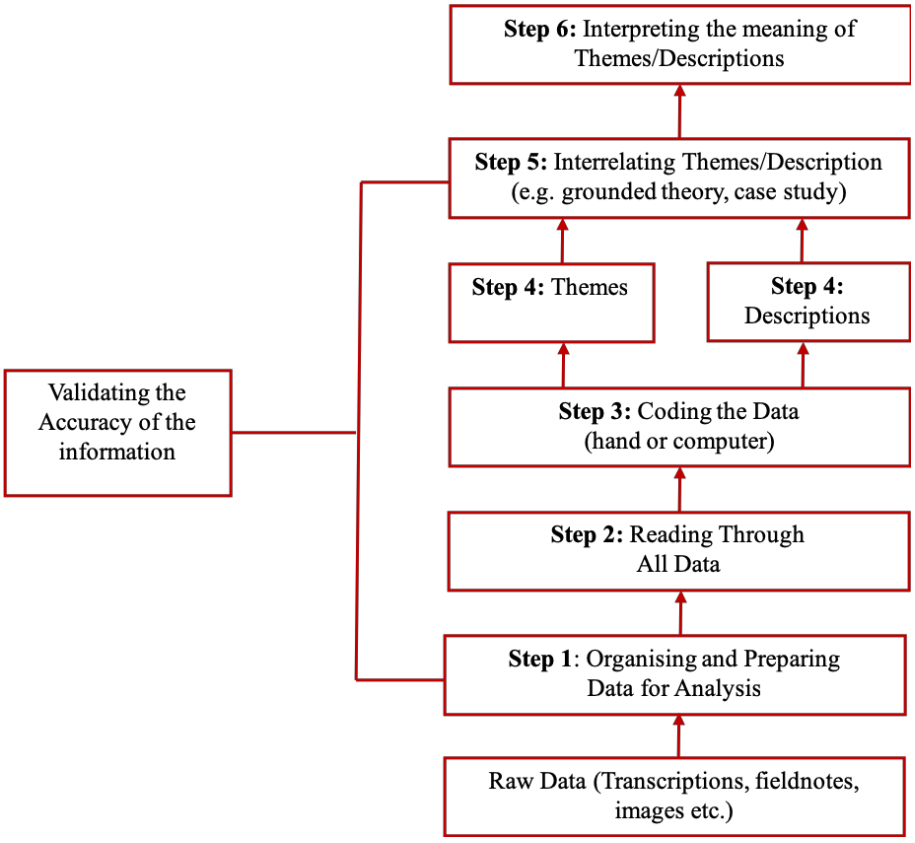

Figure 3.8: Extract form Creswell (2009)

Before detailing the analysis techniques applied in phase 2, it is first necessary to present a number of related descriptions to contextualise the research raw data and operationalise Creswell's

borrowed thematic analysis process. Thus, in the next subsections the following will be presented and discussed:

i) data corpus and data category codes used in thematic analysis
ii) the identification system used to code individual data sets and specific individual participants
iii) data collection events for the semi-structured interviews and general informal conversations/observations
iv) the development of thematic codes used to analyse raw qualitative data and determination of validity and reliability, and elements of good code practice.
v) a priori list of words and phrases for each of the VRIO and performance themes

Here it should be noted that the identification system used to code specific individual participants is also used to provide reference points within the subsequent research findings, discussion and conclusion chapters. Finally, before concluding this phase 2 discussion, it is necessary to describe the analysis technique in which a novel *post-it-note* system was used to: i) quantitise qualitative raw data; and, ii) to visualise the structure of the emerging themes extracted from the raw qualitative data.

3.5.2.1 Data Corpus and Data Sets

Collection of raw data followed by the organisation and preparation for analysis is the first of Creswell (2009) six steps. Here data was collected by several techniques, as the data corpus in table 3.7 below illustrates. Data corpus refers to all data collected for the research project including data, which will be quantitatively or qualitatively analysed, whilst data sets refer to data from the corpus been used for a particular analysis (Braun & Clarke, 2006, p.5). For example, the survey questionnaire is a data set within the corpus and was quantitatively analysed, whilst semi-structured interviews and general informal conversations/observations are data sets which have been analysed applying the qualitative thematic analysis approach. As can be seen from table 3.7 below a range of data sets were collected over a period of eighteen months.

Table 3.7: Data corpus and data sets summary

	Total =n	***Local Authority =n***	***Social Enterprise Organisations =n***	***HEA Organisations =n***
Semi-structured Interviews	13	7	6	-
General informal conversations/observations	9	5	4	-
Investigators notes	2	1	1	-
Investigators emailed notes	9	6	-	3
Direct observation	1	1	-	-
Open question V84	21	10	11	-
Investigators Research Journal Contemporaneous notes	2	-	-	2
Total =n	**57**	**30**	**22**	**5**

In the next set of subsections organising and preparing the data sets is presented, including the coding system applied to identify the different data sets and specific participants across both the *parent* and *partner* organisations.

3.5.2.2 Data type identification coding

To facilitate analysis each type of data set was individually coded in a specific hierarchical order consisting of numbers and letters. The purpose of this ordered structure as illustrated in table 3.8 below was to easily identify the data set type the type of organisation and identify participants within the thematic analysis data recording spreadsheets.

Table 3.8: Data type identification coding legend

Code Hierarchy	**Number/ Letter Code**	**Code Descriptor**
First Number (organisation type)	1	*Parent* Organisation
	2	*Partner* Organisation
	3	HEA
Letter & Number combination (Organisation	A	Wigan CC
& Interviewee number)	B	Trust-in-Leigh
i.e. A1 = first person, A2 = second person	C	True Colours Inclusive CIC
* = if > one person involved, i.e. B2*	D	Pelican Centre
	E	Atherton Food Bank
	F	H2O
	G	PhD Supervision Team
	H	The Community Warehouse
	J	Arty Crafters
	K	Soroptimist International Local Branch
	M	MAP - Changing Directions
	N	Cadence Café CIC
	P	Stonehouse Project
	Q	Dorset Road Community Centre
	1-13	Person number
Second Number (Data Type)	1	Interview
	2	Document
	3	Direct Observation
	4	General Conversations/Observation
	5	Investigators notes
	6	Investigators emailed notes
	7	Questionnaire open end question V84
	8	Researcher Journal Contemporaneous notes
Second Letter (Transcription state)	T	Transcribed
	N	Declined notes only
	D	Official Document only
	R	Recording Only
	C	Contemporaneous notes

In total fifty-seven (57) individual pieces of data across seven data sets were analysed. The following tables present the descriptive analysis of each data set including data type identification code.

3.5.2.2.1 Semi-Structured Interviews

Preliminary analysis of the survey questionnaire identified thirteen (13) respondents selected for the semi-structured interviews. The rationale for selecting respondents was based on the following criteria: i) position and role in organisation; and, ii) analysis of open question (V84). Whilst the

interviews were all conducted in the same week (August 2014) the difference between post questionnaire and interview was a practical issue in which *partner* organisations had to complete the questionnaire prior to attending the project management awareness programme.

Careful design of the semi-structured interviews posed questions, which mirrored the logic of the survey questionnaire and offered participants the opportunity to explore richer discussion into the degree of competitive advantage project management assets, processes and practices leverage for their specific organisation. This consistency between the two data collection instruments (questionnaire and semi-structured interviews) support for a quantitative approach in presenting the thematic analysis findings, which will be described below.

Table 3.9: Semi-Structured Interviews

Organisation Type	Org	Person Interviewed	Date of Event	Data Id Code	Context Comments
Parent	A	Assistant Director	26/08/14	1-A1-1T	6 weeks following questionnaire
Parent	A	Project Manager	26/08/14	1-A2-1T	6 weeks following questionnaire
Parent	A	Project Office	28/08/14	1-A3-1T	6 weeks following questionnaire
Parent	A	Project Office	28/08/14	1-A4-1T	6 weeks following questionnaire
Parent	A	Project Office	28/08/14	1-A5-1T	6 weeks following questionnaire
Parent	A	Programme Officer	27/08/14	1-A6-1R	6 weeks following questionnaire
Parent	A	Project Office	08/08/14	1-A7a-1R	6 weeks following questionnaire
Parent	A	Project Office	28/72014	1-A7b-1R	6 weeks following questionnaire
Partner	B	Trustee	26/08/14	2-B1-1T	10 weeks following questionnaire
Partner	B	Development Officer	26/08/14	2-B2a-1R	10 weeks following questionnaire
Partner	B	Development Officer	26/08/14	2-B2b-1R	10 weeks following questionnaire
Partner	B	Development Officer	26/08/14	2-B2c-1R	10 weeks following questionnaire
Partner	B	Development Officer	26/08/14	2-B2d-1R	10 weeks following questionnaire
Partner	B	Development Officer	26/08/14	2-B2e-1R	10 weeks following questionnaire
Partner	C	Director	27/08/14	2-C-1T	10 weeks following questionnaire
Partner	D	Board Member &Administrator	27/08/14	2-D-1R	10 weeks following questionnaire
Partner	E	Trustee	28/08/14	2-E-1T	10 weeks following questionnaire
Partner	F	Owner	27/08/14	2-F-1R	10 weeks following questionnaire

Data Type Id Code with lower case letter refers to multiple recordings/transcriptions due to interruption during the interview

3.5.2.2.2 General Informal Conversations/Observations

On nine (9) informal occasions participants agreed to the recording and subsequent transcriptions of meetings and general conversations between the researcher and one or more participants. The purpose of these opportunities was to capture the contextual setting and the reality of project management assets used as a source of competitive advantage.

Table 3.10: General Informal Conversations/Observations

Organisation Type	Org	Person(s) involved	Date of event	Data Id Code	Context Comments
Parent	A	Project Manager (CIF)	08/10/13	1-A1-4T	First meeting with project manager for Local Authority CIF
Parent	A	2x project managers for (CIF)	22/01/14	1-A2*-4T	Meeting with outgoing PM (CIF) and new PM (CIF)
Parent	A	Deputy Chief Executive	22/01/14	1-A3-4T	Introduction meeting with Executive responsible for Service Delivery including CIF project
Parent	A	Director & Project Manager	22/01/14	1-A4*-4T	Update meeting with Director of Transformation Strategy and CIF lead
Parent	A	Programme and project managers	22/01/14	1-A5*-4T	Meeting with outgoing PM (CIF) and new PM (CIF)
Partner	B	Trustee	09/08/13	2-B1-4T	First meeting with TiL Trustee @ private box Leigh Sports Village
Partner	B	Trustees	21/08/15	2-B2*-4T	Second meeting with two TiL Trustees @ private box Leigh Sports Village
Partner	B	Trustees	13/02/14	2-B3*-4T	Third meeting with two TiL Trustees @ private box Leigh Sports Village
Partner	B	Trustees	12/02/15	2-B4*-4T	Fourth meeting with two TiL trustees @ TiL head Office Leigh

* > one person involved

3.5.2.2.3 Investigators Contemporaneous Notes

Two detailed contemporaneous notes regarding meetings with significant participants representing the *parent* organisation and *partner* organisation.

Table 3.11: Investigators Contemporaneous Notes

Organisation Type	Org	Person(s) involved	Date of event	Data Id Code	Context Comments
Parent	A	Director	16/07/13	1-A1-5C	First meeting with Director of Transformation Strategy and CIF lead @ private box Leigh Sports Village
Partner	B	Trustee	09/08/13	2-B1-5C	First meeting with Trustee from Trust in Leigh @ private box Leigh Sports Village

3.5.2.2.4 Investigators Emailed Contemporaneous Notes

Email correspondence based on contemporaneous notes exchanged between participants including PhD supervision team.

Table 3.12: Investigators Emailed Contemporaneous Notes

Organisation Type	Org	Person(s) involved	Date of event	Data Id Code	Context Comments
Parent	A	CIF PM and analyst	08/10/13	1-A1-6T	Summary of meeting
Parent	A	CIF PM	22/01/14	1-A2-6T	Link with CEO and DCEO
Parent	A	CIF PM	15/05/14	1-A3-6T	Link with Assistant Director of CIP project
Parent	A	CIF PM	15/05/14	1-A4-6T	Another link with CEO
Parent	A	CIF PM	12/02/15	1-A5-6T	Performance mgt in LAs
Parent	A	CIF PM	29/01/15	1-A6-6T	Performance mgt in LAs
HEA	G	PhD Supervisor	22/07/13	3-G1-6T	Progress update

HEA	G	PhD Supervisor	31/07/14	3-G2-6T	Progress update regards initial questionnaire analysis
HEA	G	PhD Supervisor Team	11/05/14	3-G3-6T	Rationale for specific questionnaire variables

3.5.2.2.5 Direct Observation

Feedback regards observing interim review process between local authority *parent* organisation and three (3) *partner* organisations. The researcher was invited by the *parent* organisation to observe and feedback on an interim review meeting between the *parent* organisations CIF review team and three *partner* organisations. The CIF review purpose was to establish the degree of progression each *partner* organisation had attained following the initial pump prime funding and to establish areas of improvement and support. The agreed objective for the researcher was to act as an independent observer of the CIF review meeting process, and feedback in report significant findings. The researcher both recorded and made notes, which were transcribed and then later analysed as part of phase 2.

Table 3.13: Direct Observation

Organisation Type	Org	Person(s) involved	Date of event	Data Id Code	Context Comments
Parent	A	CIF Review Team	03/09/15	1-A1-3T	Feedback from CIF partner interim review observation

3.5.2.2.6 Survey Questionnaire Open Question V84

Analysis of survey questionnaire identified twenty-one (21) respondents with relevant comments for further analysis. A number of new participants (14) were identified across the *parent* and *partner* organisations. Whilst four (4) new *parent* participants complement the existing cohort it is the diversity of ten (10) new *partner* participants including nine (9) new organisations that expose deeper insight within this subgroup.

Table 3.14: Survey questionnaire open question V84

Org Type	Org	Person(s) involved	Date of event	Data Id Code	Context Comments
Parent	A	Project Team Member (PMO)	Jun-14	1-A1-7T	Questionnaire variable 84
Parent	A	Project Manager (PMO)	Jun-14	1-A2-7T	Questionnaire variable 84
Parent	A	Transformation Manager (PMO)	Jun-14	1-A3-7T	Questionnaire variable 84
Parent	A	Intelligence Manager	Jun-14	1-A4-7T	Questionnaire variable 84
Parent	A	Project Manager (PMO)	Jun-14	1-A5-7T	Questionnaire variable 84
Parent	A	Assistant Director (PMO)	Jun-14	1-A6-7T	Questionnaire variable 84
Parent	A	Project Manger	Jun-14	1-A7-7T	Questionnaire variable 84
Parent	A	Assistant Director	Jun-14	1-A8-7T	Questionnaire variable 84
Parent	A	Project Manger	Jun-14	1-A9-7T	Questionnaire variable 84
Parent	A	Assistant Director	Jun-14	1-A10-7T	Questionnaire variable 84
Partner	B	Development Coordinator	May-14	2-B1-7T	Questionnaire variable 84
Partner	H	Business Development Manager	May-14	2-H1-7T	Questionnaire variable 84
Partner	J	Director	May-14	2-J1-7T	Questionnaire variable 84
Partner	K	Vice Chair	May-14	2-K1-7T	Questionnaire variable 84
Partner	M	Project Manager	May-14	2-M1-7T	Questionnaire variable 84
Partner	N	Managing Director	May-14	2-N1-7T	Questionnaire variable 84
Partner	C	Director	May-14	2-C2-7T	Questionnaire variable 84
Partner	P	Administrator	May-14	2-P1-7T	Questionnaire variable 84

Partner	Q	Committee Member	May-14	2-Q1-7T	Questionnaire variable 84
Partner	E	Trustee	May-14	2-E1-7T	Questionnaire variable 84
Partner	R	Accountant	May-14	2-R1-7T	Questionnaire variable 84

3.5.2.2.7 PhD Research Journal Contemporaneous Notes

Two detailed contemporaneous notes made during two specific events. The notes are documented in research journal and capture setting and contextual data not easily evident in the transcribed versions.

Table 3.15: Investigators PhD Research Journal Contemporaneous Notes

Organisation Type	Org	Person(s) involved	Date of event	Data Id Code	Context Comments
HEA	3	PhD Candidate	03/07/14	3-G1-8C	Direct observation Wigan interim review with three CIF *partner*s. Eight pages of notes and diagrams
HEA	3	PhD Candidate	26/08/14	3-G2-8C	Eleven pages of notes during semi-structured interviews

In total data from thirty-one (31) participants were used in the thematic analysis. The following two tables present the coding criteria used to identify individuals within the thematic analysis process. The purpose of this information is to allow for reference points during the subsequent research findings, discussion and conclusion chapters.

3.5.2.3 Participant Identification Coding

Similar to the system applied to identify data types each participant was individually coded in a specific hierarchical order consisting of numbers and letters. The purpose of this ordered structure was to: i) provide a reference point in subsequent research findings, discussion and conclusion chapters; and, ii) easily identify participants within the thematic analysis data recording spreadsheets.

Table 3.16: Participant identification coding legend

Code Hierarchy	Code Type	Code Descriptor	Number/Letter Code
1st Number	Organisation type	Parent Organisation	1
		Partner Organisation	2
1st Letter	Organisation Name	Wigan CC	A
		Trust-in-Leigh	B
		True Colours Inclusive CIC	C
		Pelican Centre	D
		Atherton Food Bank	E
		H2O	F
		Huddersfield University	G
		The Community Warehouse	H
		Arty Crafters	J
		Soroptimist International	K
		MAP - Changing Directions	M
		Cadenec Café CIC	N
		Stonehouse Project	P
		Dorset Road Community Centre	Q
		PPP	R
2nd Number	Person number in organisation		1-13
2nd Letter	Position in organisation	Deputy CEO	A
		Director	B
		Assistant Director	C

		Trustee	D
		Board Member	E
		Owner	F
		Project Manager	G
		Project Team Member	H
		Transformation Manager	J
		Intelligence Manager	K
		Development Officer/Coordinator	L
		Business Development Manager	M
		Vice Chair	N
		Managing Director	P
		Administrator	Q
		Committee Member	R
		Accountant	S
3rd Number	PM Experience	Senior-Level Project Executive	1
		Project Manager	2
		Project Team Member	3
		Other	4
4th Number	PM Qualifications	Professional Qualifications Yes	1
		Professional Qualifications No	2
5th Number	Level of Education	High School	1
		College diploma/cert	2
		Undergraduate degree	3
		Master's degree	4
		Doctoral degree	5

The final table displays individual participant codes which will be used as reference points within the presentation of the research findings and subsequent discussion and conclusion chapters.

Table 3.17: Individual participant identification code

Code	Organisation Type	Position in Organisation	Project Management Experience	PM Quals	Education
1A1C113	*Parent*	Assistant Director	Senior-Level Project Executive	Yes	Undergraduate
1A2G213	*Parent*	Project Manager	Project Manager	Yes	Undergraduate
1A3G213	*Parent*	Project Officer	Project Manager	Yes	Undergraduate
1A4G212	*Parent*	Project Officer	Project Manager	Yes	College diploma/cert
1A5G212	*Parent*	Project Officer	Project Manager	Yes	College diploma/cert
1A6G213	*Parent*	Programme Manager	Project Manager	Yes	Undergraduate
1A7H322	*Parent*	Project officer	Project Team Member	No	College diploma/cert
1A8A114	*Parent*	Deputy CEO	Senior-Level Project Executive	Yes	Master's
1A9B114	*Parent*	Director	Senior-Level Project Executive	Yes	Master's
1A10J223*	*Parent*	Transformation Manager	Project Manager	No	Undergraduate
1A11K423*	*Parent*	Intelligence Manger	Project Manager	No	Undergraduate
1A12C323*	*Parent*	Assistant Director Legal	Project Team Member	No	Undergraduate
1A13C121*	*Parent*	Assistant Director	Senior-Level Project Executive	No	High School
2B1D212	*Partner*	Trustee	Project Manager	Yes	College diploma/cert
2B2D121	*Partner*	Trustee	Senior-Level Project Executive	No	High School
2B3L323	*Partner*	Development Officer	Project Team Member	No	Undergraduate
2C1B223	*Partner*	Director	Project Manager	No	Undergraduate

2D1E223	*Partner*	Board Member and Administrator	Project Manager	No	Undergraduate
2E1D323	*Partner*	Trustee	Project Team Member	No	Undergraduate
2F1F121	*Partner*	Owner	Senior-Level Project Executive	No	High School
2B4L213*	*Partner*	Development Coordinator	Project Manager	Yes	Undergraduate
2H1M212*	*Partner*	Business Development Manager	Project Manager	Yes	Undergraduate
2J1B122*	*Partner*	Director	Senior-Level Project Executive	No	College diploma/cert
2K1N232*	*Partner*	Vice Chair	Senior-Level Project Executive	No	Undergraduate
2M1G223*	*Partner*	Project Manager	Project Manager	No	Undergraduate
2N1P123*	*Partner*	Managing Director	Senior-Level Project Executive	No	Undergraduate
2C2B122*	*Partner*	Director	Senior-Level Project Executive	No	College diploma/cert
2P1Q323*	*Partner*	Administrator	Project Team Member	No	Undergraduate
2Q1R322*	*Partner*	Committee Member	Project Team Member	No	College diploma/cert
2R1S322*	*Partner*	Accountant	Project Team Member	Yes	College diploma/cert

* Participant's data type Survey Questionnaire Open Question V84 only

Having presented the bespoke system used in the analysis of the qualitative data sets the next two sub-sections detail the data collection instruments starting with the semi-structured interviews followed by the informal conversations/observations, and direct observations.

3.5.2.4 Semi-Structured Interviews

Whilst the survey instrument was used to: i) collect participant profile data and organisational context data; and, ii) to operationalise VRIO, the semi-structured interviews were used to: iii) support or challenge the VRIO analysis; and, iv) to gain a richer understanding of LASIS project management and project performance knowledge paradigm. In total 13 interviews (7 *parent*, 6 *partner*) were conducted between 26-28 August 2014, as table 3.22 below illustrates. The interviews were recorded, professionally transcribed and used in the analysis to address research questions RQ1, RQ2 and RQ3. The reason for the different timescales (6 weeks *parent* organisation participants, 10 weeks *partner* organisations participants) between the survey instrument and interview, was that the *partner* participants completed their survey on or prior to 4 June 2014 before attending a free four-week project management awareness training program provided by the researcher; whereas, the *parent* participants had all June to complete the survey.

Table 3.18: List of Semi-Structured Interviews – Researchers Administration

Organisation Type	Org	Person Interviewed Description	Date of Event	Data Id Code	Context Comments
Parent	A	Assistant Director	26/08/14	1-A1-1T	6 weeks following questionnaire
Parent	A	Project Manager	26/08/14	1-A2-1T	6 weeks following questionnaire
Parent	A	Project Office	28/08/14	1-A3-1T	6 weeks following questionnaire
Parent	A	Project Office	28/08/14	1-A4-1T	6 weeks following questionnaire
Parent	A	Project Office	28/08/14	1-A5-1T	6 weeks following questionnaire
Parent	A	Programme Officer	27/08/14	1-A6-1R	6 weeks following questionnaire
Parent	A	Project Office	28/08/14	1-A7-1R	6 weeks following questionnaire
Partner	B	Trustee	26/08/14	2-B1-1T	10 weeks following questionnaire
Partner	B	Development Officer	26/08/14	2-B2-1R	10 weeks following questionnaire
Partner	C	Director	27/08/14	2-C-1T	10 weeks following questionnaire
Partner	D	Board Member &Administrator	27/08/14	2-D-1R	10 weeks following questionnaire
Partner	E	Trustee	28/08/14	2-E-1T	10 weeks following questionnaire
Partner	F	Owner	27/08/14	2-F-1R	10 weeks following questionnaire

The interview consisted of six themes and 14 questions. The first four themes are related to the VRIO analysis, with the fifth theme relating to *project* and *firm* performance and the societal impact from project performance, and the final theme relating to project management knowledge and experience. This last theme is associated with the non-professional project management nature of the LASIS context. Participants were supplied with a participant's information pack two weeks before the agreed interview date. The purpose of the pack was to provide each participant with: i) background and contextual information; ii) consent to interview and digitally record interview; and, iii) consent using within the analysis stage and anonymously used within the thesis. Additionally, participants were provided with an overview of each theme, but not the actual theme related questions. The researcher developed a priori of prompts to be considered during the interviews, enabling the researcher to react in a semi-structured manner to participant reaction (cf.: Appendix 9: Semi-Structured Interview, Appendix 10: Researchers priori of prompts). The 13 interviews were conducted between 26-28 August 2014, with each lasting between 75 and 120 minutes, and were digitally recorded and professionally transcribed.

3.5.2.5 General Informal Conversations/Observations, and Direct Observation

During the period July 2013 – June 2016 the researcher was granted access to key people both in the *parent* organisation and the main LASIS *partner* organisation. On nine occasions the researcher was able to record informal conversations (5 x *parent*, 4 x *partner*), and was invited to contribute and comment on one high level Community Investment Fund review meeting, which the researcher recorded as a direct observation, as table 3.19 illustrate.

Table 3.19: List of Informal Conversation/Observation

Organisation Type	Person(s) involved	Date of event	Data Id Code	Context Comments
Parent	Project Manager (CIF)	08/10/13	1-A1-4T	First meeting with project manager
Parent	2 x project managers for (CIF)	22/01/14	1-A2*-4T	Meeting with outgoing PM (CIF) and new PM (CIF)
Parent	Deputy Chief Executive	22/01/14	1-A3-4T	Introduction meeting with Executive responsible for Service Delivery including CIF project
Parent	Director & Project Manager	22/01/14	1-A4*-4T	Update meeting with Director of Transformation Strategy and CIF lead
Parent	Programme and Project Managers	22/01/14	1-A5*-4T	Meeting with outgoing PM (CIF) and new PM (CIF)
Partner	Trustee	09/08/13	2-B1-4T	First meeting with main partner capacity builder organisation @ private box Leigh Sports Village
Partner	Trustees x 2	21/08/15	2-B2*-4T	Second meeting with main partner capacity builder organisation @ private box Leigh Sports Village
Partner	Trustees	13/02/14	2-B3*-4T	Third meeting with main partner capacity builder organisation @ private box Leigh Sports Village
Partner	Trustees	12/02/15	2-B4*-4T	Fourth meeting with main partner capacity builder organisation @ organisation new office Leigh
Parent	CIF Review Team	03/09/15	1-A1-3T	Direct observation of CIF review meeting

In addition to these formally recorded and transcribed events, the researcher maintained a diary in the form of a research journal, to capture the richness of the observations and to understand the paradigm of the non-professional project management practitioner nature of the combined LASIS. This helped the researcher to understand the social interactions and the contextual nuances between the two distinct types of organisation within the collective LASIS, which would be otherwise impossible to extract from the quantitative analysis alone. A significant outcome of these conversation and observations, was the insight regarding the survey instrument anomalies and the impact from a less than positive project management and project management performance knowledge paradigm. Whilst these observations are not used exclusively on their own, they are triangulated with other research methods, which increases the rigor of observations (Adler & Alder, 1988); and are contextually represented in both the Findings and Discussion Chapters, which follow.

3.5.2.6 Development of Thematic Codes

The final suite of descriptive tables concerns steps 3 and 4 in Creswell (2009) process - the development and application of thematic codes used across the entire range of qualitative data sets. Code development applied a hybrid deductive-inductive approach acknowledged by Boyatzis (1998) and justified by Creswell (2009) and Teddlie & Tashakkori (2009). This hybrid approach is consistent with the researcher pragmatist paradigm, in which theory driven and data driven

approaches are combined to develop a meaningful code (Boyatzis, 1988). Moreover, combing these opposite ends of the deductive-inductive coding continuum allows the researcher to acknowledge project management as a source of competitive advantage models, and the project actuality and lived experiences of LASIS non-professional nature. Which is an acceptable approach for single case study situations where it not possible or relevant to compare and contrast across samples, such as this LASIS investigation, suggest Boyatzis (1998, p.52). Moreover, Creswell (2009, p.187) states that *"the traditional approach in social science to allow the codes to emerge during the data analysis"*, and thus develop codes by the combination of predetermine and emerging data, again justifying the approach in this LASIS investigation.

Having first read through all the raw data to establish a general sense of the information and to reflect on the overall meaning, which is step 2 in Creswell (2009) process. It was then necessary to conduct a theory and prior-research-driven approach to identify a priori of codes from extant literature and previous research concerning project management assets as a source of competitive advantage and their combination with resource-based view lens VRIO framework. The starting point for this process was the literature review presented above particular studies conducted by Mathur et al., (2013, 2014). This was followed by a theory-driven approach to identify a priori of codes from established theories concerning project management, project management performances and resource-based view lens VRIO framework. Again, the starting point for this process was the literature review presented above. Finally, a data-driven approach identified new codes that emerged from the raw data. This final approach resulted in several iterations before confirming the final codebook(s), which are presented below and in the appendices. Table 3.20 summarise the key themes and codes used in the analysis. For each of the VRIO characteristics a simple three-point scale was used to evaluate a positive, neutral or negative citation, and further categorised based on the explicit/tacit nature and tangible/intangible attribute of the project management assets. For example, senior management believing that the PMO function is a project management asset providing economic value would be deemed as a positive citation (V3) and may contribute to competitive parity. Table 3.20 below is a summary of the high-level themes and codes used in the analysis.

Table 3.20: Summary of themes extracted across raw data sets

Meta Theme	Level 1: Theme	Level 2: Sub-theme	Level 3:
VRIO Analysis Level 4: explicit/codified or tacit/embedded	Valueness (V)	Valueness Negative (V1)	Must have value but if not have will provide disadvantage
		Valueness Neutral (V2)	Must have value but will not contribute to CA
		Valueness Positive (V3)	Must have value and may contribute to CA (parity)
	Rareness (R)	Rareness Negative (R1)	Not rare amongst competitors and no temporary CA
		Rareness Neutral (R2)	Rare amongst a few competitors, temporary CA short-term

		Rareness Positive (R3)	Rare amongst competitors and potential for long-term temporary CA
	Inimitableness (I)	Inimitableness Negative (I1)	Easily copied by all competitors and therefore does not provide sustained CA
		Inimitableness Neutral (I2)	Easily copied by a very few competitors and therefore impacts on the degree of sustained CA
		Inimitableness Positive (I3)	Cannot be copied by competitors and therefore potential for sustained CA
	Organisational Support (OS)	OS Negative (OS1)	Asset(s) do not have organisational support and therefore severely moderate the degree of valueness, rareness and inimitability of asset(s)
		OS Neutral (OS2)	Asset(s) are only partially organisational supported and therefore act to neutralising the degree of valueness, rareness and inimitability of asset(s)
		OS Positive (OS3)	Asset(s) have organisational support and therefore have a positive moderating effect on the degree of valueness, rareness and inimitability of asset(s)
Project Management Performance	Project Level Performance (PL)	Project objectives and constraints (PLP1)	
		Project management process (PLP2)	
		Project success (PLP3)	
	Firm Level Performance (FL)	Organisational Performance (FLP1)	
		Societal Performance (FLP2)	Aggregated social impact (FLP2-1)
			Social change process (FPL2-2)
	Measurement (M)	Quantitative (M1)	
		Qualitative (M2)	

Second, having established high level themes it was necessary to develop a system which would define and describe how to identify a positive and negative citation. Appling Boyatzis (1998) 'good' code elements framework (p.53), theory and prior research informed from the literature review was mapped to each of the VRIO characteristic and project management performance level and measurement themes, which: i) defined the theme; ii) description how occurs; iii) description of qualifications and exclusions to the identification of the theme; and, iv) a positive and negative example, adhering with Boyatzis (1988) characteristics of a quality code, presented in table 3.22 below and in the appendices.

Finally, a priori of 'words' and 'phrases' were developed: first theory and prior research extracted from the literature review; and second as it emerged from the data analysis. The final themes and code descriptions were confirmed following several reviews of the raw data. This deductive-inductive approach facilitated a richer understanding of the phenomena under investigation.

3.5.2.6.1 VRIO 'Value' characteristic theme, codebook

Tables 3.21 and 3.22 below present the themes and codes applied to the VRIO characteristics *value*. The system presents the level hierarchical coding system and descriptive content for Boyatzis 'good' code elements. Table 3.23 table list the 'words and phrases' applied across all the VRIO characteristic data types. Refer to the appendices for tables associated with: i) *rare, imitable*; ii*) organisational support*; iii) *project level performance;* iv) *firm level performance;* and, *project measurement,* including the priori of list of 'words and phrases'.

Table 3.21: VRIO: Value theme and asset levels

Level 1	Level 2	Level 3	Level 4	Level 5
Theme Value (V)	Value negative (V1)	Must have value but if not will provide disadvantage	Explicit/codified	Tangible/intangible
	Value neutral (V2)	Must have value but will not contribute to CA	Codified/explicit Embedded/tacit	Tangible/intangible
	Value positive (V3)	Must have value and may contribute to CA (parity)	Tacit/embedded	Tangible/intangible

Table 3.22: Value Characteristic 'good' code elements Boyatzis (1998)

Label	Value
Definition	Project mgt asset has value to either exploit opportunities or neutral threats in a firm's environment
Description how occurs	Explicit acknowledgement of asset and conscious recognition of value to organisation
Description of qualifications and exclusions to the identification of the theme	Qualification: Explicit acknowledgement of one or more priori of Mathur et al project management assets and/or other type of project management asset whether tangible or intangible i.e. specific tool & technique, or project management training. Exclusion: acknowledgement of generic wider organisational assets utilised to support project management practices
Positive example	Project management software or hardware asset(s) applied to deliver stated project objectives in which the omission of these asset(s) would severely reduce the value of the stated project objective, including and project to exploit opportunities or neutralise threats
Negative example	Mathur et al priori of project management asset(s) or generic assets applied to support project management practices not contributing any value to stated project objectives, including and project to exploit opportunities or neutralise threats i.e. tools & techniques not organisationally supported

Table 3.23: Priori of words and phrases applied across all VIRO characteristics

• Blissfully unconscious	• History	• Reputation
• Bundle of resources	• Implicit knowledge	• Resource accumulation
• Casual ambiguity	• Importance of PM assets	• Resource heterogeneity
• Codified and tangible assets	• Intangible assets	• Resources imitability
• Consciously competent	• Invisible assets	• Resource immobility
• Culture	• Knowledge capture	• Resource non-substitution
• Customised templates	• Know how	• Resource rareness
• Critical resources	• Know what	• Resource value
• Collect, capture and disseminate	• Knowledge based assets	• Sharing assets
• Conscious, deliberate	• Mathur et al 12 assets	• Sharing facilitation
• Customized to provide CA	• Maturity models	• Sharing PM knowledge
• Dedicated	• Methodologies	• Social complexity
• Dedicated Team	• Neutralize threats	• Social relationships
• Deep routed in org history	• Organised, haphazard	• Software, hardware, databases
• Degree of embedding PM intangibles in ways of working	• Organisational support	• Tangible assets
	• PM bodies of knowledge	• Tangible, intangible
• Design, implement, manage, review	• PM literature, books, articles	• Tacit knowledge
• Embedded tacit assets	• PMO	• Templates
• Embedded ways of working	• PMO coordinate use of PM assets	• To do the job, tools of the trade
• Equivalent resource mix		• Tools & techniques
• Exploit opportunities	• Protocols	• Trust
• Formal, informal		

Having described the structured data system and code development, it is now necessary to explain the post-it-note technique used to quantitise qualitative data and to visualise the structure of the emerging themes extracted from the raw qualitative data, which is step 5 of Creswell (2009) process.

3.5.2.7 Post-it-note technique

Data analysis was undertaken between July 2015 and March 2016. Coding, thematic analysis and quantitising of some qualitative data was performed to generate themes and categories. Whilst Nvivo software was considered, it was rejected as it did not enable the researcher to fully engage with the nuances from the complexity of the data. Thus, the thematic analysis was undertaken by using Excel, and a method of using posit-notes to quantitise the VRIO analysis and other identified thematic analysis categories. It was used to tease out the emerging themes associated with research question RQ3 LASIS project management performance knowledge paradigm.

To visualise the emerging themes a post-it-note system was developed to: i) quantitise data for frequency counts to compare against VRIO quantitative analysis; and, ii) to understand the context of the emerging themes in relationship to the three central research questions and the associated sub-research questions. The system applied a post-it-note design capturing relevant information, which was then mapped against the three central research questions. The base colour of each post-it-note represented three conditions: yellow/green – positive citation; white – neutral citation; red/purple – negative citation.

In addition to the location of the raw data the construction of the *post-it-note* captured information regarding participant identification and the developed codes described above. This information is represented by: excel codebook cell coordinates, participant identification, organisation type, and factor identification. Additionally, a description of the raw data citation is presented as a reduction step to formulate the final themes. Figure 3.9 below is an example how the *post-it-note* system captures one piece of raw data. The second part of this system was to map each *post-it-note* across the respective high level themes of 'value', 'rare', 'inimitable', 'organisational support – integration, alignment and communications, and the two performance themes of 'project' and 'firm'. This allowed the researcher to quantitise the data, as presented in table 4.28 below, and extract the final themes, to be used in the Creswell (2009) interpreting the meaning step 6 process, presented in the discussion and conclusion chapters.

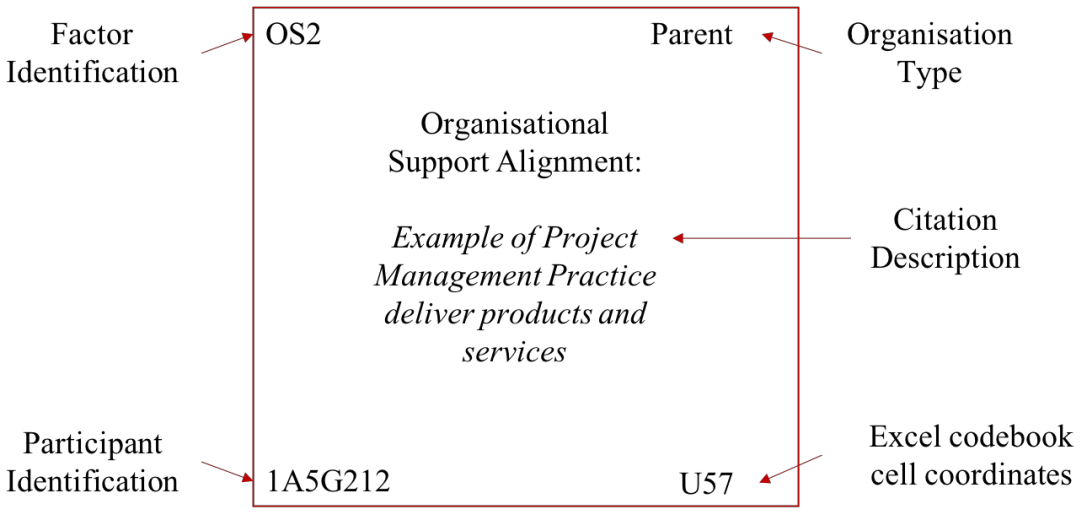

Figure 3.9: Post-it-note design

Refer to appendix 12-15 how post-it-note constructions technique was applied for *project management assets* frequency counts; *organisational support* frequency counts, and *project level, and firm level performance frequency count*. Other constructions were necessary to understand the meanings of the emerging themes, including the impact *organisational support* in relationship to project management assets the two levels of performance.

Having presented the bespoke system used in the analysis of the qualitative data sets the next two sub-sections detail the data collection instruments starting with the semi-structured interviews followed by the informal conversations/observations, and direct observations.

3.5.3 Phase 3: Making sense through abductive logic

Whilst phase one and two were conducted independently of each other, phase three integrated the independent findings at this final abductive logic empirical making sense interpretation phase. The purpose of this phase was to develop plausible theory:

- Arrive at a plausible explanation for the unexpected observed quantitative empirical anomalies.
- To provide a plausible explanation for LASIS poor project and performance paradigm.
- Conceptualise how LASIS can sustain long-term competitive advantage from their deliberate investment in project and performance paradigm.

As previously illustrated above, an abductive approach to theory development in case-study phenomena, allows the researcher to go 'back and forth' between theory and empirical observations (Dubois & Gadde, 2002), and the quantitative and qualitative perspectives to arrive at a plausible explanation for a phenomenon such as an unexpected observed empirical LASIS

anomalies (Kovács & Spens, 2014). This middle ground option between the deductive and inductive continuum accommodates embedding (Yin, 2013) or integrating or combining (Gable, 1994; Dubios & Gadde, 2002) survey methods and case-study approach in the same design. Therefore, for this making sense phase 3, Dubios and Gadde (2002) the researcher applied 'systematic combing' model, illustrated in figure 3.10 below.

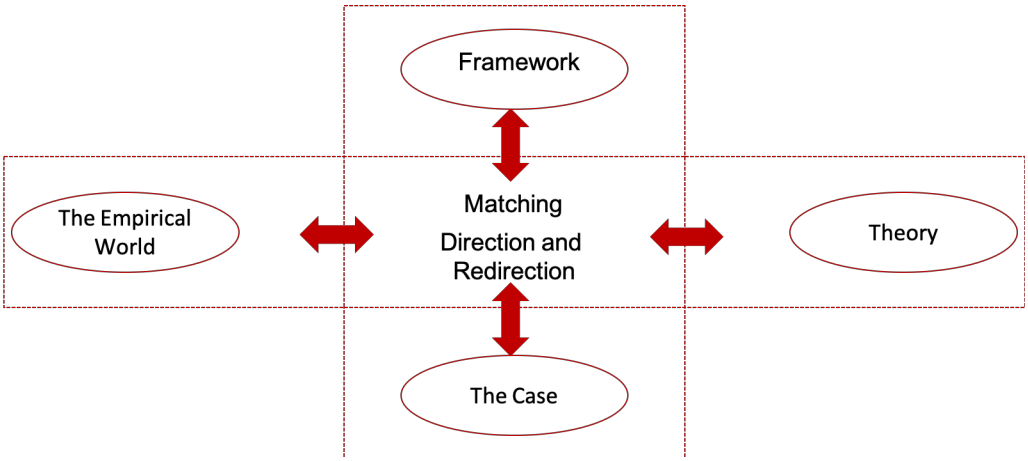

Figure 3.10: Systematic Combining Abductive Logic Framework. Adapted from Dubois and Gadde, 2002

The model allows the researcher to go 'back and forth' between the theoretical framework, data sources of the empirical, and the case-study phenomena analysis, which Dubois and Gadde (2002) call 'matching'. Thus, LASIS empirical observations identified anomalies that did not match the theoretical frameworks of project management assets as a source of competitive advantage from the RBV lens, and project management performance models. Moreover, the model allows the use of multiple sources of data to reveal aspects unknown to the researcher, discovering new dimensions of the research problem, which Dubios and Gadde (2002) refer as 'direction and redirection'. Therefore, in LASIS the researcher became aware of a negative project management performance paradigm impacting on potential performance.

Thereafter, the model allows the researcher to go 'back and forth' between the deductive preconceptions of the theoretical frameworks, and the reality of the inductive empirical world. This iterative process is set between the researchers tight preconceptual analytical framework, and the case phenomena. However, as the researcher gains more insight into the phenomena, understanding the case phenomena and the researchers preconceptual analytical framework evolves, and thus plausible explanations surface leading to possible new theory development. Which, in this LASIS investigation exposed a plausible formula to explain how the reality and existing theory (RBV, project management asset exploitation, and project management

performance knowledge) manifests in a context of public sector non-professional project management practitioners; which is presented in the conclusions chapter.

Thus, applying the 'systematic combining' to understand the reality of LASIS in relation to existing theory consisted of several iterative processes, identified next. First it was necessary to identify how the empirical findings support the project management assets theory and separate out the key anomalies from the VRIO quantitative analysis, and factors predicting performance . Second it was necessary to identify the qualitative analysis VRIO frequency counts and reveal the underline project management performance knowledge paradigm, and the factors predicating performance . Third it was prudent to contextualise the key themes extracted from phase two *post-it-note* analysis. Finally, it was then possible to review the collective data sources to analysis and tease out themes that either support, exceed or challenge the empirical findings in phase one and two.

3.6 Research Methodology Conclusion

Supporting, Morgan & Smircich (1980) and Collis & Hussey (2104) assertions that in social science a research methodology should be based on the researchers own philosophical assumptions; and Holden & Lynch (2004) opinion that this philosophy affects the researchers chosen paradigm and methodological choices, Maylor & Blackmon (2005) argue that there should be consistency between the researcher's philosophical assumptions, methodology, methods and the research questions. Thus, in this chapter the researcher has presented and defended the multi-phased research design, in relationship to the pragmatist stance research questions under investigation. Furthermore, the researcher justified the rationale for the different concepts, links and relationships across the design, adding to and supporting the consistency of the employed methodology. The chapter began with a discussion of social science research philosophical assumptions and how the researchers own ontological position and epistemological perspective influenced the pragmatic stance adopted for the research, and how this was related to the mixed methodology research design. Then, the researcher presented a discussion to defend the different approaches applied to theory development and presented in detail the multi-phased methodological choice. Finally, the chapter concluded with a discussion to defend the chosen techniques and procedures used to collect and analyse the quantitative and qualitative research data.

The overriding consideration for designing the research methodology was to choose a modus operandi, which would investigate this complex tripartite phenomenon (project management asset, RBV VRIO, LASIS non-professional project management practitioner nature), which had not been subject to any previous investigation. Thus, a pragmatic paradigm enabled the researcher to design

a mixed methodology and use appropriate techniques and procedures to understand the issues of the phenomena. Moreover, the researcher is of the opinion that this mixed methods design is appropriate in order to develop empirical models and evolve conceptual frameworks, so as to make a tangible practitioner contribution as well as contributing to the body of knowledge, within the fields of strategic management, project management, and the contextual setting of LASIS. Finally, figure 3.9 below, presents a visual representation of the research methodology adopted for this investigation, in which the mixed method research upstream and downstream assumptions and considerations are linked, and thus demonstrate research consistency.

Now that the methodology has been detailed and defended it is necessary to exhibit the research findings this mixed methodology exposed, which is presented in the following chapter.

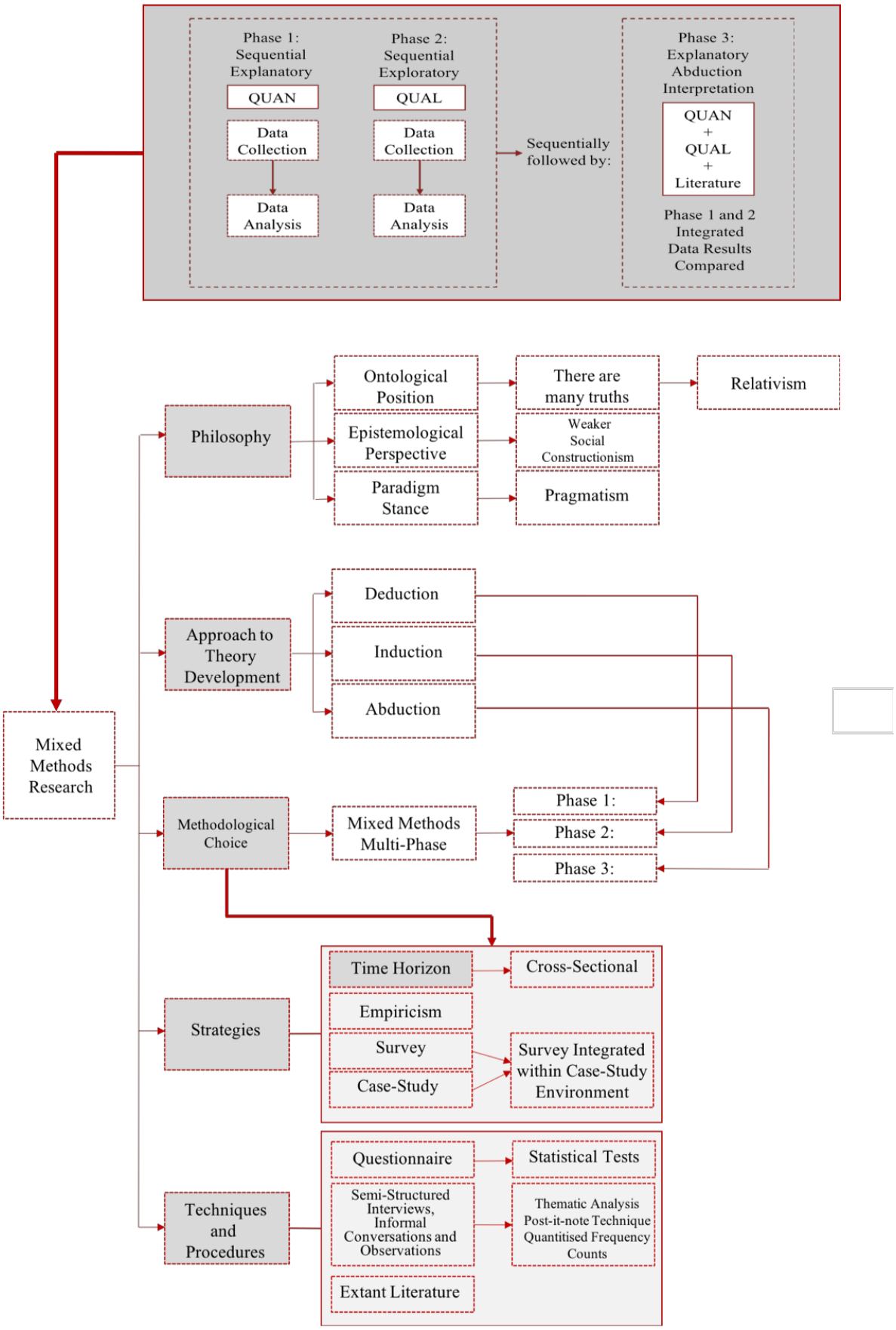

Figure 3.11: Representation of Research Methodology
(Based on the Onion Metaphor, Saunders et al., 2016, pp.124 & 164)

Chapter 4 – Research Findings

4.1 Introduction

The objective of this chapter is to present the research data collected in this mixed methods investigation into the challenges of project management assets in local Authority Social Impact Schemes. A mixed methods strategy incorporating the components of a multi-phase sequential strategy (Creswell, 2009, p.207) guided both the collection and analysis of data. The Resource-Based View lens and the researcher's conceptual framework significantly influenced a quantitative priority supported by embedding analysis from a significant range of qualitative data. In the first phase the primary objective of the quantitative data analysis was the application of statistical procedures to operationalise the VRIO framework. This required a staged approach in which IBMSPSSv.22 was manipulated to extract statistical tests to: i) identify which project management asset endowments are valuable, rare, inimitable and are organisationally supported across LASIS; ii) the degree of competitive advantage leveraged from the identified project management assets; iii) how competitive advantage is provided; and, iv) which project management assets and organisationally supported processes and practices predict LASIS performance? The second phase drew on qualitative data collected over an eighteen-month period and includes data sets from questionnaire open-end question, semi-structured interviews, and informal and formalised conversations. A thematic analysis approach was used to: v) understand quantitative analysis anomalies; and, vi) to expose the realities of project management practice across the collective LASIS and individual *parent* and *partner* organisations.

To structure the presentation of the findings, first the chapter introduces the LASIS *parent* and *partner* organisations and the use of qualitative data to position their current project management practice paradigm. Second, the chapter reports on the survey quantitative data analysis, in which Factor Analysis and Regression Analysis extracted results to address the statistical analysis of all sub-research questions presented in 3.1.2 above. Finally, the chapter reports on the thematic analysis, in which qualitative data was used to expose the reality of the current project management practice and project performance knowledge paradigm.

Throughout the chapter the findings are presented in a series of tables and supported by relevant narrative. Whilst, specific quantitative and qualitative analysis empirical models will be presented; in chapter 5 triangulation will allow the researcher to present the final empirical models; whilst in chapter 6 the researcher presents an empirical formula and series of interpretive supporting conceptual models.

4.2 Collaborating Organisations: LASIS *Parent* and *Partners*

Table 4.0a below provides a contextual description of each collaborating organisation, including an assessment of their project management paradigm at the time of data collection, table 4.0b summarises all twenty-seven LASIS *partner* organisations.

- No of Vols: number of volunteers in the organisation
- Capacity builder is defined by the parent organisations 2014 CIF initiative, as *'providing coordinated capacity to allow local community and voluntary sector to deliver opportunities cohesively and effectively'*
- Limited project management awareness: some staff or volunteers have some formal project management qualification or have attended project management training.
- No project management awareness and practice: the organisation has not acknowledged the value project management.
- For anonymity of organisations their name is replaced with xxxx

Table 4.0a: Collaborating Organisation Details

Parent Organisation					
Organisation Name	**Type of Organisation**	**Paid Staff**	**No of Vols**	**Annual Funding**	**Assessment of Project Management Paradigm**
Wigan Council	Local authority statutory service provider to local residents	2016* (4286)	N/A	2014-15# (£220m)	2013-2016 a deliberate investment and development of their project management practice, including acquisition of project management assets and staff project management training and some formal qualifications.
Partner Organisations					
xxxx Community Cooperative	Community enterprise – improve well-being of community through increased physical activity	Nil	9	£30-50k	No project management awareness and practice.
xxxx	Social Enterprise with trading arm - improve well-being of community through increased physical activity	<10	9	£30-50k	No project management awareness and practice.
xxxx Foodbank	VSO – supporting individuals and families to cope with multiple difficulties	<10	250	£20-£30k	No project management awareness and practice.
xxxx Primary School	After school club – supporting individuals and families to cope with multiple difficulties	<10	12	£15-20k	No project management awareness and practice.
xxxx Café CIC	Social Enterprise with trading arm – encouraging local community to develop creative talent	<10	30	£30-50k	No project management awareness and practice.
xxxx Community Centre	Community capacity builder – coordination of very localised well-being opportunities	Nil	4	£10-15k	No project management awareness and practice.

xxxx Community	Community organisation - supporting individuals and families to cope with multiple difficulties	<10	2	*Parent*** Funded	Limited project management awareness, no project management practice.
xxxx	Leisure Social Enterprise with charitable objectives - improve well-being of community through increased physical activity	<10	3	<£10k	No project management awareness and practice.
xxxx Community Centre	Community capacity builder – coordination of very localised Well-Being opportunities	Nil	8	>£100k	No project management awareness and practice.
xxxx Support Service CIC	Well-Being Social Enterprise with trading arm – adult social care provision	<10	2	>£100k	No project management awareness and practice.
xxxx Centre	Social Enterprise with charitable objectives – capacity builder of health, Well-Being and social opportunities	<10	5	>£100k	Limited project management awareness, no project management practice.
xxxx Club	Community sports - improve well-being of community through increased physical activity	Nil	12	<£10k	No project management awareness and practice.
xxxx Neighbours project	Community capacity builder	<10	12	>£100k	No project management awareness and practice.
xxxx	Community organisation - supporting individuals and families to cope with multiple difficulties	<10	0	*Parent*** Funded	Limited project management awareness, no project management practice.
xxxx Centre	Leisure organisation - supporting individuals and families to cope with multiple difficulties	<10	60	>£100	No project management awareness and practice.
xxxx Wigan	Community capacity builder	<10	10	>£100	Limited project management awareness, no project management practice.
xxxx Action Group	Social Enterprise with charitable objectives – supporting individuals and families to cope with multiple difficulties	<10	10	£50-100k	Limited project management awareness, no project management practice.
xxxx RFU	Sports club - improve well-being of community through increased physical activity	<10	50	>£100	Limited project management awareness, no project management practice.
xxxx CIC	Community organisation - adult social care provision	<10	15	<£10k	Limited project management awareness, no project management practice.
xxxx – Wigan Branch	Community capacity builder – opportunities to educate, empower and enable women	Nil	400	£30-50k	Limited project management awareness, no project management practice.
xxxx CIC	Community Group - improve well-being of community through increased physical activity	Nil	5	£30-50k	Limited project management awareness, no project management practice.
xxxx LTD	Community Social Enterprise with charitable objective - improve well-being of community through creative activity	<10	8	<£10k	Limited project management awareness, no project management practice.

The xxxx Project	Well-Being VSO - supporting individuals and families to cope with multiple difficulties	Nil	20	<£10k	No project management awareness and practice.
xxxx CIC	Well-Being Community Group – adult social care provision	<10	5	>£100k	Limited project management awareness, no project management practice.
xxxx	VSO – capacity builder	<10	250	>£100k	2014 - a deliberate investment and development of their project management practice, including acquisition of project management assets and staff project management training and some formal qualifications.
xxxx Union	Community Social Enterprise with trading arm - supporting individuals and families to cope with multiple difficulties	<10	50	>£100k	No project management awareness and practice.
xxxx	Social Enterprise with trading arm - supporting individuals and families to cope with multiple difficulties	>10<20	650	>£100k	Limited project management awareness, no project management practice.

*Source: Wigan Council Workforce Profile 2016
**_Parent_ Funded – organisations which are autonomous _Parent_ initiatives
#Source: Wigan Council Statement of Accounts 2014-15

Table 4.b: Summarised Collaborating Organisation Details

Type of Organisation	Community Group	13
	Social Enterprise with trading arm	4
	Social Enterprise with charitable objective	4
	Sports/leisure	3
	VSO	3
Main reason for organisations existence	Adult care	3
	Capacity builder	6
	Encourage local creative talent	2
	Improve well-being of community through increased physical activity	7
	Supporting individuals and families to cope with multiple difficulties	9
Number of paid staff	<10	19
	>10 <20	1
	Nil	7
Number of Volunteers	<10	12
	10-49	6
	50-249	5
	>249	4
Project Management Paradigm	Deliberate investment and development of project management practice, including acquisition of project management assets and staff project management training and some formal qualifications.	1
	Limited project management awareness and practice.	12
	No project management awareness and practice.	14

4.3 Quantitative Analysis – Survey Instrument

4.3.1 Introduction

First it is necessary to present the statistical findings from the survey questionnaire, which was developed by integrating Mathur et al., (2013,2014) pre-existing instrument. First, respondent descriptive data is presented, followed by the tests of normality and reliability. Thereafter, factor analysis followed by regression analysis is presented, concluding with a summary of the quantitative findings and presentation of the first suite of empirical models.

4.3.2 Descriptive Data

4.3.2.1 Respondents

The collective LASIS returned 70 respondents representing the two groups comprising of *n*=26 *parent* (37.1%) and *n*=44 *partner* (62.9%). Slightly more females (*n*=38, 54.3%) than male (*n*=32, 45.7%) were represented across the entire sample. However, within the two disparate groups there are two differences. First, within the *partner* group there is a gender reversal (male: *n*=23, 52.3%; female: *n*=21, 47.7%), and second a significant divergence widening between female and males within the *parent* group (female: *n*=17, 65.4%; male: *n*=9, 34.6%). Project management knowledge and experience expressed by hierarchical project management position was broadly equal across all three categories (senior-level project executive: *n*=25, 35.7%; Project Manager: *n*=26, 37.1%; Project Member: *n*=19, 27.1%). There were only marginal differences across all three categories between the collective LASIS group and the two disparate groups. A large majority (*n*=56, 80%) of the collective LASIS group do not have any formal project management qualifications. This increases slightly within the *partner* group (*n*=39, 88.7%), whereas a larger number of respondents do have formal project management qualifications within the *parent* group (*n*=9, 34.6%). Of the respondents with project management qualifications (*n*=14) all are either PRINCE2 foundation/practitioner or MSP. In contrast, nearly half of the collective LASIS group indicate informal project management training (*n*=32, 45.7%), though there is a large difference between the two disparate groups (*parent*: *n*=18, 69.2%; *partner*: *n*=14, 31.8%). Whilst *n*=11 didn't elaborate on the type of informal training, *n*=21 respondents were sub-divided into two distinct themes (in-house: *n*=13, 18.6%; and Further Education programme: *n*=8, 11.4%). However, within the disparate groups only a small minority of *partner* respondents indicate in-house training (*n*=3, 6.8%), and *parent* (*n*=10, 38.4%). Finally, of the two education level categories (pre-degree and degree) the collective LASIS group comprised (pre-degree: *n*=28, 40%; degree: *n*=42, 60%). However, there is a widening divergence between the two disparate groups in which the *parent* group have significantly more degree educated (*n*=20, 77%) then the *partner* group (*n*=22, 50%). Tables 4.1 and 4.2 below summarise the main information extracted from

frequency counts, mean and standard deviation across the collective LASIS group and the two disparate groups.

Table 4.1: Respondents frequency counts

	Respondents	Gender		Project Management Experience			Formal Project Management Qualifications		Informal Project Management Training		Educational Level	
		Male	Female	Senior Project Executive	Project Manager	Team member	Yes	No	Yes	No	Pre-Degree	Degree
Parent	*26*	*9*	*17*	*10*	*9*	*7*	*9*	*17*	*18*	*8*	*6*	*22*
Partner	*44*	*23*	*21*	*16*	*16*	*12*	*5*	*39*	*14*	*30*	*20*	*22*
LASIS	*70*	*32*	*38*	*26*	*25*	*19*	*14*	*56*	*32*	*38*	*26*	*44*
Total	***70***	***70***		***70***			***70***		***70***		***70***	

Table 4.2: Mean and standard deviation between the collective and disparate groups

	Respondents	Project Management Experience		Formal Project Management Qualifications		Informal Project Management Training		Educational Level	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Parent	*26*	*2.12*	*0.952*	*1.54*	*0.508*	*1.31*	*0.471*	*2.92*	*0.744*
Partner	*44*	*2.36*	*1.08*	*1.86*	*0.347*	*1.68*	*0.471*	*2.41*	*0.787*
Collective LASIS	*70*	*2.27*	*1.034*	*1.74*	*0.44*	*1.54*	*0.502*	*2.6*	*0.806*

4.3.2.2 Test of Normality

Prior to conducting factor analysis, tests of normality and scale reliability were performed. Test of normality across *n*=63 ordinal and scale variables were conducted at the collective LASIS group level and the two disparate group levels (*parent* and *partner*). In total *n*=126 test of normality across both group sets were conducted and though in general returned reasonable normal distribution, some variables demonstrated varying degrees of positive and negative skewness and kurtosis. Thus, a degree of data manipulation was necessary for to transform skewed distributions to allow for parametric tests. Though literature vie between authors supporting and arguing against transformation of variable to better improve the assumption required of parametric tests (Pallant, 2013, p.96), Tabachnick & Fidell (2013) provide a reasoned argument for the manipulation of variables to enable parametric tests across all variables. Table 4.3 below presents an abstract summary of the test of normality.

Table 4.3: Test of normality abstract summary

Test id	Test Type	Description including SPSS Variable Name	Results
19	*Assessing Normality: Val VRIO*	*Explore normality of variable **'ValPMContacts'** - Collective Group*	*Not a normal distribution, (9 missing cases) negative Skew, 1 outliner*
20	*Assessing Normality: Val VRIO*	*Explore normality of variable **'ValPMContacts'** - Parent and Partners*	*Not a normal distribution both groups negative skew, Parent 1 outliner*
22	*Assessing Normality: Val VRIO*	*Explore normality of variable **'ValPMCommsofPract'** - Parent and Partners*	*Reasonably normal distribution for both groups, Parent positive skew, Partners negative skew*
23	*Assessing Normality: Val VRIO*	*Explore normality of variable **'ValPMOffice'** - Collective Group*	*Not a normal distribution, (16 missing cases) strong negative Skew,*
24	*Assessing Normality: Val VRIO*	*Explore normality of variable **'ValPMOffice'** - Parent and Partners*	*Parent negative skew, Partners reasonable normal distribution*
30	*Assessing Normality: Rare VRIO*	*Explore normality of variable **'RarePMMats'** - Parent and Partners*	*Reasonably normal distribution for Parent, (Partners positive skew)*
36	*Assessing Normality: Rare VRIO*	*Explore normality of variable **'RarePMSoft'** - Parent and Partners*	*Parent positive skew, Partners negative kurtosis (18 missing cases)*
43	*Assessing Normality: Rare VRIO*	*Explore normality of variable **'RarePMContacts'** - Collective Group*	*Reasonably normal distribution with slight positive skew (13 missing cases)*
45	*Assessing Normality: Rare VRIO*	*Explore normality of variable **'RarePMCommsof Pract'** - Collective Group*	*Reasonably normal distribution with slight positive skew (15 missing cases)*
49	*Assessing Normality: Rare VRIO*	*Explore normality of variable **'RarePMImplicitKnow'** - Collective Group*	*Reasonably normal distribution with slight positive skew (20 missing cases)*
57	*Assessing Normality: Imitable VRIO*	*Explore normality of variable **'ImitablePMHard'** - Collective Group*	*Reasonably normal distribution with slight positive skew and 4 outliners (29 missing cases)*
64	*Assessing Normality: Imitable VRIO*	*Explore normality of variable **'ImitablePMShadow'** - Parent and Partners*	*Reasonably normal distribution, Partners positive skew (Parent 2 outliners)*

66	*Assessing Normality: Imitable VRIO*	*Explore normality of variable **'ImitablePMTemplates'** - Parent and Partners*	*Reasonably normal distribution, Partners positive skew (Parent12 outliner)*
68	*Assessing Normality: Imitable VRIO*	*Explore normality of variable **'ImitablePMContacts'** - Parent and Partners*	*Reasonably normal distribution, Parent positive skew*
70	*Assessing Normality: Imitable VRIO*	*Explore normality of variable **'ImitablePMCommsofPract'** - Parent and Partners*	*Reasonably normal distribution, 72Parent negative skew, Partners negative kurtosis*
72	*Assessing Normality: Imitable VRIO*	*Explore normality of variable **'ImitablePMOffice'** - Parent and Partners*	*Reasonably normal distribution, Parent positive skew*
77	*Assessing Normality: PM Maturity Level*	*Explore normality of variable **'PMMatLevel'** - Collective Group*	*Reasonably normal distribution with positive skew*
78	*Assessing Normality: PM Maturity Level*	*Explore normality of variable **'PMMatLevel'** - Parent and Partners*	*Reasonably normal distribution, Parent okay, Partners strong positive skew and many outliners*
79	*Assessing Normality: Alignment of PM Practices*	*Explore normality of variable **'OrgAlignMisAimsObject'** - Collective Group*	*Reasonably normal distribution with negative skew and several outliners*
80	*Assessing Normality: Alignment of PM Practices*	*Explore normality of variable **'OrgAlignMisAimsObject'** - Parent and Partners*	*Reasonably normal distribution, Parent okay, Partners strong negative skew and both have outliners*
81	*Assessing Normality: Alignment of PM Practices*	*Explore normality of variable **'OrgAlignServicesDev'** - Collective Group*	*Reasonably normal distribution with negative skew and several outliners*
82	*Assessing Normality: Alignment of PM Practices*	*Explore normality of variable **'OrgAlignServicesDev'** - Parent and Partners*	*Reasonably normal distribution, Parent and Partners negative skew and both have outliners*
83	*Assessing Normality: Alignment of PM Practices*	*Explore normality of variable **'OrgAlignProductsoff'** - Collective Group*	*Reasonably normal distribution with negative skew and several outliners*
84	*Assessing Normality: Alignment of PM Practices*	*Explore normality of variable **'OrgAlignProductsoff'** - Parent and Partners*	*Reasonably normal distribution, Parent okay Partners negative skew and outliners*
85	*Assessing Normality: PM Communications*	*Explore normality of variable **'PMCommsUpPMHier'** - Collective Group*	*Reasonably normal distribution with negative skew and several outliners*
86	*Assessing Normality: PM Communications*	*Explore normality of variable **'PMCommsUpPMHier'** - Parent and Partners*	*Reasonably normal distribution, Parent okay Partners negative skew and outliners*
87	*Assessing Normality: PM Communications*	*Explore normality of variable **'PMCommsUpOrgHier'** - Collective Group*	*Reasonably normal distribution with negative skew and several outliners*
88	*Assessing Normality: PM Communications*	*Explore normality of variable **'PMCommsUpOrgHier'** - Parent and Partners*	*Reasonably normal distribution, Parent okay Partners negative skew and both have outliners*
89	*Assessing Normality: PM Communications*	*Explore normality of variable **'PMCommsOpenOnProj'** - Collective Group*	*Reasonably normal distribution with strong negative skew and few outliners*
90	*Assessing Normality: PM Communications*	*Explore normality of variable **'PMCommsOpenOnProj'** - Parent and Partners*	*Reasonably normal distribution, Parent okay Partners negative skew and outliners*
91	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMUpMgt'** - Collective Group*	*Reasonably normal distribution with negative skew*
92	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMUpMgt'** - Parent and Partners*	*Reasonably normal distribution, Parent okay Partners negative skew and outliners*
93	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMPeopTruOther'** - Collective Group*	*Reasonably normal distribution with strong negative skew and few outliners*
94	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMPeopTruOther'** - Parent and Partners*	*Reasonably normal distribution, Parent and Partners negative skew and outliners*
95	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMPeopWorWel'** - Collective Group*	*Reasonably normal distribution with negative skew and negative kurtosis and a few outliners*
96	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMPeopWorWel'** - Parent and Partners*	*Reasonably normal distribution, Parent okay, Partners negative skew and both have outliners*
97	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMEnvEncLearn'** - Collective Group*	*Reasonably normal distribution with negative skew and outliners*
98	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMEnvEncLearnt'** - Parent and Partners*	*Reasonably normal distribution, Parent okay, Partners negative skew and kurtosis and outliner*
99	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMEncouragSharNowInfo'** - Collective Group*	*Reasonably normal distribution with negative skew and outliners*
100	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMEncouragSharNowInfo'** - Parent and Partners*	*Reasonably normal distribution, Parent okay, Partners negative skew and kurtosis and outliner*
101	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMLeadSupEffectWorkRelat'** - Collective Group*	*Reasonably normal distribution with negative skew and outliners*
102	*Assessing Normality: PM Integration*	*Explore normality of variable **'IntegPMLeadSupEffectWorkRelat'** - Parent and Partners*	*Reasonably normal distribution, Parent okay, Partners negative skew and kurtosis and outliner*
123	*Assessing Normality: PM Societal Performance*	*Explore normality of variable **'ProjPerfContInnova'** - Collective Group*	*Reasonably normal distribution with slight negative skew and kurtosis with some outliners*
125	*Assessing Normality: PM Societal Performance*	*Explore normality of variable **'ProjPerfMeasSocImpactIndProj'** - Collective Group*	*Reasonably normal distribution with slight negative skew*
126	*Assessing Normality: PM Societal Performance*	*Explore normality of variable **'ProjPerfMeasSocImpactIndProj'** - Parent and Partners*	*Reasonably normal distribution with slight positive skew for Parent and negative skew for Partners*

Several variables returned a number of outliners, however comparison of the respective variable $\bar{x}$ with the 5% trimmed $\bar{x}$ was acceptable and therefore no manipulation of variables was necessary.

4.3.2.3 Possession of VRIO Project Management Assets

Finally, the results identify the *n* of cases that represent the level of possession of a particular project management asset. The combined suite of VRIO variables (Value, Rareness & Imitability) returned a possession ratio of 3:2 (*Parent*/*Partner* respectively), which is to be expected as the *parent* has formally implemented project management, whereas *partner* organisations are less

likely to fomulise project management practices. Table 4.4a-d presents counts *n* and percentage across the two disparate groups and collective LASIS.

Table 4.4a: VRIO valid and missing cases frequency counts (sample = 70, variables = 36)

	VRIO Value				**VRIO Rareness**				**VRIO Imitable**			
	Missing Cases		**Valid Cases**		**Missing Cases**		**Valid Cases**		**Missing Cases**		**Valid Cases**	
	Parent	**Partners**	**Parent**	**Partners**	**Parent**	**Partners**	**Parent**	**Partners**	**Parent**	**Partners**	**Parent**	**Partners**
Counts *n/n*	*21/312*	*173/528*	*291/312*	*355/528*	*20/312*	*212/528*	*292/312*	*316/528*	*32/312*	*261/528*	*280/312*	*267/528*
Percentage%	*6.73*	*32.77*	*93.27*	*67.23*	*6.41*	*40.15*	*93.59*	*59.85*	*10.26*	*49.43*	*89.74*	*50.57*

Table 4.4b: VRIO valid and missing cases – overall totals

	VRIO overall total per disparate group				**VRIO overall total for collective group**	
	Missing Cases		**Valid Cases**		**Missing Cases**	**Valid Cases**
	Parent	**Partners**	**Parent**	**Partners**	**Collective LASIS**	**Collective LASIS**
Counts *n/n*	*73/936*	*646/1584*	*863/936*	*938/1584*	*719/2520*	*1801/2520*
Percentage %	*7.80*	*40.78*	*92.20*	*59.22*	*28.53*	***71.47***

Table 4.4c: Organisational Support frequency counts (sample = 70, Variable =12)

Organisational Support overall total per disparate group				
	Missing Cases		**Valid Cases**	
	Parent	**Partners**	**Parent**	**Partners**
Counts *n/n*	*0/312*	*0/528*	*312/312*	*528/528*
Percentage %	*0*	*0*	*100*	*100*

Table 4.4d: Project/Firm Performance frequency counts (sample = 70, Variable =12)

Organisational Support overall total per disparate group				
	Missing Cases		**Valid Cases**	
	Parent	**Partners**	**Parent**	**Partners**
Counts *n/n*	*0/312*	*0/528*	*312/312*	*528/528*
Percentage %	*0*	*0*	*100*	*100*

4.3.2.4 Test of Reliability

Results from reliability tests across *n*=8 ordinal scale variables returned Cronbach's Alpha score of between .863 and .956, which is similar with Mathur et al., (2013, 2014) exploratory factor analysis study. However, though *n*=4 scales did report one item very slightly higher if deleted on item-total statistics matrix a good positive inter-item correlation relationship across all *n*=4 scales does support rationale for not removing the item from scale and therefore can compare with Mathur et al., (2013, 2014). Table 4.5 summarises the main information extracted from the reliability tests.

Table 4.5: Scale Reliability Tests

Description (including variables tested)	**Items *n***	**Results**	**Outcome [1]**	**Outcome [2]**
Test scale reliability of VRIO **Value (All 12 VRIO Value Variables)**	*n=12*	**Cronbach's Alpha .956** Excluded 34 cases		
Test scale reliability of VRIO **Rareness (All 12 VRIO Rareness Variables)**	*n=12*	**Cronbach's Alpha .901** Excluded 32 cases (2 minus scores on inter-item correlation matrix)	Not removing, need to compare with Mathur et al (2013 &2014) results	
Test scale reliability of VRIO **Imitable (All 12 VRIO Imitable Variables)**	*n=12*	**Cronbach's Alpha .946**		
Test scale reliability of Alignment of PM practices - organisational support	*n=3*	**Cronbach's Alpha .949** Excluded 40 cases (*n=1* item slightly higher if deleted on Item-total statistics matrix	Not removing, need to compare with Mathur et al (2013 &2014) results	inter-item correlation relationship (mean .86, range .81-.91
Test scale reliability of PM Communications - organisational support	*n=3*	**Cronbach's Alpha. 863** (*n=1* item slightly higher if deleted on Item-total statistics matrix)	Not removing, need to compare with Mathur et al (2013 &2014) results	Good inter-item correlation relationship (mean .67, range .57-.86

Test scale reliability of PM Integration in organisation - organisational support	*n=6*	**Cronbach's Alpha .953** (*n=1* item very slightly higher if deleted on Item-total statistics matrix)	Not removing, need to compare with Mathur et al (2013 &2014) results	Good inter-item correlation relationship (mean .77, range .64-.9
Test scale reliability of PM Performance (Project Level) - organisational support	*n=6*	**Cronbach's Alpha. 95** (*n=1* item very slightly higher if deleted on Item-total statistics matrix)	Not removing, need to compare with Mathur et al (2013 &2014) results	Good inter-item correlation relationship (mean .74, range .52-.87
Test scale reliability of PM Performance (Firm Level) - organisational support	*n=6*	**Cronbach's Alpha .955**		Good inter-item correlation relationship (mean .73, range .67-.9

Having reported the descriptive data and tests of normality and reliability the following sub-sections present statistical analysis to determine the degree of competitive advantage leveraged from project management assets and their impact on *project* and *firm* performance. Operationalising the VRIO framework (Barney, 1996; Barney & Wright, 1998) replicating Mathur et al., (2012, 2014) test criteria was necessary to test the three central research questions: *RQ1: Which project management asset endowments are valuable, rare, imitable and are organisationally supported across LASIS? RQ2: Which project management assets have the potential to leverage certain degrees of competitive advantage, and how is competitive advantage provided? RQ3: Which project management assets and organisationally supported processes and practices predict LASIS performance?*

First it was necessary to identify concealed themes from sixty questionnaire variables attributed across three meta-level themes of: i) valuable, rare and imitable project management assets; ii) organisational support; and, iii) *project* & *firm* performance. Factor analysis was conducted to identify the best-fit parsimonious solution (Pallant, 2013) and resulted in the identification of eleven factors across the three meta-level themes. The results whilst largely confirming with Mathur et al., (2014) identified two potential models in which the meta-level of 'organisational support' is either an independent variable along with valuables, rare and imitable assets, or a moderating variable impacting on valuable, rare and imitable assets. In either model, organisational support is an influencing factor to the dependant variables of *project* and *firm* performance. Secondly, linear and hierarchical regression was conducted to determine the predication value of each of the VRIO elements on the dependant variables of *project* and *firm* performance.

4.3.3 Factor Analysis

4.3.3.1 Reporting Structure

In the social sciences, latent-variables can be measured by reducing large data sets extracted from multiple variables into simplified information more easily to understand (Field, 2009). Principal component analysis (PCA) and factor analysis (FA) are statistical techniques which when applied to a set of variables identify correlating variables and combine into subsets which are largely independent from other subsets (Tabachnick & Fidell, 2014). Furthermore, Tabachnick & Fidell (2014) contend that the goal of PCA or FA is to illuminate the underlying processes from the

observed variables to operational the latent-variables definitions. Therefore, this section presents the rationale, structure and test data to address the following VRIO questions necessary to address the initial empirical analysis of two central research questions: RQ1 and RQ2.

1. Which project management assets provide endowments of valuable resources?
2. Which project management assets provide endowments of rare resource?
3. Which project management assets provide endowments of imitable resources?
4. What processes and practices provide the best endowment of organisational support?
5. Which assets leverage degrees of competitive advantage and how?

The results of the VRIO factor analysis will then be entered into regression analysis tests to identify the factors which predict LASIS performance, reported in 4.3.4 below, which addresses the third central research question: RQ3.

6. Which project management assets and organisational supported processes and practices predict *project* and *firm* level performance?

4.3.3.2 Rationale, PCA Assumptions and Scale Reliability Tests

Principal component analysis was conducted in preference to factor analysis as PCA decomposes the original data to establish linear components and the degree of contribution a variable may provide a component (Field, 2009). This method is favoured over FA to satisfy replication criteria of Mathur et al., (2014) and the issues of satisfying assumptions if underlying factors can be accurately estimated (Field, 2009). To answer the VRIO questions above, separate PCA was conducted on the three meta-levels of project management assets, organisational support and *project/firm* performance. Project management assets was further sub-divided and consisted of PCA for valuable, rare and imitable. The results identified eleven factors across the three meta-levels including six for project management assets, three for organisational support and two for *project/firm* performance. Observation of communalities across the eleven factors all returned values above 0.6 adhering with Field (2009) acknowledgement with MacCallum, Widaman, Zhang & Hong (1999) that this is perfectly adequate for a small sample <100. Therefore, absolute value factor loadings <.6 were suppressed, replicating Mathur et al., (2013 & 2014) and Stevens (2002) assertion that for small sample sizes (>50 but <100) factor loadings between 0.722 and 0.512 can be considered significant (cited in Field, 2009, p.644). The Kaiser-Mayer-Olkin measure of sample adequacy (KMO) is a test to verify sample size and whether sufficient correlation between variables is appropriate for factor analysis. All the KMO values returned >.7, which is well above the recommended .6 (Kaiser, 1974) and considered a good value (Field, 2009), which when combined with Bartlett's test of sphericity (all tests significant p.<.001) indicating that correlations between variable were sufficiently large for PCA.

Across all tests the orthogonal varimax rotation method was preferred base on the theoretical assumptions that the factors do not correlate, and the output is easier to interpret and report (Pallant, 2013). Factors with Eigenvalues >1 were selected and confirmed by unambiguous point of inflexion on scree plots. Factor loadings >.6 were retained due to the relatively small sample size and the percentage of variance explained ranged between 73.335% - 8.673% per factor and 83.547% - 71.80% accumulative.

Finally, having described and satisfied PCA assumptions and identified eleven factors across the three meta-levels it is necessary to report scale reliability for each of the eleven factors. Scale reliability is an important issue as it measures internal consistency of questionnaire items and refers to the degree in which scale items measure the same underlying construct (Pallant, 2013). Cronbach's alpha (α) with a value >.7 is the recognised method of measuring the reliability and internal consistency of a questionnaire scale (Field, 2009). However, much debate amongst scholars argue caution with this guideline particular Cortina (1993a) argues that sample size and number of scale items can influence α. Also, Cortina (1993b) makes a compelling argument to treat questionnaire subscales separately, which is the case for the three meta-level themes of project management assets, organisational support and *project/firm* performance.

Table 4.6: Cronbach's Alpha values for factor scales

Meta-Level Scales	**Project Management Assets**						**Organisational Support**			**Project/Firm Performance**		**All factors**
Sub-Scales	**Valuable**		**Rareness**		**Imitable**							
Factor	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	
Number of items	**7**	**4**	**7**	**3**	**5**	**3**	**6**	**3**	**3**	**6**	**6**	
Cronbach's Alpha	**.936**	**.865**	**.911**	**.882**	**.922**	**.847**	**.939**	**.948**	**.863**	**.955**	**.907**	**.907**

As can be observed from table 4.6 all factor values are >.84 with seven factors >.9. This is a positive outcome particular regarding the factors with only three items, which is considered the minimum number (Field, 2009).

The following section reports factor analysis results including descriptive data, PCA assumptions and factor loadings. Additionally, specific KMO values, Bartlett's test of sphericity, eigenvalues, percentage of variance explained, and Cronbach's Alpha are included. The sequence of results reported is based on the VRIO framework and follow Barney (1995) argument that resources which are valuable, rare, imitable and are organisational supported are more likely to be a source of sustained competitive advantage and therefore according to Mathur et al., (2014) demonstrate a relationship with performance outcomes. Finally, this section concludes with a definition for each of the eleven factors and introduces two alternative models to frame regression analysis. It should be noted that it was necessary to conduct several experimental tests to determine the best-

fit parsimonious solution for the project management assets 'imitable' subset. The rationale and decision-making process is presented in 4.3.3.3.4 below and summarised in tables 4.10 & 4.11.

4.3.3.3 Factor Analysis – VRIO: Project Management Assets

Separate PCA analysis was conducted to determine factors, which are valuable, rare and imitable. This approach replicates Mathur et al., (2013) study and acknowledges Pamulu (2010) problems associated with the ratio of response to questionnaire items not satisfying minimum sample size requirements. First descriptive statistics are reported in tables 4.7 - 4.9 below for each project management asset, which load onto a specific valuable, rare and imitable factor. The mean ($\overline{x}$), standard deviation (σ), number of cases and missing cases are reported and followed by a brief summary and conclusions of descriptive statistics. For imitable project management assets in addition to the descriptive statistics it is necessary to report the rational and decisions for selecting the best-fit parsimonious solution reported in tables 4.10 & 4.11. Finally, table 4.12 summarises the factor analysis results for valuable, rareness and imitable.

4.3.3.3.1 Descriptive Test Valuable

Table 4.7: Descriptive statistics VRIO Valuable

	Mean	Std. Deviation	Case *n*	Missing *n*
Printed project management materials	4.49	1.545	47	18
Project Management Databases	4.45	1.433	51	14
Project Management Computer Hardware	4.61	1.367	49	16
Project Management Computer Software	5.05	1.483	55	10
Project Management Methodologies	5.00	1.387	54	11
Project Management Job Shadowing	4.39	1.483	46	19
Project Management Templates	5.13	1.251	56	9
Project Management Personal Contacts	5.67	1.313	61	4
Project Management Communities if Practice	4.83	1.569	58	7
Project Management Office	5.33	1.401	54	11
Project Management Implicit Knowledge	5.50	1.142	62	3
Project Management Mentoring	4.89	1.437	53	12

All twelve VRIO valuable project management assets loaded onto a factor with a loading >.6. However, whilst *project management mentoring* was removed due to cross loading, the remaining eleven loaded assets returned an average mean (4.95), representing a mean response rate almost equivalent to 'Agree' on the 7 options Likert Scale.

4.3.3.3.2 Descriptive Tests Rareness

Table 4.8: Descriptive statistics VRIO Rareness

	Mean	Std. Deviation	Analysis *n*	Missing *n*
Project Management Computer Hardware	4.11	1.663	46	15
Project Management Computer Software	3.69	1.663	52	9
Project Management Methodologies	3.78	1.517	49	12
Project Management Job Shadowing	4.02	1.296	48	13
Project Management Templates	3.96	1.596	52	9
Project Management Personal Contacts	3.70	1.783	57	4
Project Management Communities if Practice	3.80	1.592	55	6
Project Management Office	3.78	1.645	50	11
Project Management Implicit Knowledge	3.88	1.680	57	4
Project Management Mentoring	4.10	1.432	52	9

Only ten rare VRIO project management assets loaded onto a factor with a loading >.6, which returned an average mean (3.88). This represents a mean response rate almost equivalent to 'neither agree or disagree' on the 7 options Likert Scale.

4.3.3.3.3 Descriptive Tests Imitable

Table 4.9: Descriptive statistics VRIO Imitable

	Mean	Std. Deviation	Analysis *n*	Missing *n*
Printed project management materials	3.66	1.109	41	15
Project Management Databases	3.93	1.295	42	14
Project Management Computer Hardware	3.59	1.264	41	15
Project Management Methodologies	3.37	0.951	46	10
Project Management Job Shadowing	3.52	1.067	44	12
Project Management Templates	3.46	1.051	48	8
Project Management Implicit Knowledge	4.06	1.274	52	4
Project Management Mentoring	3.67	1.108	45	11

Only eight imitable VRIO project management assets had a loading >.6, which returned an average mean (3.66). This represents a mean response rate between 'disagree' and 'neither agree or disagree' on the 7 options Likert Scale.

4.3.3.3.4 Best-Fit Parsimonious Solution - Imitable

The first factor analysis test highlighted three significant observations, which challenged the suitability of the resulting three extracted imitable factors. First, three variables (*personal contact*s, *project management printed materials* and *project management office*) do not correlate with several other variables returning many coefficients <.3 as observed from the correlation matrix output. Additionally, when considering the coefficients of the other eleven variables, the mean value for *personal contacts* (0.31), *project management office* (0.33), and *printed materials* (0.34) were low. When attempting to understand latent variables by reducing data sets to a more manageable size whilst retaining most of the data the value .3 is the acceptable minimum between variables (Field, 2009; Pallant, 2013; Tabachnick & Fidell, 2014). Second, whilst a cumulative rotated variance explained of 74.690% is a reasonably high model factor 3 is only loaded by one variable *PM personal contacts*. Finally, a mediocre (Field, 2009) Kaiser-Meyer-Olkin of sampling adequacy (KMO) .676 and five variables with anti-image correlation values of <.06 suggests the model is not the most parsimonious (Field, 2009). Therefore, to determine the best-fit model for VIRO Imitable project management assets additional tests were conducted comprising of one or more eliminated variables.

Table 4.10 below reports the additional tests and justification for acceptance or rejection, whilst table 4.11 below reports justification for accepting test [5] over test [1]. All tests applied the principle component analysis extraction method and varimax with Kaiser normalisation rotation method.

Table 4.10: VRIO Imitable tests – summary and first accept/reject decision

Test	KMO	R-Matrix >.00001	Residuals >.05 as a % of total	Variance (Total & cumulative) after rotation	Number of loaded variables	Factor Scale Alpha	Comments	Initial Decision Accept Reject
[1] All 12 variables	.676	0.00001533	37%	Total: 74.690 Factor 1: 38.792 Factor 2: 24.167 Factor 3: 11.731	 Factor 1: 6 Factor 2: 3 Factor 3: 1	Total: .946 Factor 1: .926 Factor 2: .846 Factor 3: N/A	Relatively low KMO, marginal R-matrix and only one variable loaded on third factor.	**Accept**
[2] Personal Contacts removed	.678	.00008139	49%	Total: 68.452 Factor 1: 41.512 Factor 2: 26.940	 Factor 1: 6 Factor 2: 4	Total: .945 Factor 1: .926 Factor 2: .815	Very high levels of residuals	Reject
[3] Project Office removed	.702	.00003455	30%	Total: 78.750 Factor 1: 36.467 Factor 2: 27.528 Factor 3: 14.756	 Factor 1: 5 Factor 2: 4 Factor 3: 2	Total: .941 Factor 1: .922 Factor 2: .866 Factor 3: .719	Project management materials load across factors 2 & 3, therefore removal of variable reduces total variance explained (63.94) below when personal contacts removed test. Materials variable loads onto factor 2 in [1] and [2]	Reject
[4] Printed materials removed	.645	.00007397	49%	Total: 75.44 Factor 1: 41.940 Factor 2: 16.945 Factor 3: 16.556	 Factor 1: 7 Factor 2: 2 Factor 3: 2	Total: .934 Factor 1: .943 Factor 2: .757 Factor 3: .632	Very high levels of residuals and relatively low KMO. Also, factors 2 & 3 have only two loaded variables	Reject
[5] Personal Contacts and Project Office removed	.700	.00001	44%	Total: 72.299 Factor 1: 42.991 Factor 2: 29.308	 Factor 1: 5 Factor 2: 3	Total: .923 Factor 1: .922 Factor 2: .847	High level of residuals and marginal R-Matrix.	**Accept**
[6] Personal contacts and printed materials removed	.744	.00001	51%	Total: 69.575 Factor 1: 47.203 Factor 2: 22.372	 Factor 1: 7 Factor 2: 2	Total: .930 Factor 1: .901 Factor 2: .754	Very high levels of residuals grounds for concern (Field, 2009), also, only two variables load on factor 2	Reject
[7] Personal contact and printed materials removed	.680	.00001	48%	Total: 70.067 Factor 1: 46.398 Factor 2: 23.668	 Factor 1: 8 Factor 2: 2	Total: .926 Factor 1: .929 Factor 2: .632	Relatively low KMO, high levels of residuals, only two variables load on factor 2	Reject
[8] All three variables removed	.756	.00001	52%	Total: 62.916	Factor 1: 9	Total: .931	Very high levels of residual grounds for concern (Field, 2009) and only one factor extracted	Reject

The rationale for accepting test [5] *Personal Contacts* and *Project Management Office* removed over test [1], reported in table 4.11 below. All twelve variables are based on the relatively higher total variance explained from the two-factor solution and the *good* (Field, 2009) KMO value. Additionally, whilst the variable *communities of practice* are removed from test [5] *Personal Contacts* removed (marginally <.06 and cross loading both factors) the two-factor solution loads the same variables onto the two factors in both test [1] and [2] but returns a relatively better total variance explained ([5] 72.299, [1] 69.587).

Table 4.11: VRIO Imitable tests – Acceptable tests summary and final accept/reject decision

Test	Factor loadings (Variables loaded onto factor)	Other significant relevant information	Final Decision
[1] All 12 variables	Factor 1: Shadowing, templates, mentoring, methodologies, implicit knowledge and communities of practice. Factor 2: Project mgt printed materials, databases and hardware. Factor 3: Personal contacts.	Removal of single variable (personal contacts) loaded on factor 3 only marginally increased KMO (.678) whilst reducing the total variance explained (68.452) – refer test [2] Personal Contacts removed. To compare like for like with test [5], removal of variable communities in practice (factor 1) increases KMO .722, identical residuals whilst returning a reduces total variance explained (69.587%). Average communalities of all twelve variables after extraction .747	Reject
[5] Personal Contacts and Project Office removed	Factor 1: Shadowing, templates, mentoring, methodologies and implicit knowledge. Factor 2: Project mgt printed materials, databases, and hardware.	Whilst communities of practice load on to factor 1 and is marginally <.6 (.585) it loads across both extracted factors (factor 2 .529), therefore variable removed for cross-loading. Average communalities of ten variables after extraction .723	**Accept**

4.3.3.3.5 Factor Analysis Results: VRI

Table 4.12 reports the final results in which specific project management assets are loaded across two factors for each valuable, rare and imitable characteristic of competitive advantage. It is noted that only factor 4 consists of all intangible assets, whilst all other factors are loaded with both tangible and intangible assets.

Table 4.12: Summary of VRIO tests and loading values across extracted factors

	Valuable PM Assets		**Rare PM Assets**		**Imitable PM Assets**	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.886		0.817		0.701	
Bartlett's Test of Sphericity	Chi-square 366.810 df 66 Sig .000		Chi-square 356.786 df 45 Sig .000		Chi-square 267.527 df 45 Sig .000	
R-matrix >0.00001	0.00002951		0.001		0.001	
Extraction Method	Principle Component Analysis		Principle Component Analysis		Principle Component Analysis	
Rotation Method	Varimax with Kaiser Normalisation		Varimax with Kaiser Normalisation		Varimax with Kaiser Normalisation	
Comments	Removed Mentoring: cross-loaded against both factors		Removed PM Databases and Printed Materials: low correlations and high percentage of non-redundant residuals with absolute values >.05		Removed Personal Contacts and Project Office: low correlations and high percentage of non-redundant residuals with absolute values <.05	
Average mean value of variable data **Mean Communalities Value (% of shared variance)**	4.95 (all variables) .719		3.88 (10 variables) .745		3.62 (10 variables) .795	
Theme Descriptor	**Factor 1** Impart Project Knowledge	**Factor 2** Share Knowledge Based Processes	**Factor 3** Document Formal Project Management Knowledge and Processes	**Factor 4** Development of Individual Intangible Knowledge	**Factor 5** Embedded Assets	**Factor 6** Embedded Codified Proprietary Tangible Assets
PM Asset						
Printed project management materials		**.783**				**.892**
Project Management Databases		**.867**				**.780**
Project Management Computer Hardware		**.747**	**.816**			**.746**
Project Management Computer Software	**.637**		**.730**			
Project Management Methodologies	**.776**		**.749**		**.767**	
Project Management Job Shadowing	**.741**		**.788**		**.865**	
Project Management Templates	**.892**		**.721**		**.856**	
Project Management Personal Contacts	**.666**			**.900**		
Project Management Communities of Practice		**.703**		**.809**		
Project Management Office	**.890**		**.662**			
Project Management Implicit Knowledge	**.725**			**.821**	**.771**	
Project Management Mentoring			**.645**		**.847**	
Eigenvalue after rotation	**4.880**	**3.743**	**4.038**	**3.416**	**4.299**	**2.931**
% of Variance Explained	**40.67%**	**31.19%**	**40.377%**	**34.157%**	**42.991%**	**29.308%**
Cronbach's Alpha	**.936**	**.865**	**.911**	**.882**	**.922**	**.847**

4.3.3.4 Factor Analysis – VRIO: Organisational Support

PCA analysis was conducted to determine factors, which provide organisational support. This approach replicates Mathur et al., (2013) study and acknowledges Pamulu (2010) problems associated with the ratio of response to questionnaire items not satisfying minimum sample size requirements. First descriptive statistics are reported in table 4.13 below including the mean ($\overline{x}$), standard deviation (σ), number of cases and missing cases are reported and followed by a brief summary and conclusions of descriptive statistics. Finally, table 4.14 summarises the factor analysis results for organisational support.

4.3.3.4.1 Descriptive Test Organisational Support

Table 4.13: Descriptive statistics VRIO Organisational Support

	Mean	Std. Deviation	Analysis *n*	Missing *n*
Organisations Alignment of Project Management Practices with Organisations Mission, Aims and Objectives	5.40	1.356	70	0
Organisations Alignment of Project Management Practices with Organisations Services it Delivers	5.44	1.326	70	0
Organisations Alignment of Project Management Practices with Organisations Products it Offers	5.29	1.374	70	0
Project Management Communications: upwards in the project hierarchy	5.26	1.348	70	0
Project Management Communications: upwards in the organisations hierarchy	5.30	1.387	70	0
Project Management Communications: openly on the project	5.69	1.057	70	0
Integration of Project Management in Organisations: Upper Management	5.17	1.351	70	0
Integration of Project Management in Organisations: People trust each other	5.17	1.215	70	0
Integration of Project Management in Organisations: People work well together	5.33	1.018	70	0
Integration of Project Management in Organisations: Environment encourages learning	5.27	1.154	70	0
Integration of Project Management in Organisations: Encourages sharing knowledge and information	5.36	1.091	70	0
Integration of Project Management in Organisations: Leadership is supportive and encourages effective working relationships	5.47	1.259	70	0

With exception of one (openly on the project .587) all other organisational support variables loaded onto a factor with a loading >.6, which returned an average mean (5.35). This represents a mean response rate near the midpoint between 'agree' and strongly agree' on the 7 options Likert Scale.

4.3.3.4.2 Factor Analysis Results: Organisational Support

Table 4.14 reports the final results in which specific organisational support project management processes and practices are loaded across three factors of integration, alignment and communications.

Table 4.14: Summary of VRIO tests and loading values across organisational support extracted factors

	Organisational Support		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.781		
Bartlett's Test of Sphericity	Chi-square 834.561 df 66 Sig .000		
R-matrix >0.00001	0.00001		
Extraction Method	Principle Component Analysis		
Rotation Method	Varimax with Kaiser Normalisation		
Comments	All variables included		
Average mean value of variable data	5.35 (all variables)		
Mean Communalities Value (% of shared variance)	0.835		
Theme Descriptor	**Factor 7 Project Management Integration**	**Factor 8 Project Management Alignment**	**Factor 9 Project Management Communications**
Variable			
Organisations Alignment of Project Management Practices with Organisations Mission, Aims and Objectives		**.910**	
Organisations Alignment of Project Management Practices with Organisations Services it Delivers		**.952**	
Organisations Alignment of Project Management Practices with Organisations Products it Offers		**.941**	
Project Management Communications: upwards in the project hierarchy			**.948**
Project Management Communications: upwards in the organisations hierarchy			**.920**
Project Management Communications: openly on the project			**.587**
Integration of Project Management in Organisations: Upper Management	**.720**		
Integration of Project Management in Organisations: People trust each other	**.897**		
Integration of Project Management in Organisations: People work well together	**.851**		
Integration of Project Management in Organisations: Environment encourages learning	**.869**		
Integration of Project Management in Organisations: Encourages sharing knowledge and information	**.913**		
Integration of Project Management in Organisations: Leadership is supportive and encourages effective working relationships	**.830**		
Eigenvalue after rotation	**4.659**	**2.865**	**2.502**
% of Variance Explained	**38.823%**	**23.877%**	**20.847%**
Cronbach's Alpha	**.939**	**.948**	**.863**

Organisational strategic resources must have organisational support to leverage degrees of competitive advantage (Barney, 1991), similarly project management assets must benefit from

strong management processes and systems to support the assets (Jugdev et al., 2007, p 561), going on to argue that the organisational support characteristic acts as a moderating variable to competitive advantage from VRI project management assets and the project management process (Jugdev, et al., 2011). Thus, the degree of competitive advantage leveraged is conditional on the degree of organisational support, expressed as project management alignment, integrations and communications.

4.3.3.5 Factor Analysis – VRIO: Project and Firm Performance

PCA analysis was conducted to determine *project* and *firm* level performance factors. This approach replicates Mathur et al., (2013) study and acknowledges Pamulu (2010) problems associated with the ratio of response to questionnaire items not satisfying minimum sample size requirements. First descriptive statistics are reported in table 4.15 below including the mean ($\overline{x}$), standard deviation (σ), number of cases and missing cases are reported and followed by a brief summary and conclusions of descriptive statistics. Finally, table 4.16 summarises the factor analysis results for *project* and *firm* level performance.

4.3.3.5.1 Descriptive Tests Project and Firm Level Performance

Table 4.15: Descriptive statistics project and firm performance

	Mean	Std. Deviation	Analysis *n*	Missing *n*
Project Performance (Project): Customer Expectations	4.99	1.056	70	0
Project Performance (Project): Scope Requirements	5.09	1.004	70	0
Project Performance (Project): Project Schedule	4.90	1.024	70	0
Project Performance (Project): Project Costs	4.74	1.045	70	0
Project Performance (Project): Quality Expectations	5.00	1.036	70	0
Project Performance (Project): Measure the social impact from individual projects	4.56	1.125	70	0
Project Performance (Firm): Sustainable Funding	4.66	.976	70	0
Project Performance (Firm): Sustainable supply of customers	4.59	.970	70	0
Project Performance (Firm): Customer Satisfaction	4.96	.924	70	0
Project Performance (Firm): Continuous Improvement	5.13	.992	70	0
Project Performance (Firm): Continuous Innovation	5.09	1.073	70	0
Project Performance (Firm): Develop Sustainable Communities	4.99	1.097	70	0

With exception of one (measure the social impact from individual projects .581) all other performance variables loaded onto a factor with a loading >.6, which returned an average mean (4.89). This represents a mean response rate almost equivalent to 'Agree' on the 7 options Likert Scale.

4.3.3.5.2 Factor Analysis Results: Performance

Table 4.16 reports the final results in which specific performance criterion load across *project* level and *firm* level performance factors.

Table 4.16: Summary of VRIO tests and loading values across performance extracted factors

	Performance	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.937	
Bartlett's Test of Sphericity	Chi-square 979.366 df 66 Sig .000	
R-matrix >0.00001	0.00001	
Extraction Method	Principle Component Analysis	
Rotation Method	Varimax with Kaiser Normalisation	
Comments	All variables included	
Average mean value of variable data	4.89 (all variables)	
Mean Communalities Value (% of shared variance)	0.820	
Theme Descriptor	**Factor 10 Project Performance**	**Factor 11 Firm Performance**
Variable		
Project Performance (Project): Customer Expectations	**.828**	
Project Performance (Project): Scope Requirements	**.845**	
Project Performance (Project): Project Schedule	**.851**	
Project Performance (Project): Project Costs	**.877**	
Project Performance (Project): Quality Expectations	**.745**	
Project Performance (Project): Measure the social impact from individual projects	**.581**	
Project Performance (Firm): Sustainable Funding		**.768**
Project Performance (Firm): Sustainable supply of customers		**.827**
Project Performance (Firm): Customer Satisfaction		**.775**
Project Performance (Firm): Continuous Improvement		**.840**
Project Performance (Firm): Continuous Innovation		**.841**
Project Performance (Firm): Develop Sustainable Communities		**.830**
Eigenvalue after rotation	**4.743**	**5.098**
% of Variance Explained	**39.525%**	**42.483%**
Cronbach's Alpha	**.907**	**.955**

Including the additional variable 'measure the social impact from individual projects', all other project management process variables load on to the *project* level factor, confirming Jugdev et al., (2011) study. Similarly, the project success variables all load onto the *firm* level factor, whilst replicating Jugdev et al., (2011) study, the actual variable questions were phrased to reflect the nature of LASIS strategic objectives. However, notwithstanding the contextual nuanced terminology the results are comparable with demonstrating *firm* level performance.

Having reported the VRIO and performance actor analysis results the next subsection presents the researchers evaluation of each factor and two models that emerged from the analysis.

4.3.3.6 Factor Definitions and Descriptors

The variables that loaded onto the three organisational support factors and two performance factors replicated Jugdev et al., (2011), Mathur et al., (2013, 2014), and Perkins et al., (2018) studies. However, whilst broadly the same there were some differences between variables loaded onto the valuable, rareness and imitable factors in comparison with the previous studies. For this reason, it was necessary to redefine the definitions and descriptions for all value, rare and imitable factors whilst retaining Mathur et al., (2013, 2014) definitions and descriptions for the organisational support and performance factors.

4.3.3.6.1 Definitions and Descriptors

Table 4.17 presents the factor definitions and descriptors with the number of items loaded onto each factor.

Table 4.17: Factor definitions and descriptions

	Number of Items	Definition and description
Valuable Factor 1	7	**Impart Project Management Knowledge** (processes and assets which capture and disseminate project management knowledge)
Valuable Factor 2	4	**Share Knowledge Based Process** (processes and assets which enable application and sharing of this knowledge)
Rareness Factor 3	7	**Document Formal Project Management Knowledge** (processes and assets which document and facilitate sharing this project management knowledge)
Rareness Factor 4	3	**Development of Individual Project Knowledge** (processes which enable development of this tacit project management knowledge)
Imitable Factor 5	5	**Embedded assets** (assets which are embedded in a company's routines and relationships and are therefore hard for competitors to imitate)
Imitable Factor 6	3	**Embedded Codified Proprietary Tangible Assets** (tangible assets which embody codified knowledge that is company-specific or proprietary and therefore hard to copy)
Organisational Support Factor 7	6	**Project Management Integration (**the degree of management support & leadership and how this impact on project team and team member working environment and relationships)
Organisational Support Factor 8	3	**Project Management Alignment** (the degree project management practices align with the organisations mission, aims & objectives and the delivery of services and products the organisations offer)
Organisational Support Factor 9	3	**Project Management Communications** (the degree to which the organisations' staff have the freedom of timely and effective communications)
Performance Factor 10	6	**Project Performance** (the degree to which project management practices achieve project management process success (time, cost, quality, scope) and project success (customer expectations and measurement of social impact))
Performance Factor 11	6	**Firm Performance** (the degree to which project management practices achieve organisational performance (innovation, continuous improvement, customer satisfaction, sustainable funding and development of sustainable communities))

4.3.3.6.2 Factor Analysis Empirical Models

Based on literature two empirical models are presented to underpin the structure for regression analysis. The first model [1] suggests that that all VRIO characteristics (value, rare, imitable and organisational support) are independent variables, and the two performance characteristics the dependant variables; or as Field (2009) argues for cross-sectional research variables like this doctoral study, predictor and outcome variables (p.7). This first model illustrated in figure 4.1 below, assumes that all VRIO conditions must be satisfied (Barney, 1991) before these predictor variables (VRIO) cause a change in the outcome variables (*project* or *firm* level performance). Whereas, the second model [2] suggests that whilst the VRI characteristics (value, rare and imitable) are the predicator variables, organisational support acts as a moderating variable (Jugdev et al., 2011) on the VRI characteristics, and thus may further moderate a change in the outcome variables (*project* and *firm* level performance).

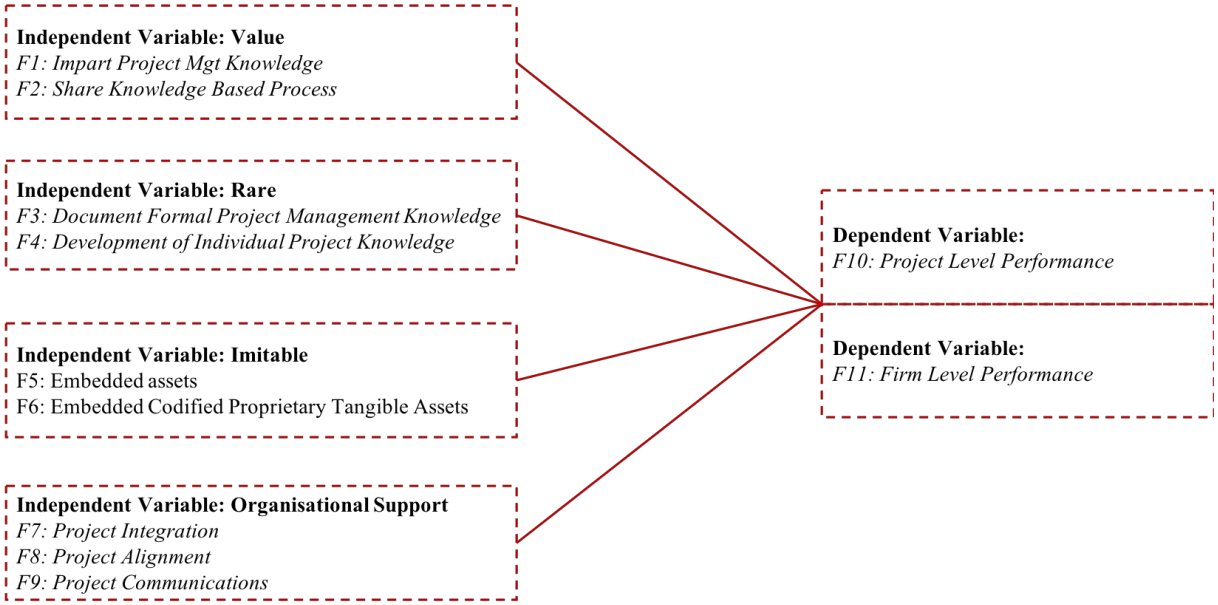

Figure 4.1: Model [1]F1-9 Independent Variables, F10, F11 Dependant Variables

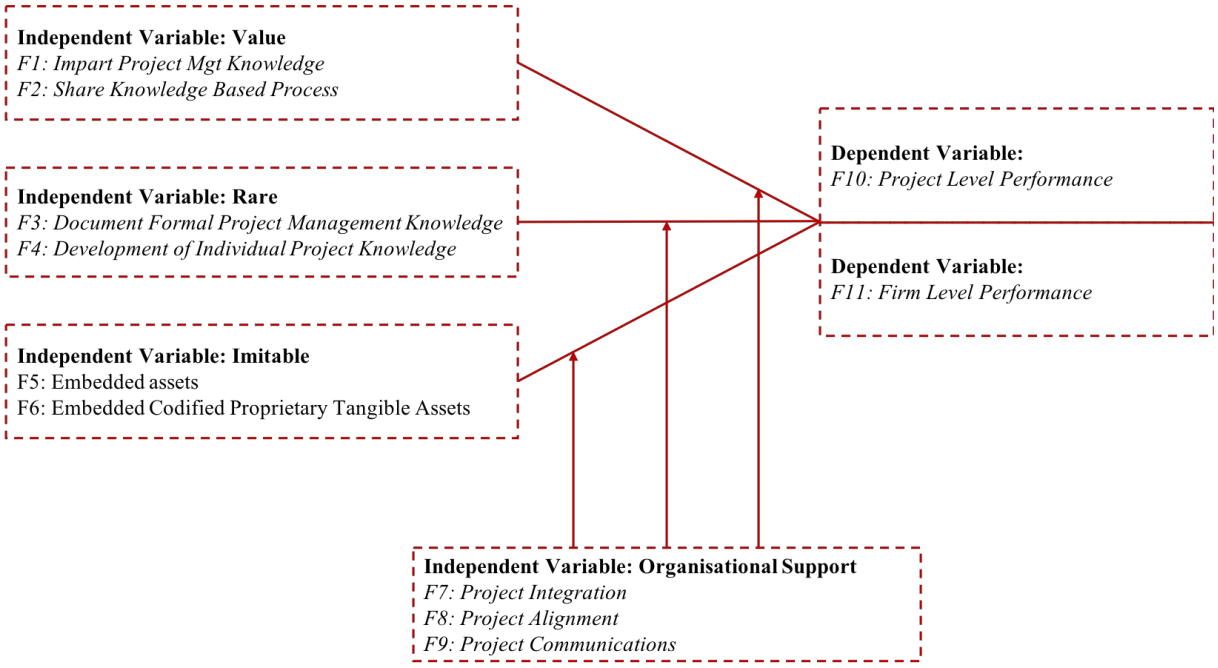

Figure 4.2: Model [2] F1-6 Independent Variables, F7-F9 Moderating Variables, F10, F11 Dependant Variables

In this section factor analysis reduction techniques identified the specific endowment of project management assets which loaded onto eleven factors, which enabled the researcher to develop two literature based empirical models. The next section will apply these models to structure the order of input for regression analysis to determine the degree of variance and relationship between the independent/predictor and moderating variables and the dependent/outcome variables of *project* performance and *firm* performance.

4.3.4 Regression Analysis

4.3.4.1 Introduction

Linear and multiple regression analysis is a statistical technique that predicts the values of a dependant variable from one or more independent variables (simple regression for single variable, multiple regression for several variables) Field (2009). Additionally, hierarchical regression is a method, which allows the experimenter to decide the order in which factors are entered into the model, usually based on sound theoretical evidence from extant literature. Thus, hierarchical regression analysis is an appropriate technique as it is commonly accepted that a resource or asset need organisational support to leverage its potential (Barney, 1991); a resource needs to contribute economic value in order to contribute to competitiveness, a valuable resource needs to be rare in order to have competitive advantage and a valuable and rare resource needs to be imitable to leverage sustained competitive advantage (Barney, 2007 & Mathur et al., 2013 & 2014). Before hierarchical regressions analysis was conducted it was necessary to determine the relationships between single factors across the four VRIO themes and each of the two dependant variables of *project* performance and *firm* performance. Therefore, multiple linear regression analysis was conducted to identify the degree of contribution from organisational support, valuable, rareness and imitable characteristics and the significance of each factor.

4.3.4.2 Reporting Assumptions

When reporting multiple regression and hierarchical regression analysis it is necessary to satisfy multicollinearity, normality and linearity assumptions (Field, 2009; Tabachnick & Fidell, 2014). Multicollinearity exists when there is a strong relationship between two or more predictor variables in a model, it is important that the sample has normal distribution (normality) and that the sample is evenly distributed (linearity).

Multicollinearity is a result when there is a strong correlation between two or more variables and thus can impact on the significance of the variables and thus reduces the validity of the results (Field, 2009, p.223). Several indicators of multicollinearity are available to experimenters when assessing this assumption. Field (2009) states a 'ball park' value of <.10 for the variance inflation factor (VIF) and a tolerance value of <.01 is a serious problem, though others suggest values <.2 is a worry (Menard, 1995, cited in Field, 2009). Another 'rule of thumb' indicator of multicollinearity are correlation coefficient values >.09. In this study factor analysis models [1] and [2] satisfy multicollinearity assumptions, as illustrated in table 4.18 below.

Table 4.18: Correlation Coefficients between extracted factors

Variable	PP	FP	OS1	OS2	OS3	V1	V2	R1	R2	I1	I2
PP	1										
FP	.805**	1									
OS1	.598**	.668**	1								
OS2	.465**	.530**	.303*	1							
OS3	.514**	.411**	.496**	.303*	1						
V1	.478**	.265*	.251*	.318**	.591**	1					
V2	.442**	.224	.176	.268*	.479**	.709**	1				
R1	-.057	.196	-.005	.185	-.124	-.300*	-.082	1			
R2	-.018	.094	-.093	.139	.067	-.134	.064	.759**	1		
I1	.422**	.435**	.270	.264	.450**	.171	.266	-.024	.155	1	
I2	.172	.186	.129	.189	.304*	.164	.026	.104	.105	.304*	1

Significance levels: *p≤ .05, **p≤ .01 all two-tailed

Test of normality and linearity can be evaluated by observation of SPSS outputs 'normality histograms', 'normal P-P plot of regression standardised residuals' and 'scatter plot test of linearity and homoscedasticity'. The histogram should display a normal distribution, whilst the P-P plot of regression standardised residuals should display a reasonable straight diagonal line from bottom left to top right with individual residuals very close to the line, and finally the scatter plot of linearity and homoscedasticity should display most of the residuals around the zero value with outliners beyond the points +2 and -2 range (Field, 2009). On inspection of SPSS outputs for factor analysis models [1] & [2] the tests of normality and linearity are satisfied and do not violate these assumptions and therefore provide confidence that the results are valid and reliable.

4.3.4.3 Naming Convention and Descriptive Tests

Before reporting multiple and hierarchical regression analysis results it is necessary to standardise the naming convention. Based on the factor analysis definition above (table 4.17), table 4.19 aligns the short and long name with factor number and definition. The short name will be applied for reporting results and in the subsequent Discussion and Conclusion chapters.

Table 4.19: Naming convention for factor definition

Short Name	**Long Name**	**Factor Number**	**Factor Definitions**
PP:	Project Performance	F10	Project Performance
FP:	Firm Performance	F11	Firm Performance
OS1:	Organisational Support - Integration	F7	Project Management Integration
OS2:	Organisational Support - Alignment	F8	Project Management Alignment
OS3:	Organisational Support - Communications	F9	Project Management Communications
V1:	VRIO - Value	F1	Impart Project Management Knowledge
V2:	VRIO - Value	F2	Share Knowledge Based Process
R1:	VRIO - Rare	F3	Document Formal Project Management Knowledge
R2:	VRIO - Rare	F4	Development of Individual Intangible Knowledge
I1:	VRIO - Imitable	F5	Embedded Assets
I2:	VRIO - Imitable	F6	Embedded Codified Proprietary Tangible Assets

Finally, table 4.20 reports the descriptive tests for the composite factor subscales, including the mean ($\overline{x}$), standard deviation (σ) and the number *n* of cases.

Table 4.20: Descriptive statistics for composite factor subscales

	Mean	Standard Deviation	*n*
PP	4.8786	.93807	70
FP	4.9000	.91040	70
OS1	5.2952	1.03761	70
OS2	5.3762	1.28652	70
OS3	5.4143	1.12709	70
V1	5.1264	1.17421	65
V2	4.6431	1.28075	60
R1	4.0275	1.33026	59
R2	3.9111	1.58247	60
I1	3.6888	.95137	52
I2	3.8021	1.20659	48

Having reported the regression analysis assumptions and the composite subscales descriptive test the next subsections report on the multiple and hierarchical regression analysis results and present four researcher developed empirical models.

4.3.4.4 Multiple Regression Analysis Results and Empirical Models

Multiple linear regression analysis was first conducted to identify the degree of contribution between the organisational support, valuable; rareness; and imitable factors and the two performance dependant variables of *project* and *firm* performance level factor; and the significance of each factor.

4.3.4.4.1 Project Level Performance

Looking first at *Project* Performance: organisational support processes and practices explain 48.6%, valuable assets explained 20.4%, rare assets explained 1.1%, and imitable assets explained 20.9% of variance in project performance. The most significant predictors of *Project* Performance are Project Management Integration (OS1), Project Management Alignment (OS2), Project Management Communications (OS3), Knowledge Based Process (V2) and Embedded Intangible Assets (I1). Whilst Formal Project Management Knowledge (R1) appears to be a negative predictor and thus is not significant.

Table 4.21: Results of Multiple Linear Regression for individual factor definitions predicating Project Performance

OS1	**.399*****			
OS2	**.273****			
OS3	**.234***			
V1		.122^{ns}		
V2		**.347***		
R1			-.154 ^{ns}	
R2			.148 ^{ns}	
I1				**.405****
I2				.122
Total R^2	.486	.204	.011	.209
Adjusted R^2	.462	.176	-.148	.172
df1, df2	3,66	2,57	2,55	2,43

Significance levels: ^{ns}not sig, *p≤ .05, **p≤ .01, ***p≤ .001all one-tailed

The visual representation of the empirical results is presented in figure 4.3 below. The model illustrates the individual R^2 contributions for the three VRIO characteristics (Value, Imitable,

Organisational Support) and the total R^2 these significant factors contribute to project performance level.

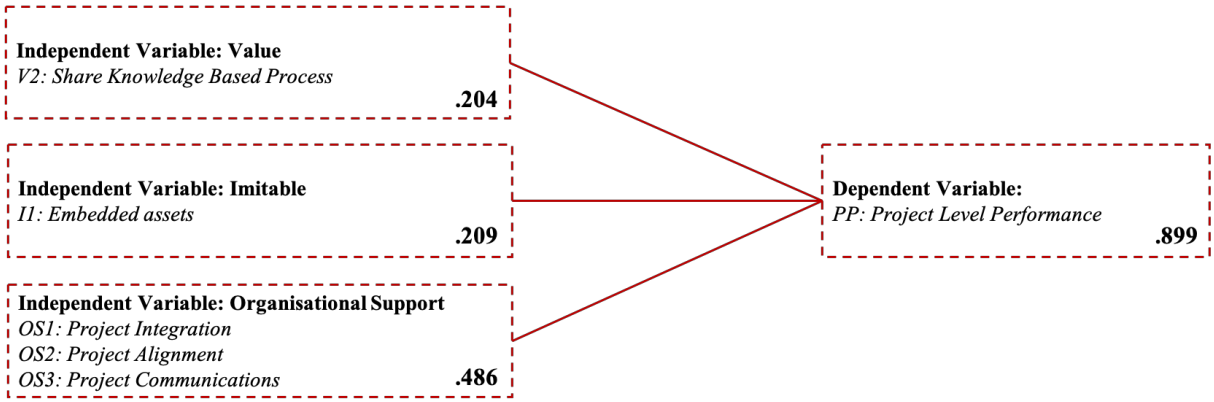

Figure 4.3: RA Model[1] Organisational Support and certain valuable and imitable assets affects project performance

4.3.4.4.2 Firm Level Performance

Looking at *Firm* Performance: organisational support assets explained 56.5%, valuable assets explained 5.5%, rare assets explained 4.9% and imitable assets explained 25.7% of variance in performance. The most significant predictors of *Firm* Performance are Project Management Integration (OS1), Project Management Alignment (OS2) and Embedded Assets (I1). Whilst Impart Project Management Knowledge (V1) and Development of Individual Intangible Knowledge (R2) appear to be a negative predictor and thus are not significant.

Table 4.22: Results of Multiple Linear Regression for individual factor definitions predicating Firm Performance

OS1	**.544*****			
OS2	**.354*****			
OS3	.034^{ns}			
V1		-.102^{ns}		
V2		.296^{ns}		
R1			.206^{ns}	
R2			-.279^{ns}	
I1				.449**
I2				.137^{ns}
Total R^2	.565	.055	.049	.257
Adjusted R^2	.545	.022	.014	.223
df1, df2	3,66	2,57	2,55	2,43

Significance levels: ^{ns}not sig, *p≤ .05, **p≤ .01, ***p≤ .001all one-tailed

The visual representation of the empirical results is presented in figure 4.4 below. The model illustrates the individual R^2 contributions for the two VRIO characteristics (Imitable and Organisational Support) and the total R^2 these significant factors contribute to project performance level.

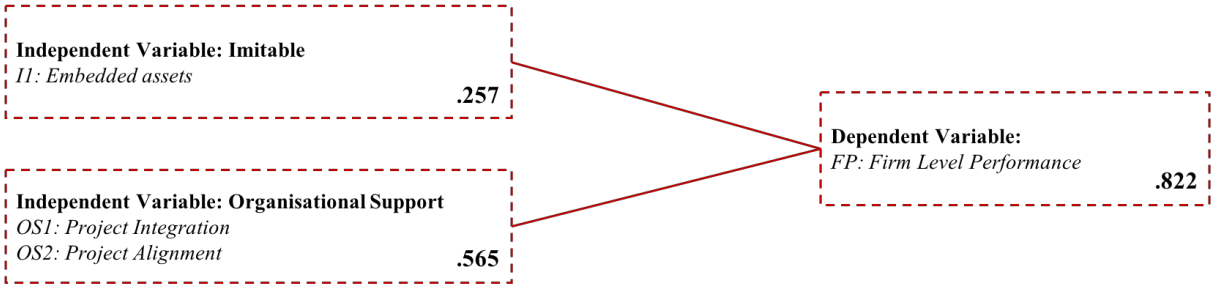

Figure 4.4: RA Model[2] Organisational Support and certain imitable assets affects firm performance

4.3.4.5 Hierarchical Regression Analysis

Hierarchical regression analysis was conducted by entering blocks of factors one at a time in the order of organisational support (OS) block, followed by block value (V), block rare (R) and block imitable (I). For factor analysis models [2] multicollinearity, normality and linearity assumptions were respected and reported above. Therefore, the following section presents the statistical values and best-fit model for *Project* Performance and *Firm* Performance factor analysis models [2] above.

4.3.4.5.1 Project Level Performance

First looking at *Project* Performance, it is observed that collectively OS,V,R,I explain 56.9% of the variance of the dependant variable PP. With assets that are organisationally support explaining 48.6% of the variance, assets that are valuable and organisationally supported explain a further 5.4%. Rare assets controlled by organisational support and valuable add an additional 0.2% of variance. Finally, imitable assets controlling organisational support, valuable and rare explain a further 2.7% of variance. The only significant predictors of *Project* Performance are Project Management Integration (OS1) and Project Management Alignment (OS2), whilst model 1 is the best fit parsimonious model contributing .486 of total variance.

Table 4.23: Results of Hierarchical Regression Analysis for Organisational Support, Value, Rare and Imitable independent variables predicting the dependant variable Project Performance

	Model 1	Model 2	Model 3	Model 4
OS1	**.399****	**.431****	**.443****	**.424****
OS2	**.279***	.237	.237	.200
OS3	.234	.055	.055	-.020
V1		.131	.110	.181
V2		.180	.186	.141
R1			-.083	-.190
R2			.052	-.006
I1				.197
I2				-.005
ΔR^2	.486	.054	.002	.027
Total ΔR^2	.486	.540	.542	.569
Adjusted ΔR^2	449	.582	.457	.460
df1, df2	2,42	2,40	2,38	2,36

Significance levels: *p≤ .05, **p≤ .01, all one-tailed, Standardised regression coefficients (β) are shown

The visual representation of the empirical results is presented in figure 4.5 below. The model illustrates the individual R^2 contributions for the VRIO characteristic Organisational Support, and the total R^2 these significant factors contribute to *firm* performance level.

Figure 4.5: RA Model[3]Organisational Support affects Project Performance

When moderated by organisational support there is no additional explained variance to *Project* Performance from valuable, rare and imitable factors. A possible explanation is that though LASIS individually (*parent*, *partner*) may have an history of strategy design and implementation based on a sound foundation and practical experience of wider management integration and alignment, they are unconscious to the notion of competitive advantage from the exploitation of strategic assets. Thus, LASIS may have an ambivalent attitude towards project management as a strategic discipline, though the *parent* organisation has recognised the value of project management and are developing their project management assets and associated processes and practices. This notional evaluation will be extensively explored in the subsequent discussion and conclusion chapters below.

4.3.4.5.2 Firm Level Performance

Looking at *Firm* Performance: it is observed that collectively OS,V,R,I explained 64.2% of the variance of the dependant variable FP. With assets that are organisationally support explaining 56.5% of the variance, assets that are valuable and organisationally supported explain a further 0.1%. Rare assets controlled by organisational support and valuable add an additional 2.2% of variance. Finally, imitable assets controlling organisational support, valuable and rare explain a further 5.4% of variance. The most significant predictors of *Project* Performance are Project Management Integration (OS1) Project Management Alignment (OS2) and Embedded Assets (I1), whilst model 4 is the best fit parsimonious model contributing .642 of total variance.

Table 4.24: Results of Hierarchical Regression Analysis for Organisational Support, Value, Rare and Imitable independent variables predicting the dependant variable Firm Performance

	Model 1	Model 2	Model 3	Model 4
OS1	**.544****	**.546****	**.535****	**.505****
OS2	**.354****	**.354****	**.303***	**.252***
OS3	.034	.033	.045	-.052
V1		-.032	.059	.168
V2		.040	.005	-.068
R1			.201	.302
R2			-.046	-.133
I1				**.285***
I2				.041
ΔR^2	.565	.001	.022	.054
Total ΔR^2	.565	.566	.588	.642
Adjusted ΔR^2	.534	.412	.513	.522
df1, df2	3,42	2,40	2,38	2,36

Significance levels: *p≤ .05, **p≤ .01, all one-tailed, Standardised regression coefficients (β) are shown

The visual representation of the empirical results is presented in figure 4.6 below. The model illustrates the individual R^2 contributions for the VRIO characteristics Imitable and Organisational Support, and the total R^2 these significant factors and overall model contribute to *firm* performance level. Whilst model[4] illustrates the individual R^2 contributions for all VRIO characteristics, only Embedded Assets (I1), Project Integration (OS1) and Project Alignment (OS2) are significant factors likely to indicate LASIS *firm* level performance.

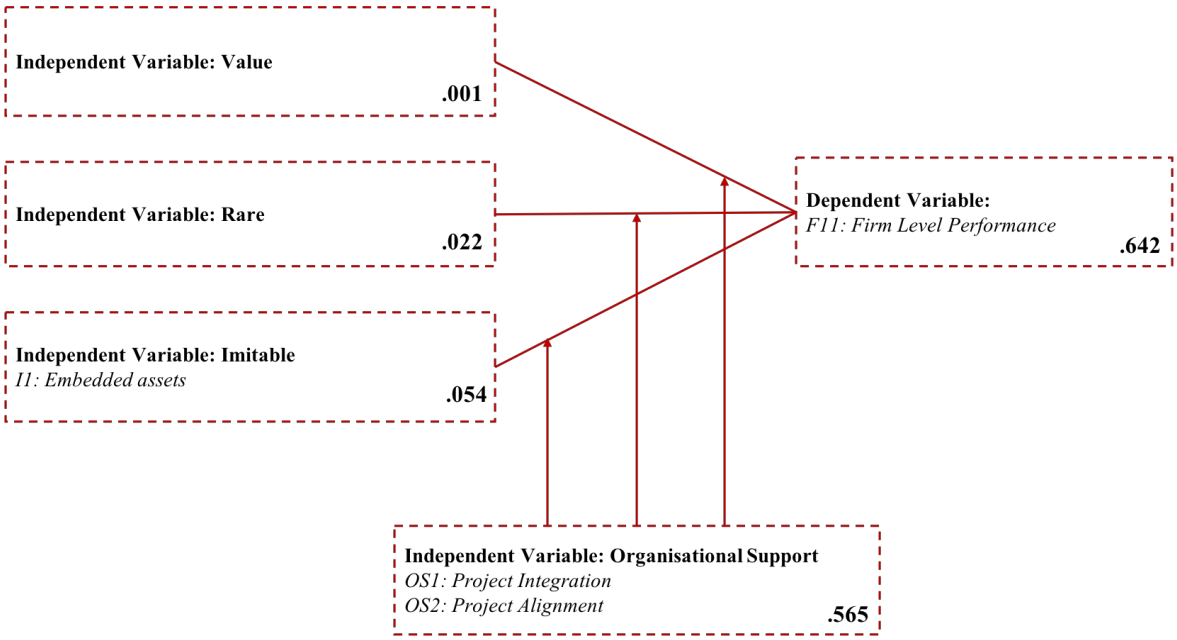

Figure 4.6: RA Model[4] Certain organisational support and imitable factors affect Firm Performance.

When moderated by organisational support the contribution of variance from valuable and rare assets are at best minimal, however, imitable Embedded Assets (*methodologies*, *shadowing*, *templates, implicit knowledge* and *mentoring*) suggests that the Social Impact Scheme have routines and relationships in place aligned and integrated to achieve stated Mission, Aims and Objectives. This notional evaluation will be extensively explored in the subsequent discussion and conclusion chapters below.

Having described and rationalised quantitative analysis decisions this section reported the results of factor analysis and regression analysis and presented various supporting empirical models. First, factor analysis extracted eleven factors across the three meta-level themes: i) valuable, rare and imitable project management assets; ii) organisational support; and, iii) *project* & *firm* performance. The results of this analysis addressed the VRIO and performance questions previously stated in 4.3.3.1 above. Second, multiple linear and hierarchical regression analysis identified organisational support factors (OS1, OS2, OS3) as the main contributor to both *project* and *firm* performance, though imitable embedded assets (I1) is a significant contributor to both *project* and *firm* performance. Therefore, the next section summaries the findings to support or contest the VIRO and predictors of performance questions state in 4.3.3.1 above.

4.3.5 Quantitative Analysis Summary

4.3.5.1 Summary Structure

It is necessary to present the findings in three parts. The first part presents a descriptive summary of the factor analysis results, followed by a section addressing the first five VRIO questions (4.3.3.1) with the final part addressing the last VRIO question (4.3.3.1) which applied regression analysis to identify the factors predicting LASIS *project* and *firm* level performance.

4.3.5.2 Factor Analysis Descriptive Summary

Factor analysis extracted nine factors of endowments consisting of project management assets, processes and practices across the components of the VRIO framework; additionally, two further factors consisting of indicators were extracted across project performance, which is illustrated in table 4.25 below.

Table 4.25: Factor Analysis results – descriptive summary

	Factor	Factor Descriptor	Asset[s], processes, practices, indicators
Valuable Assets	V1	Impart Project Management Knowledge	Software, methodologies, shadowing, templates, personal contacts, project office, implicit knowledge
	V2	Share Knowledge Based Processes	Printed project management materials, databases, hardware, communities of practice
Rare Assets	R1	Document Formal Project Management Knowledge and Processes	Hardware, software, methodologies, shadowing, templates, project office, mentoring
	R2	Development of Individual Project Management Knowledge	Personal contacts, communities of practice, implicit knowledge
Inimitable Assets	I1	Embedded Assets and Processes	Methodologies, shadowing, templates, implicit knowledge, mentoring
	I2	Embedded codified propriety tangible Assets	Printed project mgt materials, databases, hardware
Processes & practices providing Organisational Support	OS1	Project Management Integration	Upper management, people trust each other, people work well together, environment encourages learning, encourages sharing knowledge and information, leadership is supportive and encourages effective working relationships
	OS2	Project Management Alignment	Mission, aims and objectives, services it delivers, products it delivers
	OS3	Project Management Communications	Upwards in the project hierarchy, upwards in the organisations hierarchy, openly on the project
Processes, practices and indicators of performance (project and firm)	PP	Project Performance	Customer expectations, scope requirements, project schedule, project costs, quality expectations, measure the social impact from individual projects
	FP	Firm Performance	Sustainable funding, sustainable supply of customers, customer satisfaction, continuous improvement, continuous improvement, develop sustainable communities

4.3.5.3 VRIO Questions addressing RQ1 & RQ2

Having presented statistical tests in above subsections it is now necessary to address the VIRO analysis particular the degree of competitive advantage leveraged from project management assets that are organisationally supported. Based on the factor analysis '% of variance explained' and

the 'agree/strongly agree' Likert scale results it can be assumed that project management assets benefit from a degree of organisational support, which are presented in table 4.26 below.

Table 4.26: Descriptive tests supporting organisational support – Likert scale mean $\bar{x}$

	Project Management Integration	Project Management Alignment	Project Management Communications
Factor Analysis / Process	7	8	9
Upper Management	$\bar{x}$ 5.17		
People trust each other	$\bar{x}$ 5.17		
People work well together	$\bar{x}$ 5.33		
Environment encourages learning	$\bar{x}$ 5.27		
Encourages sharing knowledge and information	$\bar{x}$ 5.36		
Leadership is supportive and encourages effective working relationships	$\bar{x}$ 5.47		
Organisations Mission, Aims and Objectives		$\bar{x}$ 5.40	
Organisations Services it Delivers		$\bar{x}$ 5.44	
Organisations Products it Offers		$\bar{x}$ 5.29	
Upwards in the project hierarchy			$\bar{x}$ 5.26
Upwards in the organisations hierarchy			$\bar{x}$ 5.30
Openly on the project			$\bar{x}$ 5.69
Total mean $\bar{x}$	**$\bar{x}$ 5.30**	**$\bar{x}$ 5.38**	**$\bar{x}$ 5.41**
Degree of support (Average Likert Scale)	**Agree/strongly agree**	**Agree/strongly agree**	**Agree/strongly agree**

Having justified the level of organisational support the degree of competitive advantage from endowments of project management assets can now be determine, which is presented in table 4.27 below. Therefore, with the exception of *mentoring*; factor analysis identified all other project assets as providing economic value to the collective LASIS. However, of these eleven assets; *project management printed materials* and *project management databases* are not considered rare assets and thus only provide competitive parity (Barney & Wright, 1998). Furthermore, of the nine assets identified as providing economic value and thought to be rare amongst competitors only *project management hardware*, *methodologies*, *shadowing*, *templates* and *implicit tacit knowledge* are considered inimitable by competitors and therefore according to Barney & Wright (1998) provide sustained competitive advantage.

Table 4.27: Degree of CA from project management assets[1]

Factor Analysis / Project Management Asset	**V1**	**V2**	**R1**	**R2**	**I1**	**I2**	**Degree of Competitive Advantage**
Printed Project Management Material*		✓				✓	Parity
Project Management Database*		✓				✓	Parity
Project Management Hardware*		✓	✓			✓	Sustained
Project Management Software*	✓		✓				Temporary
Project Management Methodologies*	✓		✓		✓		Sustained
Project Management Shadowing**	✓		✓		✓		Sustained
Project Management Templates*	✓		✓		✓		Sustained
Project Management Personal Contacts**	✓			✓			Temporary
Communities of Practice (Explicit knowledge)**		✓		✓			Temporary
Project Management Office*	✓		✓				Temporary
Implicit (Tacit) knowledge**	✓			✓	✓		Sustained
Project Management Mentoring**			✓		✓		None#

*Tangible Assets, **Intangible Asset, #Anomaly with Value factor analysis due to removal of asset for cross-loading reasons.

Whilst factor analysis identified the endowment(s) of project management assets having the potential of providing parity, temporary and sustained competitive advantage, there is an anomaly with the asset *project mentoring*. The application of specific theoretical factor analysis criteria (Field, 2009) required the removal of project management asset *mentoring* due to its loading across both value factors (V1 & V2), and therefore unable to statistically test the degree of economic value provided by the asset. However, in comparison with the five assets providing sustained competitive advantage it is worthwhile to reconsider the raw data for the value factor of the asset project management *mentoring* (factor loading of .626, $\bar{x}$=4.89, σ 1.437). Only, *methodology*, *templates* and *implicit tacit knowledge* assets have a greater mean $\bar{x}$; whilst *mentoring's* standard deviation σ is smaller than *shadowing*. Whilst factor analysis rejects *mentoring* as a valuable asset, based on the value factor raw data and the positive rareness and inimitable factor analysis it would be incumbent at this point to dismiss *mentoring* as an asset with potential of providing sustained competitive advantage. As a result, though *mentoring* does not feature in the empirical models below, this anomaly will be further investigated in the thematic analysis section below.

At an asset level factor analysis does extract specific project management assets' leveraging a certain degree of competitive advantage, as figure 4.7 below illustrates. However, when analysed from the factor definitions a clearer picture emerges as to how each asset provides its competitive advantage, as figure 4.8 below illustrates.

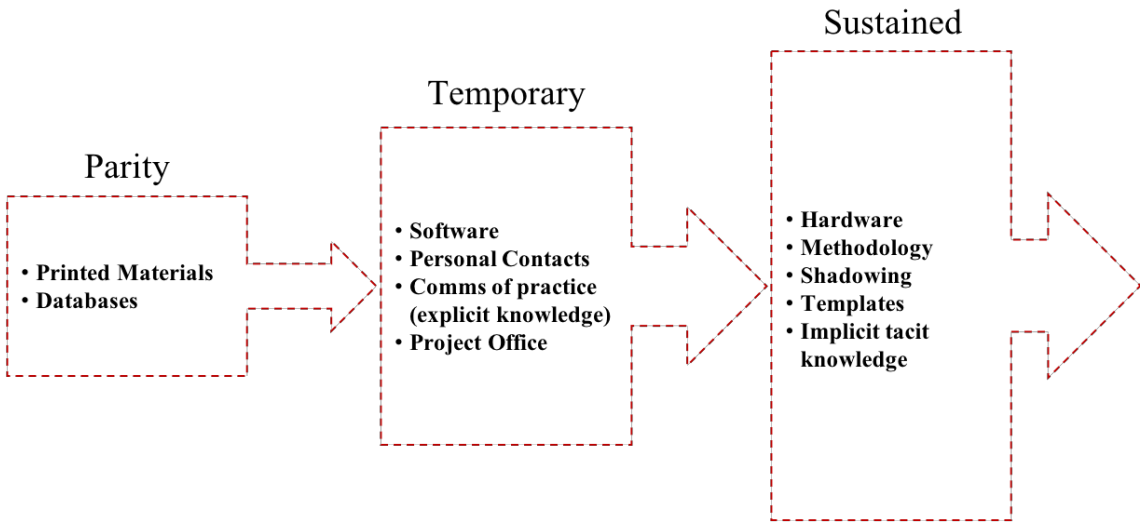

Figure 4.7: Empirical Model 1a: Project Management Asset level degree of CA

A clear picture emerges when project management assets are combined with how they provide competitive advantage; V1 impart project management knowledge; V2 share knowledge-based process; R1 document formal project management knowledge; R2 development of individual intangible knowledge; I1 embedded assets; and I2 embedded codified proprietary tangible assets.

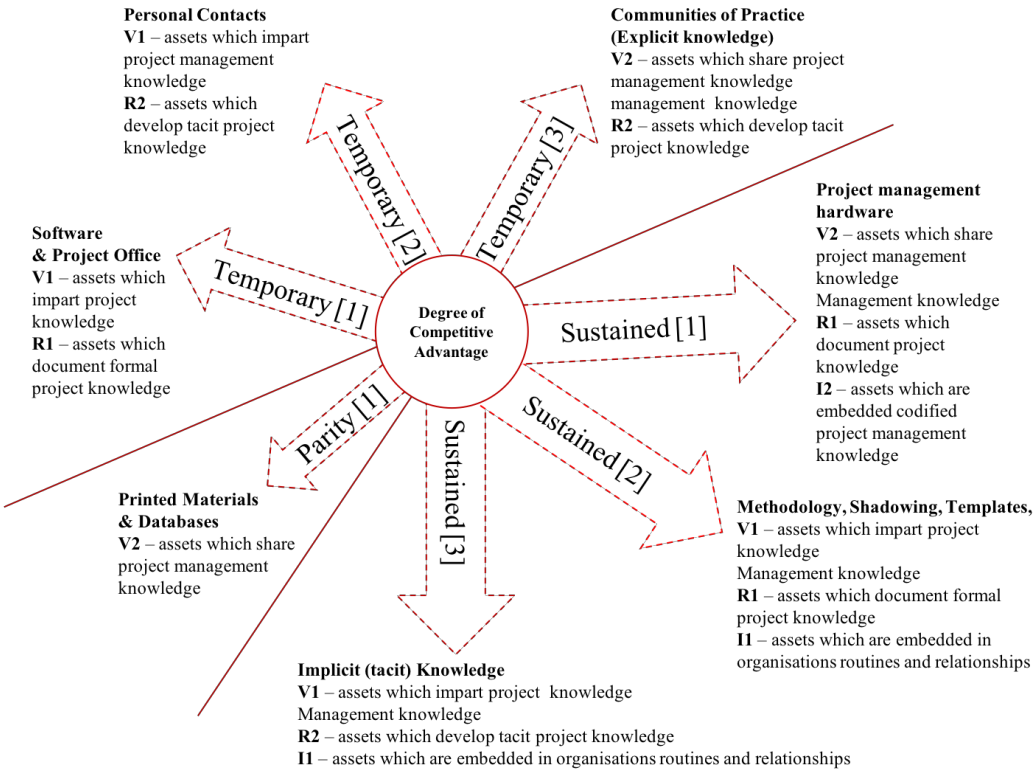

Figure 4.8: Empirical Model 2a: How assets provide levels of CA?

4.3.5.4 VRIO Questions addressing RQ3

Having presented what project management assets, processes and practices leverage degrees of competitive advantage, which is organisationally supported, regression analysis was applied to predict the factors most likely to contribute the most across two performance units of analysis (*project* and *firm* performance). First, all nine VRIO factors were entered as independent variables in multiple linear regression analysis, as figure 4.9 below illustrates. Second, the three organisational support factors are considered moderating variables (Jugdev et al, 2011; Mathur et al., 2013, 2014) and therefore entered first followed by value, rare and inimitable factors in hierarchical regression analysis, as figure 4.10 below illustrates. Both, multiple and hierarchal were applied to each performance unit of analysis (*project* and *firm*).

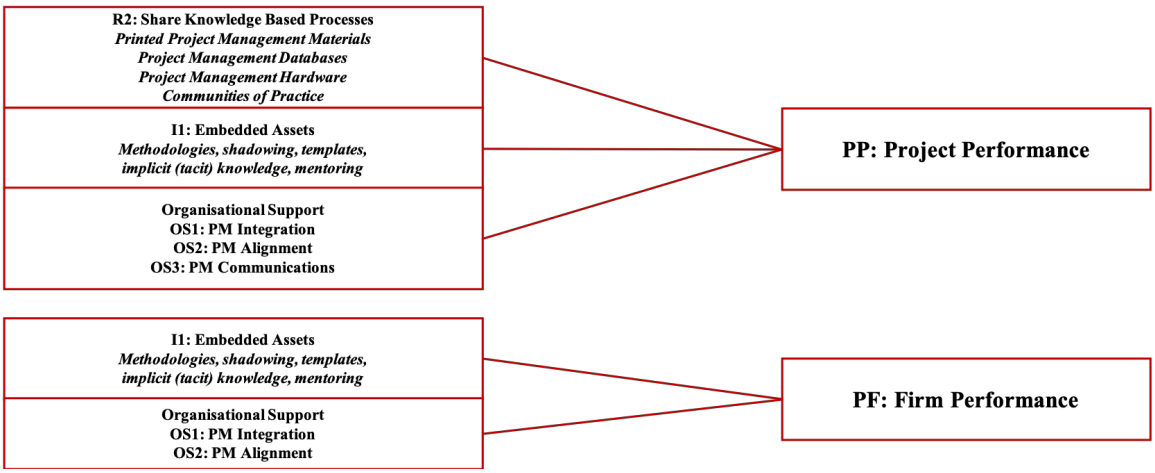

Figure 4.9: Organisational support as an independent variable

Whilst organisational support is a requisite for competitive advantage, when entered as an independent variable the total dependant variable loadings (*project* and *firm* performance) was greater than when entered as a moderating factor. Also, whilst organisational support factors integration (OS1) and alignment (OS2) apply across all four regression models only embedded assets in a company's routines and relationships (I1) are evident assets across more than one model.

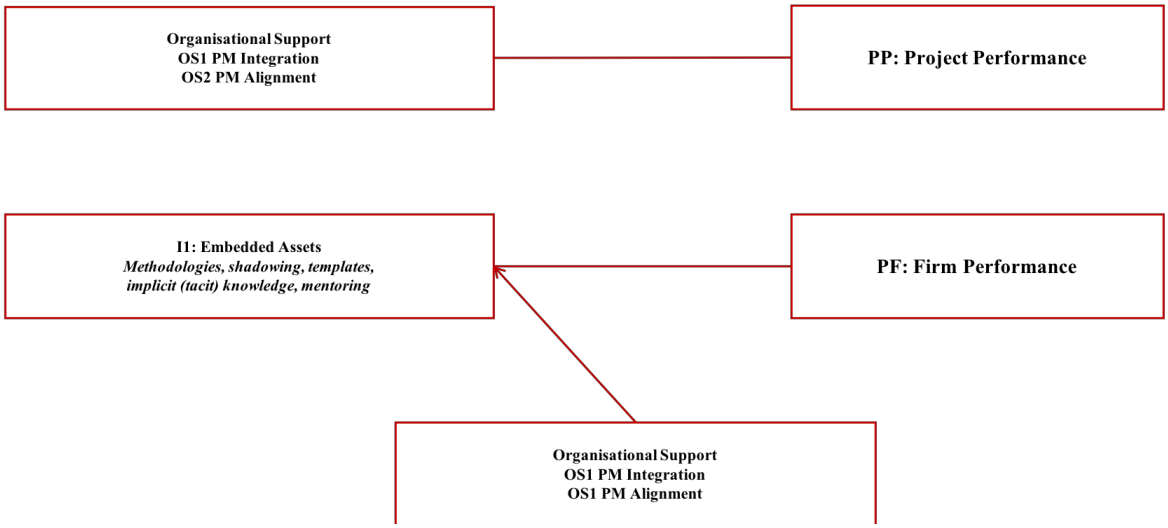

Figure 4.10: Organisational Support as a moderating variable

Though factor analysis extracts asset, process and practice endowment(s) leveraging degrees of competitive advantage and regression analysis predicts the factors that are more likely to contribute the most to performance (*project* and *firm*), additionally inimitable assets which are embedded in a company's routines and relationships (I1) feature prominently as the most likely asset endowments predicating both units of performance. However, whilst the VRIO questions (4.3.3.1 above) are clearly addressed factor and regression analysis do not provide conclusive results. Therefore, to gain further and richer understanding of the realities of project management asset utilisation as a source of competitive advantage it was necessary to conduct thematic analysis across a range of qualitative data collected over an eighteen-month period. The rationale for thematic analysis was the systematic approach to coding and theme generation and the flexibility it offers pragmatists applying a mixed methodology approach, as presented in Chapter 3 – Methodology.

4.4 Qualitative Analysis – Thematic Review

4.4.1 Overview

The following reports the VRIO thematic analysis results and presentation of revised empirical models first established in figures 4.7 and 4.8 above. This is followed by presenting the thematic analysis of LASIS developing *project management performance knowledge paradigm* and project management assets utilisation to indicate *project* and *firm* level performance.

4.4.2 VRIO - The realities of project management asset utilisation

4.4.2.1 Initial observations – variance from VRIO quantitative analysis

Having identified organisational supported endowments of project management assets, processes and practices leveraging certain degrees of competitive advantage, and established the factors which are more likely to contribute the most to *project* and *firm* performance, it became apparent that the intangible asset *mentoring* was a 'value' anomaly and therefore unable to be considered as providing any degree of competitive advantage, even though it was a significant rare and imitable asset. Therefore, in order to gain a richer understanding of the *mentoring* anomaly and the realities of project management asset utilisation as a source of competitive advantage and factor predictors of performance it was necessary to conduct thematic analysis across two qualitative data sets.

In addition to data collected from the survey questionnaire instrument open question (item 84), 13 interviews were conducted across the collective LASIS including 7 from the *parent* local authority and 6 *partner* organisations, and 9 general informal conversations/observations were analysed. Of particular relevance in this section are two 'frequency counts' tables:

i) Matrix of citations across the full range of project management assets and the six VRI factors (V1,V2,R1,R2,I1,I2) and citations across the three organisational support factors (OS1, OS2, OS3), which is presented in table 4.28 below.
ii) Matrix tables capturing specific themes across the range of project management assets in respect of *value*, *rare*, *imitable* and the three *organisational support* themes mapped against individual participants. These tables are numerous and are presented throughout this subsection.

Whilst these tables are presented below, it is judicious at this point to touch on the immediate observation regards the *mentoring* anomaly first identified in the summary of quantitative analysis 4.3.4.3 above. Through the thematic analysis process, it quickly became clear that *mentoring* was thought to be a *valuable* project management asset, cited on eleven occasions with only one negative comment. For example, as one *partner* organisation trustee 2B1D212 said, *"I think the*

biggest value is the tacit knowledge and the mentoring of the principles of project management and how we operate our daily work….". Moreover a *parent* assistant director 1A1C113 explained that within the project management office *"yes mentoring is a valuable asset [….] supporting mentoring on policies and systems and protocols to support those things, so we have that knowledge and expertise in the programme office".* Which is supported by one *parent* project manager 1A2G213 who advocated rolling out a mentoring programme *"standardisation of what we are doing around project management [….] we are starting to roll out a more formalised programme around mentoring and people are starting to kind of share their knowledge through that route".* However, one *parent* project manager 1A5G212 is of the opinion that mentoring is not always actively undertaken, stating, *"I have mentioned this for a while now [….] the issue that I find in the team is time, people just don't have time".*

Whilst the *mentoring* anomaly was an obvious VRIO survey statistical observation thematic analysis identified three other variances between the statistical analysis of the survey questionnaire:

i) Though asset project management *hardware* is statistically supported as providing sustained competitive advantage this asset fails to feature across the thematic analysis.
ii) While assets *project management office* and *personal contact* networks statistically provide temporary competitive advantage, based on the relatively high number of positive citations thematic analysis would suggest these are assets which are difficult to imitate or copy and thus imply sustained competitive advantage.
iii) Although only a few, thematic analysis suggests that the asset *databases* provide sustained competitive advantage; however, this is somewhat tempered as citations only refer to *databases* been used for monitoring and controlling aspects of projects and are more likely to be generic business *databases*, in which aspects of projects can be populated and queried.

To further explore these initial observations the following sub-sections will present the thematic analysis data including the frequency count citation tables and participant mapping, followed by a summary of the significant evidence, and concluding with a suite of revised empirical models first presented above in the figures 4.7 and 4.8.

4.4.2.2 Thematic Analysis VRIO frequency count matrix

Operationalising the method describe in the methodology chapter (3.5.2) the thematic analysis frequency count table is presented table 4.28 below. Based on Boyatzis (1998) 'good code hierarchical coding system' presented in the previous methodology chapter, in which positive, neutral and negative citations are recorded; it is clear that while all three organisational support

factors (OS1,OS2,OS3) significantly confirm that project management assets, processes and practices are organisationally supported, the thematic analysis frequency counts reveal the significance of the *mentoring* anomaly and the other variances introduced above (*hardware*, *PMO, personal contact networks*, *databases*).

The project management assets shaded grey are the assets which did not feature in the quantitative factor analysis, for the following reasons:

i) *Valuable *mentoring* removed from factor analysis due to cross loading
ii) **Rare *printed project management materials* and *project management databases* removed from factor analysis due to a factor loading of <.6
iii) ***Inimitable *printed project management materials*, *project management software*, *project management personal* contacts and *project management office* removed from factor analysis due to cross loading and a factor loading <.6

Additionally, citations were only counted if:

iv) ++participant cited project management asset linked to factor analysis item
v) #participant cited organisational support linked to factor analysis item
vi) -project management asset not extracted in factor analysis

Table 4.28: Matrix table of citations across VIRO analysis

Factor / Citation count	V1	V2	R1	R2	I1	I2	OS1	OS2	OS3	Factor / count	
++Positive citation v+	30	6	11	5	2	3	12	12	11	v+ Positive citation#	
++Neutral citation v	6	0	4	1	1	1	6	2	3	v Neutral citation#	
++Negative citation v-	3	1	2	0	0	0	7	4	2	v- Negative citation#	
Project Management Asset Count							**Organisational Support Count**				
Printed PM materials** Printed PM materials***	-	0	0		0		4v+ 4v 6v-	-	-	Upper mgt support in critical phases	Integration
PM Databases**	-	4v+	3v+		-	4v+ 1v	4v+ 1v 2v-	-	-	People trust	
PM Hardware	-	0	0	-	-	0	6v+ 1v 1v-	-	-	Work well together	
PM Software***	2v+ 1v-	-	2v+ 1v-	-	1v+		8v+ 3v 1v-	-	-	Learning environment	
PM Methodologies	10v+ 1v	-	2v	-	1v	-	9v+ 3v 1v-	-	-	Sharing knowledge environment	
Shadowing	3v+ 1v-	-	1v+ 1v	-	1v+	-	7v+ 3v 3v-	-	-	Supportive leadership	
PM Templates	11v+ 2v 2v-	-	2v+ 1v-	-	1v+	-	-	13v + 1v 4v-	-	Mission, aim & objectives	Alignment
PM Personal Contacts***	4v+ 1v	-	-	4v+	7v+ 1v		-	9v+ 3v	-	Services/Products (Variables combined)	
Comms of Practice (Explicit knowledge)	-	5v+	-	4v+ 1v	2v+ 1v	-					
PMO***	14v+	-	6v+ 1v	-	6v+ 1v 1v-		-	-	9v+ 3v 3v-	Up project hierarchy	Communications
Implicit (Tacit) Knowledge	9v+	-	-	4v+	3v+ 1v	-	-	-	9v+ 1v 2v-	Up organisations hierarchy	
Mentoring*	8v+ 2v 1v-		2v+ 1v	-	1v+	-	-	-	9v+ 1v 2v-	Openly on project	
Total asset count factor variables (v+)	53	9	13	12	8	4	38	22	27	Total count per factor variables (v+)	
Total assets count factor variables (v)	4	0	5	1	3	1	15	4	5	Total count per factor variables (v)	
Total assets count factor variables (v-)	4	0	2	0	0	0	14	4	7	Total count per factor variables (v-)	
Total asset counts non-factor variables (v+)	8		3		14		-	-	-	N/A	
Total asset counts non-factor variables (v)	2		0		2		-	-	-	N/A	
Total asset counts non-factor variables (v-)	1		0		1		-	-	-	N/A	

4.4.2.3 VRIO themes – Participants and Organisation Type

Conducting the same approach of positive, neutral and negative citations deeper analysis of each project management asset revealed contextual/operational themes across *value, rare* and *imitable* and autonomous themes across the three *organisations support* factors (OS1, OS2, OS3). These

themes are presented in the following tables and mapped against the participant and organisation type. The VRIO characteristic *value* is first reported.

4.4.2.3.1 Value project management assets

A significant positive citation frequency count particular the tangible assets *methodologies*, *templates* and *PMO*, and the intangible assets *implicit knowledge* and *mentoring*. Table 4.29 reports the key observations and is followed by a more detailed presentation of data findings.

Table 4.29: Value project management asset themes

Project Management Asset	Theme(s)	Parent Organisation Participant Citations	Partner Organisations Participant Citations
Project Management Printed Materials	None cited		
Databases	Business databases used to monitor projects		2K1N232 2E1D323
	Bespoke database in development		2B1D212
Hardware	None cited		
Software	Value from proprietary MS Project	1A6G213	
Methodologies	Using methodologies to manage projects		2N1P123 2R1S322 2E1D323
	Using customised methodologies to manage projects	1A1C113 1A2G213 1A3G213 1A4G212 1A6G213	
Shadowing	Available within team	1A5G212 1A3G213	
	Acknowledge need for shadowing		2M1G223
Templates	Value of using customised templates to manage projects	1A1C113 1A2G213 1A4G212 1A5G212 1A6G213	2E1D323
	…..if standardised/unformed	1A6G213	2C1B223
	…..can be complex	1A4G212	
Personal Contact Networks	Value of developing personal contact networks	1A5G212 1A6G213	2C1B223
	…..however, at an unconscious level		2D2E223
Communities of Practice (explicit knowledge)	Value of Communities of Practice as an asset to share project management knowledge within PMO team	1A4G212 1A5G212	
	…..sharing project management knowledge with wider organisational employees	1A6G213 1A6G213	
	…..specific programmes to transfer project management knowledge to wider organisational employees	1A6G213	
Project Management Office PMO	Value of PMO as an asset	1A3G213 1A1C113 1A2G213 1A4G212	
	…..PMO influence workforce in project management methodologies	1A4G212	
	…..investment of asset linked to goals and objectives of organisations	1A6G213	
	…..uniqueness of asset make organisations competitive	1A3G213	
	…..sharing/imparting project management explicit knowledge (comms of practice)	1A5G212 1A6G213	

	…..how PMO team convert implicit knowledge and personal contacts networks (social capacity) to deliver economic value	1A5G212	
Implicit knowledge	Valuable asset delivers economic value	1A4G212 1A6G213	2B1D212 2E1D322
	…..particular from experienced project managers	1A3G213	
	……however, unconscious appreciation of staff having experience with delivering previous projects		2D1E223
	…..unconscious appreciation of the value of acquiring implicit project management practice knowledge for succession planning		2D1E223
Mentoring	Value of asset to organisation	1A1C113	2B1D212 2C1B223
	…..asset available within PMO team	1A13C121	
	…..acknowledge value of staff mentoring, but not explicit to project management		2M1G223
	Request more project management mentoring	1A3C121	
	…..request rollout formulised programme	1A2G213	
	…..no time for project management mentoring	1A5G212	

Whilst thematic analysis overwhelmingly supports statistical tests of project management assets providing *value* it also confirmed that *mentoring* is a valuable asset recognised by many participants. Other significant findings across the range of project management assets include: i) poor awareness how assets can provide value; ii) a recognition that some assets are in development; iii) customised assets are valuable; iv) assets which share *explicit knowledge* are valuable; and, v) the universal acknowledgement that *PMO* asset is a valuable organisational resource.

Initially many interviewees demonstrated a poor awareness of how project management assets can provide value to an organisation. For example one *parent* assistant director 1A1C113 misunderstood 'valueness' as *"….what do you define as economic value, is that economic as in we have got an economy and skills team [….] the economic as far as bringing money into the authority or supporting any of the strategies"*. Whilst one *partner* trustee 2E1D323 bestowed value as *"one is practical and the other one is what I call exoterically",* though the participant eventually did imply several examples of valuable project management assets albeit at an unconscious level. However, when provided with an explicit explanation all participants demonstrate many examples including for example developing a bespoke *project management database* to manage projects and deliver on business objectives explains one *partner* trustee 2B1D212 stating *"the database will provide the value we give, how much we give and basically the benefit outcome, whom we are supporting and who is responsible for what [….] whilst we are currently using Excel and Word to support that we will be using a connected portal linked to about ten databases all linked together. So, we abuse Microsoft products at the moment before we commission the full database we are currently developing"*. Whilst the regional vice chair

2K1N232 of a global social enterprise *partner organisation* explains the potential of sharing best practice with others *"Our organisation has a computer database, which allows us to keep on going project work - other clubs are asked to share best practice".*

At an operational and practical level it is clear that there is value in organic development of customised *templates* and *methodologies* aligned to the specific needs of separate organisations, particular in managing projects across organisations suggests one *parent* project manager 1A2G213, explaining in some detail *"across the council it's the use of methodologies, we have quite a few people in the organisation who are PRINCE2 or MSP trained [....] but we also have people who are managing quite large scale major projects or quite a range of different sort of projects who don't necessarily have a project management background [....] so I think what is really valuable to us as an organisation is that we have got a range, so we can make tweaks and not rigid to a tool kit or a methodology [....] we have a range of templates loosely based on PRINCE2 documentation [....] they are used in the PMO [....]and starting to replicate across wider organisation [....]that does give us some advantage in that there is a standard approach".* Here the respondent links albeit at an unconscious level the notion of competitive advantage. Furthermore, a *parent* project manager 1A6G213 adds that customised templates and methodologies are valuable assets if standardised, stating *"we have templates for PIDS, mandates and project plans so there is, while the range of projects that we are involved with is diverse there is some uniformity in the overall documentation of those and also the methodology that we use. There are similarities in risk logs, etc that we use".* Supporting this, adapting public knowledge templates and methodologies to suit the size and scale of a project are valuable assets explains a *partner* director 2C1B223 *"our methods used include templates [....] taken from other organisations, however we have adapted them to suit our needs here, [....] examples we have used are past templates looking at risk management, Gantt charts, and PID [....] adapted to be able to be project managed on a smaller scale".*

Sharing *explicit project management knowledge* is generally recognised in literature as providing value in organisations particular the asset *communities of practice* contends Mathur., et al (2014). This is clearly evident in the *parent* organisation with several positive citations particular within the PMO team. For example, one programme manager 1A6G213 explains "*There is the explicit knowledge contained within the team itself, that the team is drawn from a wide background of knowledge and experience not just in project management but also in knowledge and understanding of the functions of local government and the council, so that is a definite advantage".* Again linking the notion of competitive advantage and then going on to explain dissemination of *explicit project management knowledge* to the wider organisation; "*we have just*

recently started an in-house training programme that is open to all council employees about project planning and management, to widen the understanding and in addition to that the programme office has produced an one page document that explains what our roles are within the programme office and how we can assist service departments to deliver their objectives, it gives them an understanding of what project management and planning is about". This rationale is explained by a *parent PMO* project manager 1A4G212 who said, *"external training provider come in and deliver project management course [....] this was introduced across the wider workforce as it was noted that through individual performance appraisals there were more and more requests and acknowledgements that project management training to some degree was required".* Moreover, specific detail is provided by a second *parent* PMO project manager 1A5G212 who said if *"project management training is discussed at an individual personal assessment (IPA) [....] the PMO team in partnership with an external organisation and HR provide a two-day training package, [....]on day two someone from our team explains what the PMO team does and how we fit into the whole structure".* Whilst the asset *communities of practice* are very much an internal practice one *parent* PMO project manager 1A6G213 tributes the value of PMO team sharing explicit project management knowledge across the wider organisation "*in relation to PMO we are in a privilege position, which provides us with an opportunity to influence the workforce".*

Though *partner* organisation awareness of the asset PMO is at an embryonic stage typified by one trustee 2B1D212 in their understanding of the practice *"we have a project management office, which is XX upstairs, who maintains our actions register and reports on how we add benefit",* there is universal acknowledgement that PMO asset is a valuable organisational resource within the *parent* organisation. For example, one *parent* PMO project manager 1A4G212 states that *"our presence (PMO) throughout the organisation is widespread [....] people can see the methods we are brining and the value that we are adding"* and continues to acclaim a position of tenacity *"in this time of cut backs and the economic climate the authority has actually chosen to grow and invest in its programme office rather than reduce it*....". Moreover a programme manager 1A6G213 links how the PMO assets supports delivery of organisational aims and objectives *"....the techniques and methodology of programme management to support the goals and objectives of the council are such that the council has recognised that it's worth putting the additional resources in there to help them achieve those aims and objectives".* However, though the PMO asset is a relative new organisational resource its apparent rapid success offers the *parent* organisation an opportunity based on its uniqueness "*as a core team"* states one programme manager 1A6G213 and being *"unusual to other Local Authority organisations"* said project manager 1A3G213, both inferring the notion of competitive advantage, *"over some of our*

neighbours" said 1A6G213 and *"could make us competitive in fact we could almost be a consultancy like in the private sector"* said 1A3G213.

In summary though, thematic analysis overwhelmingly supports statistical tests it offers a compelling argument to uphold the *mentoring* anomaly and reposition the asset as providing *value* across both the *parent* and *partner* organisations. Additionally, thematic analysis elaborated three areas of significance i) weak or a poor awareness how project management assets provide organisational *value*; ii) emerging recognition of the notion of competitive advantage from project management assets across both *parent* and *partner* organisations; and, iii) at the *value* level no discernible distinction is evident across all project management assets irrespective of their tangible or intangible state.

The next table and discussion address the VRIO characteristic *rare* across all project management assets and starts by highlighting a significant disconnect between the statistical tests regards the project management asset *databases*.

4.4.2.3.2 Rare project management assets

In comparison with *value* a significant reduction in citations however, with the exception of *printed materials* and *hardware* all other assets were represented with a net positive participant citation, particular the tangible assets *PMO* and *explicit knowledge*, and the intangible asset *personal contacts*. Also, though small in numbers the tangible asset *databases* had net positive citation. This asset was not included in factor analysis due to <.6 loading. Table 4.30 reports the key observations and is followed by a more detailed presentation of data findings.

Table 4.30: Rare project management asset themes

Project Management Asset	Theme(s)	Parent Organisation Participant Citations	Partner Organisations Participant Citations
Project Management Printed Materials	No specific project management materials	1A4G212	
Databases	Manage projects with potential of best practice and potential for competitive advantage		2K1N232
	Bespoke database in development – with potential of being rare amongst competitors		2B1D212
	Use of third party database used to measure wider social impact	1A6G213	
	Acknowledge do not have project management database	1A4G212	
Hardware	None cited		
Software	No project management software	1A4G212	
	Rare software helps manage organisational projects		2C1B223

Methodologies	Senior mgt not aware that customised methodologies based on proprietary frameworks may be rare amongst neighbouring LA's Rare asset from flexible approach	1A1C113 1A2G213	
Shadowing	Project management shadowing applied and developed in PMO team …..rare asset but not necessary project management specific	1A6G213	 2C1B223
Templates	Rare unique, bespoke asset …..rare customised 'public knowledge' templates Need to simplify and standardised project management templates	2B1D212 1A4G212	 2C1B223
Personal Contact Networks	Potential rare asset developing explicit and implicit project management knowledge	1A1C113 1A5G212 1A6G213	2E1D323
Communities of Practice (explicit knowledge)	Potential developing bespoke rare asset	1A1C121 1A2G213	
Project Management Office PMO	Potential unique rare asset amongst neighbouring LA's …..however, not yet recognised at senior level …..rare asset in current economic climate PMO becoming rare asset from the collective generation, creation and transfer of explicit and tacit project management knowledge	1A2G213 1A3G213 1A4G212 1A3G213 1A6G213 1A5G212 1A6G213	
Implicit knowledge	Used and applied in PMO team	1A6G213	
Mentoring	Used and applied in PMO team	1A6G213	2C1B223

Whilst thematic analysis supports statistical tests of project management assets providing some degree of 'rareness', three findings of consequence are presented below: i) the asset *databases* provide sustained competitive advantage; ii) poor organisational awareness of the notion that project management assets can be *rare* resources; and, iii) the growing influence of the asset *PMO* as a valuable organisational as a collective LASIS project management resource.

Although only a significant few thematic analysis suggests that the asset *databases* provides sustained competitive advantage. However, this is somewhat tempered as citations only refer to *databases* been used for monitoring and controlling aspects of projects and are more likely to be generic business *databases*, in which aspects of projects can be populated and queried. For example, while not a project management dedicated resource some respondents cite the use of business and proprietary *databases* been used for basic project management monitoring and control. To illustrate, one *partner* branch vice chair 2K1N232 explains *"our organisation has a computer database, which allows us to keep on going project work"* and *"everything is recorded on that database,"* explains 2E1D323 a trustee of a growing *partner* social enterprise. In contrast, some *partner* organisations are in the process of developing bespoke and customised *databases*,

though not exclusively project management i.e. project, knowledge and risk management *databases*, they are designed with project management in mind. One specific *partner* organisation is developing a business *database* with the potential to drill down to individual projects and how they impact at an organisational and societal level (disaggregated and aggregated level) explains the trustee 2B1D212 *"we are developing a business database linked to a portal which in turn is linked to ten other databases all linked together".* To support this another database in development is already been recognised as best practice amongst other similar social enterprise clubs explains the branch vice chair 2K1N232 *"other clubs are asked to share best practice".*

In comparison with the numerically rich awareness of *value* (81 citations), thematic analysis extracted relatively few citations (36) linking the notion that project management assets can be *rare* particular in a context of competitors. In fact only one *parent* programme manager 1A6G213 fully appreciated the potential '*rareness'* of consciously investing and developing specific project management assets and linking the economic climate and competitive advantage, stating *"in this time of cut backs and the economic climate the authority has actually chosen to grow its programme office rather than reduce it and that obviously is a competitive advantage over some of our neighbours".* Though, at an organisational level this was supported by a *parent* project manager 1A4G212 *"...it is very much an invest to save and it is very much a recognition that the more resource we have in this key area, the more beneficial it will be for the broader business".* However, a few respondents, albeit unconsciously, articulate a rudimentary awareness of the notion that project management assets can be *rare*, for example developing *personal contacts* explains one *parent* project manager 1A5G212 who said "*it's about understanding who goes into what area, so for example knowing who to go too"*; and operationally reaching out to the organisations wider personal contact networks explains one social enterprise trustee 2E1D323 *"the number of volunteers and the mobilisation of those volunteers".* In contrast to these isolated cases the majority were naive to the idea of assets being potentially *rare* and dismissive of the need to compete. Typically, participants were ignorant of *rare* assets including staff in senior positions. For example, one *parent* assistant director 1A1C113 explained *"I don't know how much value I can add to that question because I am not au fait with what other local authorities have".* Whilst one *partner* trustee with project sponsor status 2E1D323 contests why develop *rare* assets *"we are not in competition with other similar community social enterprises".*

Finally, the emerging growing influence of the asset *PMO* in the *parent* organisation is becoming a key *rare* resource for the collective LASIS. Already acknowledged with the potential of becoming a unique and *rare* asset amongst neighbouring local authorities [1A2G213, 1A3G213,

1A4G212] particular in current economic climate [1A6G213]. This tangible and codified project management asset is developing a culture within the *PMO* team and its wider reaches; in which the collective generation, creation and transfer of explicit and tacit project management knowledge is shared within and beyond the *PMO* team including *partner* social enterprise organisations.

In summary, whilst thematic analysis supports she statistical tests, it highlights the asset *databases* as having the potential of *rareness*, which is not statistically supported. However, because of the limited application of project management *databases* across the collective LASIS and the limited use restricted to modest monitoring, controlling and simple queries, until the developing bespoke and customised databases suggested by 2B1D212 is evidenced, the asset *databases* continues to only provide parity advantage confirming statistical tests. Additionally, thematic analysis developed three areas of interest: i) a growing divide between accepting the need to develop project management assets for organisational success and to exploit these same project management assets to sustain this success; ii) the emergence of an ambivalent attitude towards project management practices across *partner* organisations; and, iii) the recognition of a deliberate strategy to invest and support project management assets is evident by the emerging influence of the *PMO*, particular the *parent* organisation.

The next table and discussion address the VRIO characteristic *imitable* across all project management assets which highlights a significant disconnect between the statistical tests regards the project management assets *personal contacts* and *PMO*.

4.4.2.3.3 Imitable project management assets

In comparison with *value* and similar with *rare* a significant reduction in citations though with the exception of *hardware* all other assets were represented with a net positive participant citation. Also, the tangible asset *PMO* and the intangible asset *personal contacts* had relatively high net positive citations. These assets were not included in factor analysis due to <.6 loading. Table 4.31 reports the key observations and is followed by a more detailed presentation of data findings.

Table 4.31: Imitable project management asset themes

Project Management Asset	Theme(s)	Parent Organisation Participant Citations	Partner Organisations Participant Citations
Project Management Printed Materials	Not cited		
Databases	Manage projects with potential of best practice and potential for competitive advantage		2K1N232
	Bespoke database in development – with potential of being inimitable amongst competitors and difficult to copy		2B1D212
	Use of third-party database used to measure wider social impact	1A6G213	

	Tangible databases easy to copy	1A3G213	
Hardware	None cited		
Software	Tangible project management software easy to copy	1A3G213	2C1B223
Methodologies	Potential inimitable customised methodologies	1A2G213	
Shadowing	Potential inimitableness of shadowing applied and developed in PMO team	1A6G213	
Templates	Customised difficult to copy	2B1D212	
Personal Contact Networks	Intangible social capital difficult to copy …..PMO team developing networks	1A4G212 1A4G212 1A6G213 1A6G213 1A5G212	2C1B223
Communities of Practice (explicit knowledge)	Explicit knowledge of PMO team difficult to copy	1A6G213 1A5G212 1A6G213	2B1D212
Project Management Office PMO	Unique and difficult to copy by neighbouring LA's …..inimitable under current financial climate …..when fully recognised by senior management	1A2G213 1A4G212 1A4G212* 1A5G212 1A5G212 1A3G213 1A6G213 1A3G213	2B1D212
Implicit knowledge	Difficult to copy PMO implicit/tacit knowledge	1A2G213 1A5G212 1A5G212 1A6G213 1A6G213	
Mentoring	Difficult to copy in PMO team	1A6G213	

Consistent with *value* and *rare* there is evidence of poor *imitable* awareness and any linkage with competitive advantage, though this relates more across the *partner* organisations. However, while thematic analysis largely supports statistical tests of project management assets providing *inimitableness* particular the trio *methodologies*, *templates* and *implicit knowledge*, a significant section of respondents acknowledges *personal contacts* and *PMO* as *imitable* assets which will be difficult for others including competitors to copy, contradicting the statistical test results. Of significance though not related to specific project management assets an organisations history and casual ambiguity is expressed as been difficult for competitors to copy. Finally, the ambivalent attitude towards project management practices across some *partner* organisations is emerging into a reluctant and ignorant paradigm at strategic level.

Consistent with *value* and *rare* there is poor awareness of why difficult to copy assets link with providing competitive advantage. Whilst more widespread across the *partner* organisations this view is not exclusive to this group. As typified by one senior *parent* manager who openly admits they do not know what project management assets the local authority have that would be difficult to copy, 1A1C113 stating *"I don't think we have any. You see I am coming from a PRINCE2 background [....] the principles that we use in all our methodologies and all our tangible templates*

is based on PRINCE2 easy to copy products… [….], PMO is no different from other local authorities so it will be easy to copy". Which contradicts the general view of other *parent* organisation participants that assets such as customised *templates*, *methodologies*, *personal contacts* and *PMO* are likely to be difficult to copy. In contrast, one *partner* capacity builder trustee 2B1D212 implies that their project management paradigm would be extremely difficult to copy by similar organisations. Whilst a long narrative about openly sharing their knowledge and expertise with other *partner* organisations particular the voluntary sector (VSOs), 2B1D212 implied several forceful examples of why such organisations would find it difficult to copy their project management assets including customised *templates* and *methodologies*, *PMO* function, *tacit* and *explicit knowledge*, whilst highlighting the emerging reluctant and ignorant paradigm of not recognising project management practices at strategic level. For example, 2B1D212 stated sharing project management assets and practices *"everything that we have got, if they go through the project management office [….] templates we would freely share those with anybody, risk logs, lessons learnt you know all that we do we gladly share with people", freely available public templates and methodologies "these tangibles I don't think they are that difficult to copy [….], I don't think there is a willingness to do either".* Moreover, 2B1D212 recognised the reluctance of accepting and applying project management practices to deliver organisational aims and objectives *"I think it's the ability for them to understand and it's the willingness for them to change […] the difficult will be the tangible assets as I think they will be more difficult for them with their resistance or reluctance to the change [….] otherwise they would have done it [….] tacit knowledge and a willingness to mentor the whole project I think there just won't do it".*

Though numerically low in citations when tangible and codified project management assets are bespoke and customised to align organisational needs respondents convey an awareness that such assets may be difficult to copy. For example, customised *methodologies* suggest one *parent* project manager 1A2G213 *"flexible methodology approach – customised to project size, worth and importance".* Whereas one *partner* trustee implies that he would gladly share customised *templates* with other similar *partner* organisations the trustee did admit they would be difficult to copy, 2B1D212 explains *"…intangible assets I don't think they are that easy to copy but I do take your point that tangible customised templates would also be hard to copy without an in-depth understanding of our business".*

Factor analysis did not highlight *personal contacts* and *PMO* as project management assets providing inimitableness. However, thematic analysis features a significant section of respondents who firmly believe that both assets will be difficult for competitors to copy. Though weighted towards *parent* organisation participants one *partner* director 2C1B223 explains *personal contacts*

as *"social capital, the network of relationships we have a really good network. Going on the explain "we work in partnership with a capacity builder [….] which has realised pockets of development, they have shared funding sources with us and together we are actually looking at managing a joint project for new business and new enterprise, so that has been invaluable".* This is echoed across the *parent* participants who link the intangibleness of social capital as difficult for competitors to easily copy. For example one project manager 1A4G212 said "the intangible social capital side of things, those relationships, positive relationships, positive developments they don't happen overnight"; whilst one programme manager 1A6G213 extend social capital beyond the organisation, who said *"so you have the background knowledge and members of the team with links into external authority networks as well and that is more difficult to do, and some team members have built up working relationships over the years with third sector community, voluntary and social enterprise organisations".* Moreover, at a practical level a second project manager 1A5G212 relates *personal contacts* as *"knowing who to go too"* which would be difficult for competitors to copy.

Parallel with *personal contacts* respondents had strong views regards *PMO* been difficult for competitors to copy. The *parent* organisation participants all extolled the uniqueness of the *PMO* particular the strategic investment of the asset within the prevailing financial climate of public sector retrenchment and radical change. Which is epitomised by one project manager 1A3G213, who said "*I understand a lot of local authorities would not want to put resources into building their own project mgt office within this current climate and with all the cuts going on, efficiencies need to be made even though it is kind of an invest to save really if you do".* Further supported by a second project manager 1A4G212 expressing the strategic value of the asset, and said, "*demonstrate the value we are adding to the organisation so from that sense it would be difficult I guess for rival authorities to replicate [....] purely because I guess the business case in terms of the financial outlay and the time taken to see any benefits".* Who goes on to make the notional link with competitive advantage, saying *"I like the authorities' model, who are four or five years ahead of regional LAs and may have that element of competitive advantage for a short period of time, but they will catch up".* Whilst the majority of *partner* participants do not communicate *PMO* as being an organisational asset, one *partner* capacity builder trustee 2B1D212 does implies that their project management paradigm including *PMO* function would be difficult for competitors to copy.

Finally, whilst not explicitly defined or discussed the collective LASIS expose an unconscious awareness that an organisations history and casual ambiguity is difficult to copy or imitate. This is most evident regarding the assets that develop explicit and tacit knowledge particular the

interactions within a specific organisation and those external including business and social organisations, service providers and service users. For example, the relational history of the *parent* organisation with the local voluntary sector would be difficult for competitors to copy as explained by one programme manager 1A6G213, saying *"The ability to build up explicit knowledge of the workings of the authority could be replicated, depending on how that local authority had decided to work with its voluntary community and social enterprise sectors, which may not be as effective as it is here; it depends on how they have built that relationship with those sectors. I think it wouldn't be impossible, but it comes down to that history of working as partners together. If one of our neighbouring authorities doesn't have that good relationship, it would be more difficult for them to do that because there is that lack of trust".* Which is supported at an implied level by a second project manager 1A4G212 who unconscious explicate history from the organisations reputation and their relationships with the voluntary and social enterprise sectors, *"a solid foundation base on pre-existing relationships with those organisations. If that isn't there, if that doesn't exist as a base then to my mind you are looking at considerably more work in replicating that elsewhere purely because it isn't easy for people to develop and progress those aspects of relationship building".* Likewise, casual ambiguity can be identified in two *partner* participants. Whilst again not asset specific the unconscious awareness of certain project management practices collectively is an embryonic developing project management paradigm. For example, one *partner* social enterprise director 2C1B223 is blissfully unaware of how his or her own project management knowledge contributes a positive and measurable organisational impact, and a second *partner* social enterprise trustee 2E1D323 is unaware and unable to see that though an ambivalent attitude towards project management their unconventional approach to managing the organisations projects does influence the degree of societal impact.

In summary, whilst thematic analysis largely supports statistical tests, it highlights the asset *personal contacts* and *PMO* as assets, which would be difficult for competitors to copy, which are not statistically supported. Additionally, thematic analysis developed three areas of significance: i) consistent with *value* and *rare* there is evidence of poor *imitable* awareness and any linkage with competitive advantage, though this relates more across the *partner* organisations; ii) though not related to specific project management assets an organisations history and casual ambiguity is expressed as been difficult for competitors to copy; and, iii) an ambivalent attitude towards project management practices across some *partner* organisations is emerging into a reluctant and ignorant paradigm at strategic level.

The final table and discussion address the VRIO characteristic *organisations support* across all project management assets, which largely supports the statistical tests.

4.4.2.3.4 Organisational support – autonomous themes

Whilst some project management assets were removed from various factor analysis tests, as all *organisational support* items returned >.6 loadings and non-cross loaded all were included in factor analysis. Thus, thematic review considered all twelve items across the three statistical generated factors. Overall, *organisational support* returned significantly more citations than the individual VRI characteristics (*value, rare, imitable*), with *integration* attracting the most citations (67), followed by *communications* (39) and *alignment* (30). All three factors returned healthy positive net citation counts. Table 4.32 reports the key observations and is followed by a more detailed presentation of data findings.

Table 4.32: Organisational Support Themes

Factor	Theme(s)	Parent Organisation Participant Citations	Partner Organisations Participant Citations
F7 Project management integration	Project management practices integrated in organisations	1A1C113 1A3G213 1A4G212 1A5G212 1A6G213 1A6G213	2B1D212 2B1D212 2E1D323
	…..development of staff skills, ambivalent understanding	1A6G213	2C1B223
	Little time for shadowing/mentoring	1A5G212 1A13C121	
	Unequal integration (ineffective working relationships, demanding expectations, internal politics)	1A5G212 1A3G213 1A3G213 1A4G212	
F8 Project management alignment	Project management practices is a strategic discipline	1A1C113	
	Project management practices are aligned to organisations deliver mission, aims and objectives	1A5G212 1A6G213 1A3G213	2C1B223 2E1D322 2E1D322
	…..at senior level disconnect between how project management practices can deliver organisations mission, aims and objectives (ambivalent attitude)	1A2G213 1A4G212	2B1D212 2B1D212 2D1E223 2D1E223
	Project management practices are aligned to delivery products and services	1A6G213	2C1B223 2C1B223 2B1D212 2C1B223
F9 Project management communications	Effective project management communications	1A1C113 1A1C113 1A3G213 1A3G213 1A4G212 1A5G212	2B1D212 2E1D323
	…..freely, but only between senior management	1A6G213 1A6G213 1A3G213	2C1B223

	…..senior management need to promote the role of PMO team and project management practices throughout wider organisations …..poor/ineffective project communications	1A3G213 1A5G212 1A11K423	2D1E223 2H1M212 2K1N232

While thematic analysis largely supports statistical tests of *organisational support* across project management processes and practice, there are some dissenting voices that challenge the effectiveness of project alignment, integration and communications. However, these concerns are largely expressions of limiting dynamics associated with a developing paradigm.

Project integration

The degree of project management integration in the collective LASIS is a positive experience particular trusting and working well with people in an environment that encourages learning and sharing of knowledge, within a supportive leadership that encourages effective working relationships. For example, one *parent* project manager 1A4G21 epitomises the general harmony of this group, who said *"yes there is support and development as the team grows [….] though the person is still relatively new to the service manager role, there is just this sense that should we need support in any areas then we can immediately air any concerns, voice any opinions and I know for certain that views will be taken on board and things will progress".* Going on to explain *"there is very much a sense of openness and needing to be honest about things, which I appreciate, and I think certainly helps. There is a good sense of togetherness amongst the team. There is a real sense of helping each other, sharing best practices. We will turn to each other for advice if we need it in certain area, we know each other's strengths we know each other's areas for development there is a real sense of togetherness". Whilst* one *partner* trustee 2B1D212 through a lengthy narrative implies project management integration from a strategic and operational perspective. However, some *parent* participants expressed negative concerns particular demanding expectations from senior management 1A3G213 said, *"…we are almost like a victim or our own success because we never say no to work. We never manage senior management expectation, it's almost like we have to keep going at a million miles an hour and you never really get that opportunity to sort of say yes we can deliver that work, but it will mean that you will have to make a decision on such a thing slipping".* Extending this posit to ineffective working relationships between the PMO team and senior management, *"not trusting people and leadership is sometimes indifferent to personalities, suggesting ineffective working relationships in PMO".* Though a noteworthy point this view is specific only to this participant. Other positive examples include, an environment that encourages learning and supportive leadership of one *parent* assistant director 1A1C113 who said, *"project mgt shadowing and mentoring is available within our team with opportunities around coaching".* However, this is contested by a project manager 1A5G212

saying "*people just don't have time", I think people have the right mentality to do it sometimes and have good intentions and we bring things up and raise them, you know we need to do this or we need to do a mentoring or a buddying scheme".*

Project alignment

Across the collective LASIS there is general acceptance that project management practices are important to the delivery of the organisations mission, aims and objectives and delivery of the organisation's products and services. Significant examples include, driving strategic or corporate strategy, progressing organisational aims and objects, delivery of specific products & services, and some examples of a relationship with performance are demonstrated across the *parent* and *partner* organisations. However, whilst the degree in which organisations support the alignment of project management practices is largely upheld, once again some *partner* organisations demonstrate an ambivalent attitude and are unable to evidence how their project management practices align with organisational aims and assist in the delivery of products and service. This is specifically evident as a senior management disconnect between how investing in project management practices as a strategic discipline can yield benefits at an operational and strategic level.

A significant number of respondents did acknowledge that project management practices drive and shape corporate strategy. For example, one *parent* assistant director 1A1C113 said *"project management a strategic discipline linked to the organisations mission, aim, objectives"*. Which is supported by a project manager 1A3G213 who positions the PMO as central to the organisation's success, stating *"senior managers use the programme office and project management to shape corporate strategy. So, it's fundamental, it's at the base of everything that they want the organisation to do and where they want it to go [….] I think because all our projects are shaped towards corporate strategy the success of the project means the success of the organisation and the aims and the visions that we want to create".* Moreover, a second project manager 1A4G212 acclaims the importance of the PMO asset "*to my mind that just demonstrates quite succinctly and neatly the importance we play in delivering the organisations objectives". Whilst,* one programme manager links the strategic and operational important 1A6G213*,* who said *"xxxx council gives project management a high value in terms of its delivery of its organisations, missions, aims and objectives in that for all of its key objectives it has a programme board".* However, whilst not explicitly stated one *partner* organisation trustee 2B1D212 implies that their organisations project management paradigm supports the measurement of benefits outcomes and any subsequent challenges.

Other *partner* organisations are more direct in their adaptation of alignment, for example one *partner* director 2C1B223 explains how project management practices are aligned to their mission and delivery of specific services, "*we are expanding and we are trying to move forward, we have actually got two projects, two areas that we are project managing with a third coming up [….] we have the core business running as it should and the two projects are continually been monitored and evaluating to ensure we are working within timelines set within our business strategy".* Whilst a *partner* trustee 2E1D323 links the alignment of project management practices with project process success, "*a major part of the planning stage is to ensure that we can answer if this project is practical or feasible, owing to cost, resources, timing etc [….] it is important that we can demonstrate that not only we have done the research, we have got all the costing, we have got the budgets and we have got a timescale when it can be implemented. And whenever we have had these timescales they have been met".*

Some *partner* organisations at senior level demonstrate an ambivalent disconnect between how the alignment of project management practices can deliver stated mission, aims and objectives. One very active social enterprise board member 2D1E223 was unable to clearly define their business strategy and demonstrated a poor personal understanding of project management practices including, whilst providing several contradictory stories of how the organisation applies project management practices across their organisations. For example, the board member 2D1E223 was unable to identify what is a project, for example *"I am doing a project at the moment and it is called Splash Ball, and it is very successful. It is getting young kids into it, but I don't get my money until after I have actually delivered the project. So, we are paying out and I get the money later on, and I think that is a bit of a novelty".* Moreover, the same board member 2D1E223 implies projects are funding bids and not the actual proposed business change programme saying *"…a project is not always financial. If we are doing a project now, we won't call it a project, but it is a project to get more schools using the swimming pool including a mini polo tournament. [….] English schools are coming to play water pole there which it is a project of bringing awareness but it's not financial because everything seems to be like funding bids".* Going on to further link projects to funding bids *"it's identifying now what are projects to us like a funding bid and we do get money through different bodies".* A different *partner* organisation director 2C1B223 explains that whilst the organisation is a new business there is no clear strategy and project management practices are ad-hoc when opportunities arise, "*we are a very new business, we only sorted operating October last year and the core business is fantastic, however what we need to do is ensure that we continue to develop and meet the needs of the community and the market development. So therefore, if we find a new area of development, we project manage that area".* Finally, at a national level one regional branch *partner* social enterprise vice chair 2K1N232 said

"Ideas created for project work both nationally and internationally from the executive are not always logical and well planned". While the degree of ambivalence is not evenly representative these examples are typical across the *partner* organisations.

Project communications

Similarly, with *integration* and *alignment* above across the collective LASIS there is general acceptance that staff do have a healthy degree of freedom in timely and effective project communications. However, once again, some *partner* organisations demonstrate poor project communications particular senior level communicating the organisations aims and objectives. Additionally, while thematic analysis generally supports the statistical tests for *communications up the project hierarchy* and *communications up the general organisation hierarchy*, thematic analysis challenges the relatively low 'actor loading attribute to *communications openly on the project*. Finally, some *parent* local authority respondents are conscious of the need to promote the role and capabilities of the *PMO* function specifically and project management practices more generally throughout the wider reaches of the organisations.

Generally, across the collective LASIS participants said that project *communications* were effective. For example, one *parent* project manager 1A3G213 explained the structured environment, saying *"I have a lot of freedom communicating within the project and wider team [….] when we have our weekly team meetings of five or six different people each are specialist in their own area [….] each have autonomy to go off, do their thing, come back and report. But it is in a structured way because it needs to report to me, so I can report it up to the governance in the structure…".* Whilst a second project manager 1A4G212 discusses the flexible and open approach, saying *"me personally there is a significant degree of freedom [….] there is a significant degree of flexibility you have within project meetings to manage the project design as you see fit. And obviously in those keep in touch meetings we have reporting mechanisms, if there is anything that needs to be filtered there which has come from XX person or if there any elements of the project which need to be discussed or changed".* When asked about how comfortable you are about reporting project issues one project manager 1A3G213, said *"oh yes, informally yes as well as formally yes, both ways definitely yes. In fact, I think it's my responsibility because for example raising a project risk before its realised. It's kind of like a duty of care role being the project manager for that role, for that work stream. You know I don't want to be one of those people that say, 'oh well I thought that', when it all goes pear shape but then you never did anything to change it. So, I think that is like a responsibility on my role".* Finally, one programme manager 1A6G213 in a lengthy answer discussed the actual reality of open communications up and down a specific project, explaining *"So you know it's a case of how that person inter-reacts with that person, what*

experience they have had of working with that person, has to be able to raise issues and suggestions. Going on to explain interaction with a specific manager, "*and the same with line managers, so you know in terms of the XX project I have spoken about, I would have no problem talking to XX about an issue or concern that I have. Likewise, XX will occasionally say to me 'I want to be cited on this' because XX does the report to the management board, so that is her responsibility. But likewise, I can go to the service manager XX or to XX and say, 'listen we need to actually tie this down and sort this out at this meeting'.* Finally summarising the outcomes of open communications on a project*, "it's those discussions that you can have behind closed doors with the responsible officer for example. You can set the process in place, but it is those personal working relationships that make it happen".* However, despite these positive citations some *parent* participants are conscious of the need to promote the role and capabilities of the PMO function and project management practices across the wider reaches of the organisations including *partner* organisations. For example, one project manager 1A5G212 would like senior management to promote the PMO function, saying "*work to be done to promote the team wider, there is a lack of knowledge / understanding about what the team deliver".* Supported by a second project manager 1A3G213 who is concerned regards the PMO function becoming an enigma across the wider organisations, saying that *"directors and senior mgt are aware of the programme office's remit and provide much of the project mandates, but this work is not effectively applied throughout the entire organisation".* This last statement is echoed at a service delivery level by one *parent* service manager 1A11K423 with knowledge of the PMO function, stating that *"we would benefit by the service areas having a better understanding of the programme office role and the products it offers - visibility and communications".*

However, in contrast while some *partner* organisations do demonstrate components of effective project communications it tends to be very selective and in some cases authoritarian in nature. For example, one *partner* organisation board member 2D1E223 acknowledges ineffective communications, stating that *"I think we could do a better job at communication".* Whilst a *partner* trustee 2E1D323 implies openly communicating on a project, saying *"people are not afraid if they are asked to look at something to come back and say we have looked at it, but it is not feasible, it is not possible and these are the reasons".* Moreover a second *partner* organisation trustee *2B1D212* sets the boundaries in which open project communications are allowed, saying *"...total if they could, well I say total that's wrong actually. It is wrong because for one it has to be in line with the mission, the aims and the objectives, what benefit is it delivering for us. So, they have a freedom to express an idea or to express a different way of doing it within the constraint of 'it must delivery what we are here to deliver', so anybody can say, and challenge and they frequently do I have to say".* Furthermore, this autocratic style is evident in another *partner*

organisation as one director 2C1B223 explains, *"…we have a lot of freedom purely because there is only two of us, and in terms of the team there is eleven people. But what we do is it's up to myself and my partner how much of it we share, so we have the freedom to decide yes we share it or no we don't share it which is completely different to the way I have been involved in projects in the past".* This paradigm is not exclusive to small and local *partner* organisations, at an international level one *partner* social enterprise branch vice chair 2K1N232 implied ineffective systemic organisational communications, *"Ideas created for project work both nationally and internationally from the executive are not always logical and well planned and communicated at the operational branch level".* Whilst one newly appointed *partner* social enterprise project manager 2H1M212 links disjointed communications with performance, stating that *"communications can be a little disjointed and objectives do not always provide benefits. I think a better-documented plan would reduce complexity, repetition and improve overall quality. I have been in role for two months attempting to implement some form of structured approach to our project".* These *partner* examples further support the emerging posit of an ambivalent attitude towards the use of project management practice to support the delivery of efficient and effective organisational aims and objectives.

Having presented the key observations from the thematic review of VRIO characteristics, before moving onto the next section which presents the project performance thematic analysis findings, it is first necessary to summaries the VRIO findings and present the revised empirical models first established in figures 4.7 and 4.8 above.

4.4.2.4 Thematic Analysis VRIO Summary

In summary, whilst thematic analysis largely supports the statistical tests of organisational support, some participants challenge the effectiveness of this provision. Significant findings include:

i) Project integration is largely a positive experience though some dissenting voices challenge the effectiveness of project integration, particular senior management support impacting on effective working relationships. However, dissenting concerns are expressions of limiting dynamics associated with a developing project management paradigm.

ii) Project alignment is general accepted across the collective social enterprise scheme organisations with some significant themes including driving and shaping strategy (*parent* organisation), working towards achievement of the organisations mission, aims and objects, the delivery of its products and services and some examples of a relationship with performance across both *parent* and *partner* organisations. However, some *partner* organisations demonstrate an ambivalent attitude and are unable to evidence how their project management practices align with organisational aims and assist in the delivery of products and services. This is much evident as a senior management disconnect between

how investing in project management practices as a strategic discipline can yield benefits at an operational and strategic level.

iii) Project communications across the collective social enterprise scheme is generally effective. However, some *partner* social enterprise organisations demonstrate poor project communications at a senior level. Additionally, thematic analysis challenges the relatively low 'factor loading' attribute to 'communications openly on the project'. Some *parent* local authority respondents are conscious of the need for senior management to promote the role and capabilities of the *PMO* function to the wider organisation. Finally, *partner* social enterprise examples further support the emerging posit of an ambivalent attitude towards project management practice.

A summary of key observations is provided in the following table 4.33, whilst figure 4.11 is a novel way to illustrate how the key thematic analysis observations deviate from the quantitative statistical analysis survey questionnaire.

Table 4.33: Summary of the significant VRIO thematic analysis findings

Valueness	• overwhelming supports statistical tests • uphold the *mentoring* anomaly and reposition the asset as providing 'value' across both the *parent* local authority and *partner* social enterprise organisations • poor awareness how project management assets provide organisational 'value' • emerging recognition of the notion of competitive advantage from project management assets across both *parent* and social enterprise organisations • at the 'valueness' level no discernible distinction is evident across all project management assets irrespective of their tangible or intangible state
Rareness	• supports statistical tests • highlights the asset '*database*s' as having the potential of 'rareness', which is not statistically supported • a growing divide between accepting the need to develop project management assets for organisational success and to exploit these same project management assets to sustain this success • the emergence of an ambivalent attitude towards project management practices across *partner* organisations • the recognition of a deliberate strategy to invest and support project management assets is evident by the emerging influence of the *PMO*
Inimitableness	• largely supports statistical tests • highlights the asset *personal contacts* and *PMO* as assets, which would be difficult for competitors to copy, which are not statistically supported • poor 'inimitable' awareness and any linkage with competitive advantage, though this relates more across the *partner* social enterprise organisations • an organisations history and casual ambiguity is expressed as been difficult for competitors to copy • ambivalent attitude towards project management practices across some *partner* organisations is emerging into a reluctant and ignorant paradigm at strategic level
Organisational Support • Integration	• thematic analysis largely supports the statistical tests, though some respondents challenge the effective of this organisational provision • largely a positive experience particular trusting and working well with people in an environment that encourages learning and sharing of knowledge, within a supportive leadership that encourages effective working relationships • some dissenting voices that challenge the effectiveness of project integration, particular senior management support impacting on effective working relationships

	• however, dissenting concerns are expressions of limiting dynamics associated with a developing paradigm • ambivalent attitude of some *partner* social enterprises to integrate project management practices within the organisation
• Alignment	• thematic analysis largely supports the statistical tests, though some *partner* social enterprise respondents demonstrate a poor awareness of how the alignment of project management practices • *parent* local authority alignment project management practices to drive and shape strategy, progress aims and objects and deliver stated products & services • some citations suggest a relationship between aligning project management practices with project process success • ambivalent attitude and unable to evidence how project management practices align to organisational aims & objectives and help in the delivery of products and services is demonstrated by some *partner* social enterprise respondents • *partner* social enterprise organisations – a senior management disconnect between how investing in project management practices as a strategic discipline can yield benefits at an operational and strategic level
• Communications	• project communications across the collective social enterprise scheme is generally effective. • some *partner* social enterprise organisations demonstrate poor project communications at a senior level • the relatively low factor loading returned for 'communications openly on the project' is challenged by a significant number of respondents • local authority respondents are conscious of the need for senior management to promote the role and capabilities of the *PMO* function to the wider organisations • further evidence supports the emerging posit of an ambivalent attitude towards project management practice by *partner* social enterprise organisations

The degree the key observations deviate from the quantitative statistical analysis survey questionnaire are illustrated in figure 4.11 below. **Two levels: i) foundation level; and, ii) VRI level visually illustrate how key observations exceed, support or challenge the operational support and VRI provision.** The rationale for the two levels is based on Barney (1995) assumption that for organisational resources to be considered as leveraging competitive advantage require organisational support, and Jugdev et al (2011) contention that organisational support acts as a moderating variable**. Thus, the researcher terms organisational support as the 'foundation level' necessary to support the development of the VRI (*value, rare, imitable*) assets.**

This visual representation clearly demonstrates the disparities between the *parent* and *partner* organisation group, particular the *partner* organisations ambivalent attitude towards developing foundation level processes and practices to support a positive project management paradigm, which will be extensively explored in the subsequent discussion and conclusion chapters below.

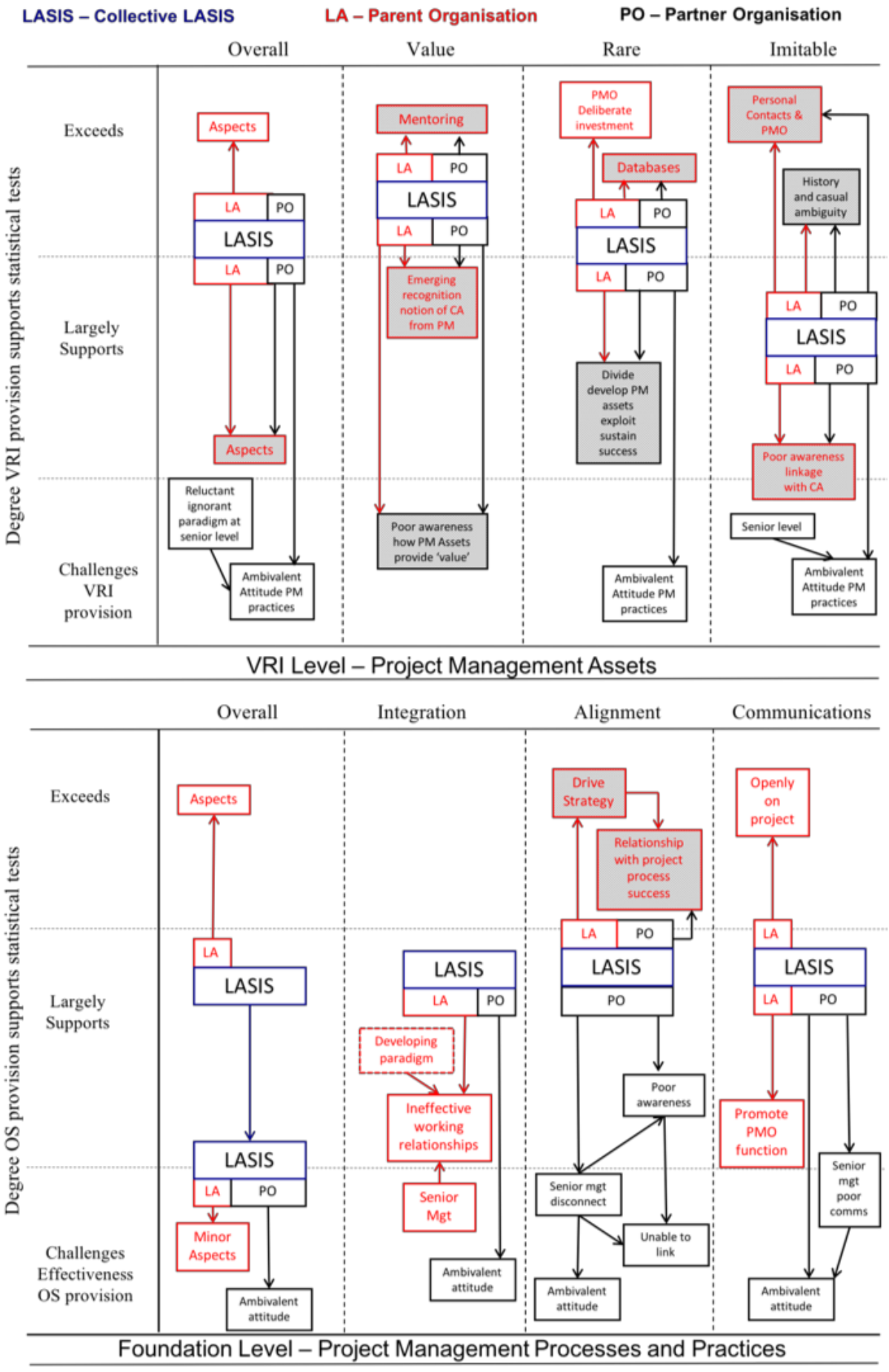

Figure 4.11: VRIO thematic analysis degree of deviation from statistical tests

In the next subsection revised empirical models are presented, which develop the original models first presented in figure 4.7 and 4.8 above.

4.4.2.5 Revised Empirical Models

Having presented significant findings from thematic analysis remodelling endowment of assets, which contribute levels of competitive advantage and how they deliver this impact, is now presented. Though the asset *hardware* didn't register any citations the dominant factors for assets *mentoring*, *databases*, *PMO* and *personal contacts* are first identified. This is followed by a summary of the degree of competitive advantage from project management assets and the revised models.

4.4.2.5.1 Mentoring dominant value factor

Table 4.34: Mentoring dominant value factor

Asset	'Value' Factor(s)	Participants	Dominant factor
Mentoring	V1 – Impart project management knowledge	1A1C113, 1A13C121 1A3C121, 1A2G213 1A5G212, 2B1D212 2C1B223, 2M1G223	V1 – Impart project management knowledge
	V2 – Share Knowledge Based Process	None	

4.4.2.5.2 Databases dominant rare factor

Table 4.35: Databases dominant rareness factor

Asset	'Rare' Factor(s)	Participants	Dominant factor
Databases	R1 –Document Formal Project Management Knowledge	1A6G213, 1A4G212 2K1N232, 2B1D212	R1 –Document Formal Project Management Knowledge
	R2 – Development of Individual Intangible Knowledge	None	

Though only a significant few thematic analyses suggests that the asset *databases* are *rare* amongst competitors, however this is somewhat tempered as citations only refer to *databases* been used for monitoring and controlling aspects of projects and are more likely to be generic business databases, in which aspects of projects can be populated and queried. Therefore, because of this single limited use thematic analysis doesn't support *databases* providing any more than parity advantage.

4.4.2.5.3 PMO imitable factor

Table 4.36: PMO dominant imitable factor

Asset	'Imitable' Factor(s)	Participants	Dominant factor
PMO	I1– Embedded Assets	None	I2 –Embedded codified proprietary tangible assets
	I2 –Embedded codified proprietary tangible assets	1A2G213, 1A4G212 1A4G212*,1A5G212 1A5G212, 1A3G213 1A6G213, 1A3G213 2B1D212	

Although literature contends that *PMO* asset are tangible and largely codified the actors within *PMO* teams develop and exploit structures and processes which become more and more embedded

in an organisations routines and relationships. Therefore, whilst I2 is the dominant factor the developing significance of I1 should be considered as a complementary mechanism.

4.4.2.5.4 Personal Contacts dominant rare factor

Table 4.37: Personal Contact dominant imitable factor

Asset	'Imitable' Factor(s)	Participants	Dominant factor
Personal Contact Networks	I1– Embedded Assets	1A4G212, 1A4G212 1A6G213, 1A6G213 1A5G212, 2C1B223	I1– Embedded Assets
	I2 –Embedded codified proprietary tangible assets	None	

Having presented the VRIO thematic analysis data findings and determined the dominant factors for the *mentoring* anomaly and the other relevant factor analysis anomalies, revised empirical models can now be presented.

4.4.2.5.5 Revised Empirical Models

Triangulation of the two discrete and independent data sets (Saunders et al, 2009) i.e. the survey questionnaire and thematic analysis, enabled the development of the revised empirical models. First, table 4.38 presents the tabulated summary of project management endowments leveraging degrees of competitive advantage, whilst figures 4.12 and 4.13 below present the revised models: *Project Management Asset level degree of Competitive Advantage* and model *How assets provide levels of competitive advantage?*

Table 4.38: Degree of CA from project management assets[2]

Factor Analysis / Project Management Asset	V1	V2	R1	R2	I1	I2	Degree of Competitive Advantage
Printed Project Management Material*		✓				✓	Parity
Project Management Database*		✓				✓	Parity
Project Management Hardware*		✓	✓			✓	Sustained#
Project Management Software*	✓		✓				Temporary
Project Management Methodologies*	✓		✓		✓		Sustained
Project Management Shadowing**	✓		✓		✓		Sustained
Project Management Templates*	✓		✓		✓		Sustained
Project Management Personal Contacts**	✓			✓	✓		Sustained
Communities of Practice (Explicit knowledge)**		✓		✓			Temporary
Project Management Office*	✓		✓			✓	Sustained
Implicit (Tacit) knowledge**	✓			✓	✓		Sustained
Project Management Mentoring**	✓		✓		✓		Sustained

*Tangible Assets, **Intangible Asset, #thematic analysis doesn't support this asset as contributing sustained competitive advantage

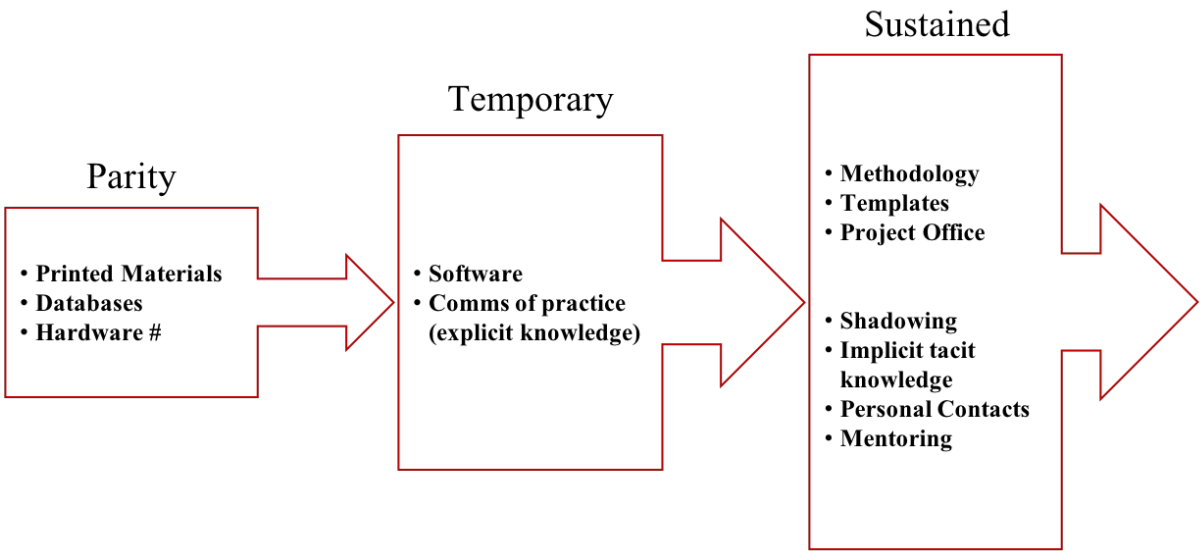

Figure 4.12: Empirical Model 1b: Project Management Asset level degree of CA

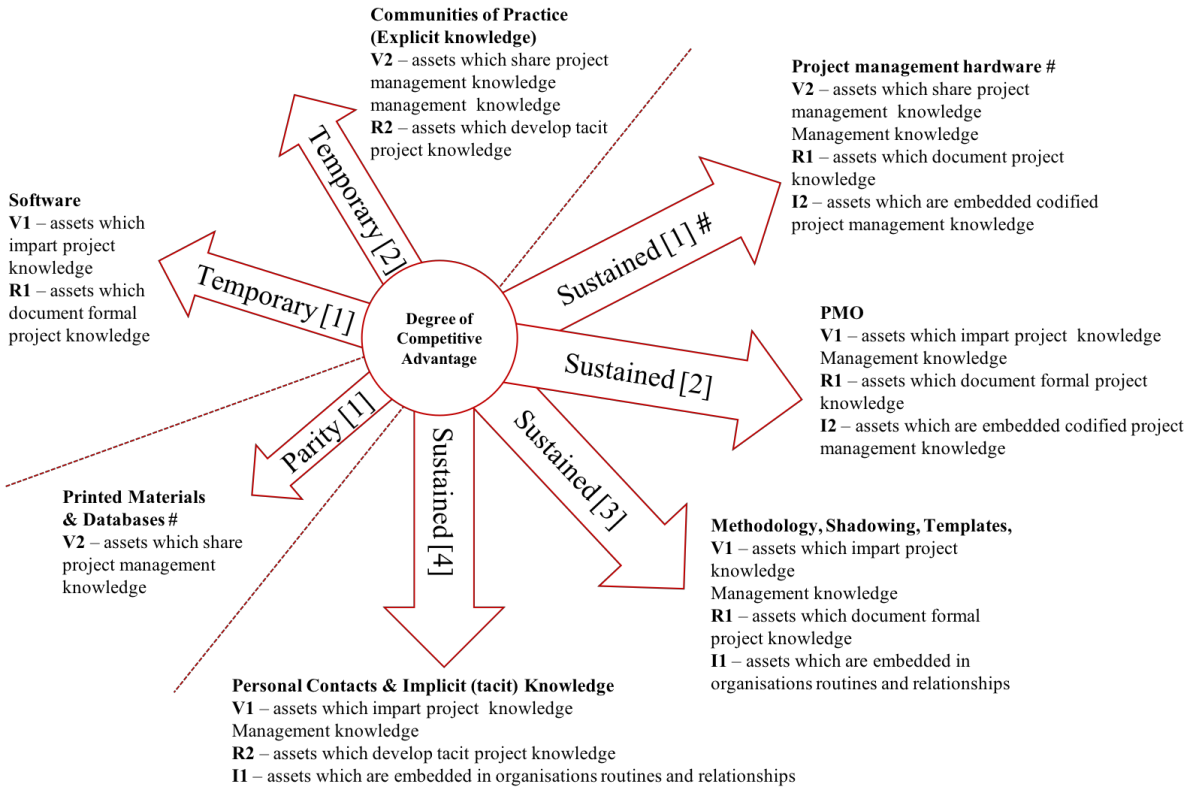

Figure 4.13: Empirical Model 2b – How assets provide levels of CA?

Until bespoke project *databases* are developed beyond the generic business *database* use for monitoring and controlling aspects thematic analysis does not support *databases* providing any more than parity advantage. Also, thematic analysis does not support project *hardware* as providing sustained competitive advantage, therefore, *hardware* is to be considered as only providing parity advantage.

The revised empirical models will be further explored in the discussion chapter, which immediately follows this chapter. However, first it is necessary to present the data and findings regards predictors of *project* and *firm* level performance, and the disparities between the *parent* and *partner* group emerging project management performance knowledge paradigm.

4.4.3 Performance Knowledge Paradigm and asset utilisation to indicate performance

4.4.3.1 Introduction

Having presented the thematic analysis findings across the full range of project management assets, processes and practices from the VRIO framework lens, it is now necessary to present the significant thematic analysis findings across the predicators of *project level* and *firm level* performance factors (FP, PP). Whilst the VRIO thematic analysis incorporated a single stage methodology i.e. individual project management assets, processes and practices independently analysed against each VRIO characteristics, it was necessary to conduct a two-stage procedure to deduce:

i) the collective LASIS knowledge of project performance; and subsequently
ii) the relationship between the VRIO factors as predictors of *project* and *firm* performance

Consistent with the VRIO thematic analysis the same data sets were use, survey questionnaire instrument open question (item 84) and interviews (4.4.2.1 above). Careful design of the semi-structured interviews posed questions, which mirrored the logic of the survey questionnaire and offered participants the opportunity to explore richer discussion into their comprehension of project performance and how the organisation evaluates and measure project performance.

4.4.3.2 Stage-one and Stage-two Overview

Stage-one: project performance knowledge, consists of three phases:

i) identify the number of citations across the two performance survey questionnaire themes (survey questions 23 and 24), refer frequency count table 4.39 below.
ii) the number of citations identified across performance sub-themes developed from project management success and societal impact literature, refer frequency count table 4.40 below.
iii) citations by participants identified across the two performance survey questionnaire items and the literature informed sub-themes, is presented in tables 4.41 & 4.42 below.

To conclude project performance knowledge overview will be summarised and conceptually presented.

Stage-two: relationship between the VRIO factors as predictors of *project* and *firm* level performance, consists of two phases:

i) identify the number of citations across the regression analysis models (embedded assets I1, project management integration OS1, project management alignment OS2, project

management communications OS3), which are presented in frequency count table 4.43 below.

ii) identify the emerging sub-themes, which is first presented in matrix table 4.44 below and followed by a narrative of participant citations.

To conclude, the relationship between the VRIO factors as predictors of *project* and *firm* performance will be summarised and conceptually presented.

4.4.3.3 Stage-one, phase 1: project and firm performance frequency counts

The number of citations across the two performance survey questions is presented in table 4.39 below. *Project Level* (*PP*) performance relates to the degree of project management performance in terms of costs, time quality and the social impact of delivered projects. The context of *PP* is from the perspective of how the LASIS project management processes generally allow the participant to meet the six related items of time, cost, quality, scope, customer expectations and social impact from projects. Whereas, *Firm Level* (*FP*) performance relates to the degree of project performance in terms of improvement, satisfaction and sustainable funding and communities. The context of *FP* is from the perspective of how an LASIS organisations project management resources and capabilities allow the participant to achieve customer satisfaction, continuous improvement and innovation, sustainable funding and development of sustainable communities. Whilst *PP level* performance is internal process focused, FP level performance is organisational development, growth and societal impact. Thematic analysis at this specific questionnaire item level considers the collective LASIS comprehension of project performance particular theoretical knowledge, application of practice and the degree of organisational and individual consciousness

Table 4.39: Citations across Project and Firm Level Performance Factors

Factor	Theme	Questionnaire Item	Questionnaire Item Number♯	Count♯♯ (Positive, Neutral, Negative)
PP	Project Level Performance	23.1 Meet project quality expectations	23.1	8v+, 5, 2v-
		23.2 Meet customer expectations (internal and external customers)	23.2	11v+, 4, 3v-
		23.3 Meet project scope requirements	23.3	13v+, 3, 6v-
		23.4 Meet project schedules	23.4	14v+, 2, 5v-
		23.5 Meet project costs	23.5	15v+, 2, 6v-
		23.6 Measure the social impact individual projects deliver	23.6	14v+, 2, 6v-
FP	Firm Level Performance	24.1 Sustainable funding	24.1	11v+, 2, 5v-
		24.2 Sustainable supply of customers	24.2	18v+, 3, 6v-
		24.3 Customer satisfaction	24.3	21v+, 3, 5v-
		24.4 Continuous improvement	24.4	26v+, 3, 4v-
		24.5 Continuous innovation	24.5	26v+, 3, 4v-
		24.6 Develop sustainable communities	24.6	23v+, 3, 6v-

♯Count only applicable if participant specifically cited or implied an example at questionnaire item level
♯♯from the same citation example, one or more questionnaire items may be cited

Although a degree of project performance awareness begins to emerge, for example one *parent* project manager 1A2G213 succinctly explained *"has this project delivered what it said its going to do, what has been the return on investment",* whilst one *partner* organisation trustee 2E1D323 said, "*this project is not practical or feasible, owing to cost, resources, timing etc";* the singularity of this sub-question level does not illuminate the full/real picture. Therefore, the number of citations identified across defined performance sub-themes developed from project management success and societal impact literature, is presented in table 4.40 below.

4.4.3.4 Stage-one, phase 2: performance sub-theme frequency counts

PP performance consists of three sub-themes: i) project objectives and constraints; ii) project management process; and, iii) project success. Project objectives and constraints are the traditional project management iron triangle of 'time, cost, quality'. Project management process relates to the effectiveness of the project management system and practices throughout the project life cycle. Project success means meeting the requirements of the project objectives, including effectiveness and impact.

FP performance also consists of three sub-themes: i) organisational performance; ii) societal performance – social impact; and, iii) societal performance – social change process. Organisational performance means the degree projects contribute to *firm* performance in achieving strategic mission, aims & objectives. Societal performance – social impact means the degree firm project performance delivers societal improvements measured in terms of aggregated social impact. Societal performance – social change process means the degree firm projects influence social change process outcomes measured in terms of aggregated social impact.

Finally, to understand how the collective social impact scheme measure *project* and *firm* level performance two sub-themes are defined: i) quantitative; and, ii) quantitative. Quantitative applies metrics and objective measures, whereas qualitative apply subjective measures including story telling.

Table 4.40a: Citations across PP sub-themes

Performance					Measurement		
Factor	**Theme**	**Sub-Theme Descriptor***	**Theme code**	**Count♯ (Positive Negative)**	**Sub-Theme Descriptor***	**Theme code**	**Count♯ (Positive Negative)**
PP	Project Level Performance	Project Objectives and Constraints	PLP1	10v+ 1 2v-	Quantitative	M1	7v+ 1v-
		Project Management Process	PLP2	7v+ 2v-	Qualitative	M2	2v+
		Project Success	PLP3	4v+ 2			

Table 4.40b: Citations across FP sub-themes

Performance					Measurement		
Factor	**Theme**	**Sub-Theme Descriptor***	**Theme code**	**Count♯ (Positive Negative)**	**Sub-Theme Descriptor***	**Theme code**	**Count♯ (Positive Negative)**
FP	Firm Level Performance	Organisational Performance	FLP1	16v+ 2 1v-	Quantitative	M1	2v+
		Societal Performance Social Impact	FLP2-1	14v+ 2 1v-	Qualitative	M2	9v+ 1v-
		Societal Performance Social Change Process	FLP2-2	7v+			

*Sub-theme descriptors are developed from project management success and societal impact literature
♯Count only applicable if participant specifically cited or implied a reference at sub-theme level

Adopting this sub-theme reduction approach reveals several key areas of project management performance knowledge at the collective LASIS level:

i) PP: whilst a relatively high positive count for 'project objectives and constraints' (time, cost, quality, scope) would indicate some relevant knowledge, the low citation count for 'project management process' and 'project success' suggests diminishing relevant knowledge. However, the citation count ratio between quantitative and qualitative measurements suggests some relevant knowledge particular if the quantitative measures are applied to 'project objectives and constraints'.

ii) FP: whilst a relatively high citation count for 'organisational performance' and 'societal performance – social impact' suggests some relevant knowledge, the lower citation count for 'societal performance – social change process' diminishing relevant knowledge. However, the citation count ratio between quantitative and qualitative measurements suggests some relevant knowledge particular if the qualitative measures are applied to measure organisational performance and social impact.

The following two sections (4.4.3.5 and 4.4.3.6) and tables draw out the richness of these observations, which are then summarised and conceptually presented.

4.4.3.5 Stage-one, phase 3a: participants citations mapped against PP sub-theme

This sub-section relates to the degree of *project* level performance from an organisations project management assets, process and practices. Whilst the questionnaire items are very specific to project performance i.e. meeting project cost, schedule, quality & scope, customer expectations and measure social impact projects deliver; the literature informed sub-themes tease out the degree of knowledge across the collective LASIS regards: i) project objective and constraints; ii) project management process; and, iii) project success.

Citations of *project* level performance knowledge across the collective LASIS are presented in table 4.41 below, which is followed by participant examples, and a brief conclusion.

Table 4.41: Participant citation across PP sub-themes

Survey Question Number	Question 23 Item	Project Level Performance *(PP)* Sub-theme(s)*	Local Authority Respondents Citations♯	Social Enterprise Organisations Respondent Citations♯
23.1	Meet project quality expectations	Project objectives and constraints	1A2G213 1A6G213	2C1B223, 2E1D323 2D1E223
		Project Management Process	1A2G213 1A6G213 1A7H322	2C1B223 2D1E223 2E1D323
		Project success		
		Measurement - Quantitative	1A6G213	2C1B223
		Measurement – Qualitative		
23.2	Meet customer expectations (internal and external customers)	Project objectives and constraints	1A2G213 1A6G213	2C1B223 2D1E223
		Project Management Process	1A2G213 1A6G213 1A7H322	2C1B223 2D1E223
		Project success	1A2G213	
		Measurement - Quantitative	1A6G213	
		Measurement – Qualitative		
23.3	Meet project scope requirements	Project objectives and constraints	1A2G213 1A6G213	2C1B223, 2E1D323 2D1E223
		Project Management Process	1A2G213 1A6G213 1A7H322	2C1B223 2D1E223
		Project success		
		Measurement - Quantitative	1A6G213	
		Measurement – Qualitative		
23.4	Meet project schedules	Project objectives and constraints	1A2G213 1A6G213	2C1B223, 2E1D323 2D1E223
		Project Management Process	1A6G213 1A6G213 1A7H322	2C1B223 2D1E223 2E1D323
		Project success		
		Measurement - Quantitative	1A6G213	2C1B223, 2E1D323
		Measurement – Qualitative		
23.5	Meet project costs	Project objectives and constraints	1A2G213 1A6G213	2C1B223, 2E1D323 2D1E223
		Project Management Process	1A2G213 1A6G213 1A7H322	2C1B223 2D1E223 2E1D323
		Project success		
		Measurement - Quantitative	1A6G213	2C1B223, 2E1D323
		Measurement – Qualitative		
23.6	Measure the social impact individual projects deliver	Project objectives and constraints		2D1E223
		Project Management Process	1A2G213	2D1E223
		Project success	1A2G213 1A4G212	2B1D212, 2D1E223 2C1B223, 2JIB122
		Measurement - Quantitative		2C1B223
		Measurement – Qualitative	1A2G213	2B1D212, 2M1G223 2C1B223

*PP sub-theme descriptors are developed from project management success and societal impact literature.
♯individual participants who provide one or more citations.

Whilst not universally applied across the collective LASIS the following narrative does highlight a developing paradigm of project management performance knowledge. The *parent* organisation apply traditional project management constraint tools such as the iron triangle methodology, explains one programme manager 1A6G213, who said *"project management gives that discipline of keeping things on track both cost wise, time wise, and keeps people focussed",* going on to elaborate how used for monitoring and controlling contractor costs *"we use outside contractors and advisors on specific issues [….] it is making sure that we keep them as tight as possible so that they don't run their bill up on us, which increases costs".* One *partner* director 2C1B223 implied that they use *software* to help manage and balance project constraints, *"it helps me evaluate, it helps me monitor, it helps me assess risk, it helps me get from A to B*". However, a *partner* trustee 2E1D323 only implies that they use project constraint theory in decision-making stating *"this project is not practical or feasible, owing to cost, resources, timing etc". Going on to explain how it* evidences funding bid applications, as 2E1D323 states, *"putting together of projects in order to obtain grant funding and then fulfilling those projects on time and in budget".* Interestingly the *parent* organisation align a RAG rating system to track project progress and the degree of achieving the stated objectives explains one *parent* programme manager 1A6G213, and summarised *"in the programme office a reporting system on all the projects that we are involved with, so ultimately it reports to a programme board [….] we use a rag rating system, to show whether we are 'on time', whether we are in budget, and whether we will actually deliver the objectives [….] reporting on any savings, tangible savings that it's going to deliver, any improvements in services, that type of thing. So, we have a firm reporting mechanism that holds the project managers accountable for delivery as well as the teams within each project".*

Moreover, some examples of how the *parent* organisation use the project management process effectively included meeting internal customer expectations as highlighted by one programme manager 1A6G213, who said *"the XX project, there has been some minor planning issues but through both managers within XX project and programme office knowledge, their experience and relationships that they have with staff in other departments that we have been able to smooth those out more speedily, to keep the XX project on-track". Other examples include,* a successful project management process approach highlighted by one *parent* project manager 1A7H322, who said *"a robust project mgt approach is taken and PM tools are available to enable successful projects to be complete",* and one *partner* employed project manager 2M1G223 alludes robustness, stating that *"project performance is measured by individual review and a robust, monitoring, development evaluation of, team, staff and feedback from families of those we support".* Whilst these examples are indicative of project level performance knowledge associated with the sub-themes of 'project objectives and constraints' and 'project management process', there is a

growing acknowledgement to support the use of quantitative and qualitative means to measure the social impact from individual projects. For instance, quantitative measures from service users feedback implies social impact as a direct result of a specific project comments one *parent* project manager 1A3G213, who said *"from direct feedback, by understanding how many missed calls we have in the contact centre, if that reduces and reduces and reduces that means we are actually getting people through, we are not having as many hang ups, [….] so they are actually having a more improved and better quality of service".* Whilst one *partner* trustee 2D1E223 quantifies social impact in actual numbers explaining the output from a sports related project *"we and XX would like twenty spots going to the north of England so we can build our kids up to compete in that kind competitive environment".*

Examples of subjective qualitative measure of social impact include: i) health and well-being benefits to the community explains one *parent* project manager 1A4G212, who said, *"such as health and wellbeing, the reduced hospital admissions, the reduced reliance on health care professionals, [….] just the fact that people are feeling more independent and empowered, these are definite social benefits"; ii)* inking specific projects to measurable social impact explains another *parent* project manager 1A2G213 *"we are doing a piece of work where we are looking at youth unemployment, and we are trying a different approach of how we manage it, different to similar projects – let's see what impact that has";* and, iii) qualitative feedback from service users demonstrating social impact from one specific project explains another *parent* project manager 1A4G212 *"because of their complex needs wouldn't even consider leaving XX, but with the support provided by the project they have been getting out and about accessing the local community a heck of a lot more. Doing simple things like going shopping, cooking or making a bit of lunch for one another, using public transport [….] the feedback from families has been essentially life changing for some of them".* Finally, one capacity builder *partner* trustee 2B1D212 provided an example of how a very specific tailored project provided social impact, who said, *"yes we do and a good example would be how three organisations we support have managed to recruit a member of staff within their business plan. They are now securing funding for that member of staff, so we do see the development of organisations".*

To sum up across the collective LASIS there is a developing project management performance paradigm however the tangible application is most evident within the *parent* organisation though some *partner* organisations do recognise the need for project management performance knowledge and practical application.

4.4.3.6 Stage-one, phase 3b: participants citations mapped against FP sub-theme

This section relates to the degree of firm level performance from an organisations project management assets, process and practices. Whilst the questionnaire items are very specific to the organisations performance i.e. sustainable funding and supply of customers, customer satisfaction, continuous improvement and innovation, and the development of sustainable communities; the literature informed sub-themes tease out the degree of knowledge across the collective LASIS regards: i) organisational performance; ii) societal performance – social impact; and, iii) societal performance – social change process.

Citations of *firm* level performance knowledge across the collective LASIS are presented in table 4.42 below, which is followed by participant examples, and a brief conclusion.

Table 4.42: Participant citation across FP sub-themes

Survey Question Number	**Question 23 Item**	**Firm Level Performance *(FP)* Sub-theme(s)***	**Local Authority Respondents Citations♯**	**Social Enterprise Organisations Respondent Citations♯**
24.1	Sustainable funding	Organisational Level Performance	1A3G213 1A4G212 1A5G212 1A6G213	2B1D212 2Q1R322
		Societal Performance – Social Impact	1A4G212 1A5G212	2C1B223 2Q1R322
		Societal Performance –Social Change	1A4G212 1A5G212	
		Measurement - Quantitative	1A4G212 1A5G212	
		Measurement – Qualitative	1A5G213	
24.2	Sustainable supply of customers	Organisational Level Performance	1A5G212 1A7H322	2B1D212
		Societal Performance – Social Impact	1A3G213	2C1B223
		Societal Performance –Social Change		
		Measurement - Quantitative		
		Measurement – Qualitative		2E1D323
24.3	Customer satisfaction	Organisational Level Performance	1A5G212 1A6G213 1A7H322	2M1G223
		Societal Performance – Social Impact	1A3G213 1A4G212 1A5G212 1A7H322	2B1D212 2C1B223 2D1E223 2E1D323
		Societal Performance –Social Change	1A4G212	2E1D323
		Measurement - Quantitative		
		Measurement – Qualitative	1A2G213	2B1D212, 2E1D323 2C1B223
24.4	Continuous improvement	Organisational Level Performance	1A2G213 1A3G213 1A5G212 1A6G213	2B1D212, 2Q1R322 2C1B223 2D1E223 2M1G223
		Societal Performance – Social Impact	1A4G212 1A6G213	2B1D212, 2Q1R322 2C1B223
		Societal Performance –Social Change	1A3G213 1A6G213	2B1D212

		Measurement - Quantitative		
		Measurement – Qualitative		
24.5	Continuous innovation	Organisational Level Performance	1A5G212 1A6G213	2E1D323
		Societal Performance – Social Impact	1A4G212	2C1B223
		Societal Performance –Social Change	1A3G213 1A6G213	
		Measurement - Quantitative		
		Measurement – Qualitative		
24.6	Develop sustainable communities	Organisational Level Performance	1A4G212 1A5G212 1A6G213	2B1D212, 2E1D323 2C1B223, 2M1G223 2D1E223, 2Q1R322
		Societal Performance – Social Impact	1A4G212 1A5G212 1A6G213 1A7H322	2B1D212, 2Q1R322 2C1B223 2D1E223 2E1D323
		Societal Performance –Social Change	1A3G213 1A4G212 1A5G212	2B1D212, 2E1D323 2C1B223 2D1E223
		Measurement - Quantitative	1A4G212 1A5G212	2B1D212, 2D1E223 2C1B223, 2M1G223
		Measurement – Qualitative	1A2G213 1A4G212 1A5G212	2B1D212, 2M1G223 2C1B223 2E1D323

*FP sub-theme descriptors are developed from project management success and societal impact literature.
♯individual participants who provide one or more citations.

Across the collective LASIS there is a growing awareness of the link between project management performance and a firm's performance. Whilst this knowledge is emerging other than isolated examples there are little deliberate action across the collective LASIS to formally measure organisational level performance from project management assets, processes and practices. However, both the *parent* and *partner* organisations do link a firm's performance with societal performance, but while not a deliberately constructed action the collective LASIS do provide anecdotal examples of specific and aggregated social impact. The following narrative highlights the main citations across the literature informed sub-themes.

Across the collective LASIS participants infer organisational level performance through lessons learned from previous projects. For instance one *parent* project manager 1A2G213 alludes to the organisations project management practices as a source of organisational performance, summarising the example, *"all of that feeds into that wider learning of what actually has gone really well and what we have learnt from it [….] that might apply to a person on a project who did really well and may have got some knowledge they can share [….] that then looks into if other people are trying something similar and want someone just too kind of talk them through or give them a bit of mentoring support [….] these networks are starting to develop and grow, so I think each project we do does form part of the bigger structure of what we are trying to do as an organisations"*. Whilst at an unconscious level one *partner* board member 2D1E223 reflecting on a previous project has led to an improvement in understanding project constraints and financial

reporting, *"we had a board meeting about it, and we cannot go into a project now unless it is fully funded, and the massive knock on effect that we didn't realise. If you are not fully funded it has an impact on your budgets the following year and when you get audited and stuff like that it can look as though you are making a loss when you actually made twenty-five grand profits because you have invested it into your assets, so we have learnt quite a lot really".* However, though some implied wider appreciation; knowledge of organisational level performance is characterised by either saving money from specific projects or implied generic organisational improvement.

Organisational level performance from the perspective of the *parent* organisation can be inextricably linked to financial savings within the organisation and thus aggregated savings at the societal level. For example, aggregated financial savings from a specific project with accumulatively potential for greater savings resulting in marginal increases in local community taxes and cost of individual services to users, explains one *parent* project manager 1A4G212, *"there are some elements of it which are absolutely quantifiable, certainly what the XX project before and after in terms of costs of the building and staffing levels, compared to what the costs are now [….] the salient points of the deal was that there may not be the general public holding of this asset as our desire was to freeze council tax rates".* Whilst a second project manager 1A5G212 explains how one specific project performance impacts on funding and real societal improvement, *"its monitored through the XX project at the moment, around people who currently receive personal health budgets. So, they might spend sixty-five pounds a day on a service which is not necessary right for the user, so we could re-route that, as an example if it is about loneliness and social isolation if attended the day centres at sixty pounds a day is not right for the user we can suggest a move to local luncheon club, and then attending sewing groups or anything else associated to the community centre free of charge".* On the contrary, *partner* organisations are unable to link organisational level performance to sustainable funding other than implying the use of project management practices when applying for grant funding implies one *partner* trustee 2E1D323 *"putting together of projects in order to obtain grant funding and then fulfilling those projects on time and in budget". Furthermore,* project management practices to support funding bids and development of future commercial revenue claims another *partner* trustee 2B1D212, who said, *"one of our objectives and one of our priorities within our business plan is about financial sustainability [….] we are trying to work towards establishing revenue streams/income streams that will actually survive us in year two [….] currently we have a project developing more commercial revenue and that resulted in us prioritising a re-bid to the community investment fund [….] so I think project management methodologies is supporting us because as I say we are talking probably still a year away before we have to have that money in the bank. But we want to plan well enough to be able to make sure that the money is there in a year's time when we need it".*

Implied organisational improvement is generic in nature and seldom links specific projects to organisational level improvement. Across the collective LASIS anecdotal examples of *firm* level performance at an aggregated societal impact are clearly demonstrated, however, there is no tangible evidence to support deliberate practical application. For instance, financial measures of project performance within the current financial and political climate links to wider organisational level performance, suggest one *parent* project manager 1A3G213, who said, *"benefit realisation, financials at the moment with the current climate, but you have also got improved services, improved efficiencies in the way customers access services"*. Or through improved internal processes explains a second project manager 1A6G213, *"it is also about looking at changing the way that we deliver services as well, so we assist the departments to deliver that are part of the corporate strategy"*. In contrast, *partner* social enterprise organisations can only interpret organisational improvement as a 'feel good factor' following a perceived successful project suggests one *partner* trustee 2D13223, who said, *"once an organisation has delivered something a feel good factor comes into the staff and other people and they then want to deliver something else"*.

Both the *parent* and *partner* organisations can link a firm's performance with societal performance, but while not a deliberately constructed action the collective LASIS do provide anecdotal examples of specific and aggregated social impact. For example, one *parent* project manager 1A4G212 describes how now service users are treated as individuals and not generically, saying that, *"essentially it is a review of what we have currently, what we can deliver and that is leading into the different models of the community capacity at the individual level and so on"*. Going on to explain how a specific project developed sustainable communities and change the lives of a certain group of service users, details the same project manager 1A4G212, *"they now live in cleaner environments, they are not as institutionalized and some of the success stories we have had from these service users in particular have been amazing you know". Furthermore,* one *partner* director 2C1B223 links societal impact and social change process with specific *firm* level performance, who said, *"we are offering more bespoke programmes, health professionals are already giving us feedback stating that challenging behaviours and behaviours where somebody may self-harm or harm others are reduced. So, we know socially our impact for the XX project at the moment is successful"*.

To sum up, whilst there are examples of *firm* level performance knowledge across the collective LASIS neither the *parent* or *partner* organisations can explicitly measure *firm* level performance from their project management assets, process and practices. Though through story telling the

collective LASIS demonstrate subjective measures of societal impact, albeit often unconsciously and ambivalence towards the value of project management performance, illustrated by one *partner* organisation board member 2D1E223 who openly admits to no clearly defined success objectives and an acceptance of an ambivalent approach towards project management practices, "w*e got it right by evaluating feedback from customers; I don't know if we did it right project management wise. What I know is from feedback our footfall has increased which is what our aim and objective was, but whether we did it right during the project management side I don't know because we didn't know what project management really was";* which sums up the disconnect between a developing knowledge paradigm and the reality of limited tangible application.

4.4.3.7 Stage-one, knowledge performance paradigm summary

Though regression analysis predicts the factors that contribute the most towards *project* and *firm* performance (4.3.4.4 above), thematic analysis uncovered the practical reality of the collective LASIS command of project management performance knowledge, and how to measure the societal impact from individual *projects* and a *firm's* performance. This reality can be summarised as the early stages of development and arbitrary application across both *parent* and *partner* LASIS organisations.

To illustrate, though the *parent* organisation is consciously developing its project management performance awareness, engagement and application is not ubiquitous across the organisation, typified by one project manager 1A2G213, who stated *"project management measures of best practice, are not necessarily shared and replicated across the organisations"*. Whilst a second project manager 1A7H322 extends the paradigm to services users the recipients of project endeavours, saying that *"clearer communications channels need to be developed to enable and encourage communities to become more aware and involved in understanding how specific projects are achieving and working towards sustainable communities of the future"*, and inferring insufficient resources as a cause "*a lack of resources to focus on the benefits the projects bring to enable communities to understand the benefits".*

Also sharing relevant knowledge with *partner* organisations is not evident, which is a concern particular as more than one *parent* participant are of the opinion that *partner* organisations are not mature enough in project management practices. For instance, one project manager 1A2G213 states, *"I think what we learned fairly quickly was that some of them; they just weren't mature enough in terms of their project management practice and their measurement of their outcomes and understanding [….] to give us what we needed". Moreover,* a second project manager 1A6G213 said, *"we are trying to do social return on investment [….] the appendices included some costs associated with certain things, but what we found was from feedback that it just*

confused the heck out of people, and they didn't understand it". This implied ineffective support demonstrates a poor awareness of how performance can be measured particular societal impact explains one *parent* project manager 1A6G213, who said *"at this moment in time we can't directly measure the community investment fund through the partner organisations […] we are asking the organisations to think about how they can measure their social impact that will feed through to us so that we can measure the societal impact [….] I mean we are trying to do it so that it is not too onerous or bureaucratic for them and suggesting they look at using case studies".*

The potential disconnects between the developing awareness within the *parent* and the apparent inept *partner* organisations are conspicuous across several *partner* organisations particular how to measure project level performance. For instance, one *partner* organisation trustee 2D1E223 demonstrates a total disregard of simple 'time', 'cost' and 'quality' principles to effectively manage a project with a potential of significant societal impact. To summarise this detailed account the trustee 2D1E223 discussed, *"I think it would have gone more smoothly had we analysed it more, but we just said let's get on with it [….] I am not saying why do anything different, but I think it would be more structured. [….] our budget was a hundred grand and we had seventy-five grand. So, we were twenty-five grand short, we should have known that at the beginning, and we wouldn't have delayed the opening [….] now we know it can have an impact later down the line".* Going on to discuss that although the budget oversight had a detrimental impact on financial balance books this trustee is has learned little from the experience, 2D1E223 stated that, "*the depreciation side of things eating your balance books because you have to show XX. I know I am going on a bit but what I am trying to say is yes we did it right but if I did it again, we as a group would say have you got enough money there before, we do it again". Which* demonstrates a poor awareness of understanding the project scope and unrealistic 'time', 'cost' and 'quality' constraints. Additionally, a *partner* trustee 2D1E223 admits that their organisation is unable to determine if projects or their project management process is successful, stating that *"what we are not good at is measuring how project perform in terms of budget and the time line, and we are not good at qualitative because we have not introduced it fully yet surveys with end users which are the social enterprises that we support".* This particular discussion is relevant as the trustee's organisation is a capacity builder supporting the other *partner* social enterprise organisations.

However, whilst a rather negative picture across the collective LASIS there are examples of good practice and a recognition that measuring project management performance is central when evidencing societal impact and sustainable funding from project endeavours. For example, one *partner* committee member 2Q1R322 links the application of the project management process

with sustainable funding and sustainable growth *"all members of the community centre are voluntary as I am, and we need to learn more to improve the centre and get more community and outside bodies using the centre to keep it sustainable"*. Also, acknowledgment that TCQ measures are necessary to measure both project mgt process and project success is expressed by one *partner* director 2C1B223 who said, *"it helps me evaluate, it helps me monitor, it helps me assess risk, it helps me get from A to B and to achieve something that is going to make my business better […] it enables me to have a quantitative approach to add to our service, our core development. So, at the moment I would say it plays a role in our service"*. Finally, one *partner* director with project executive responsibilities 2J1B122 implies some application of performance value, stating, *"projects are evaluated by service users"*.

These key observations are conceptually illustrated in figure 4.14 below.

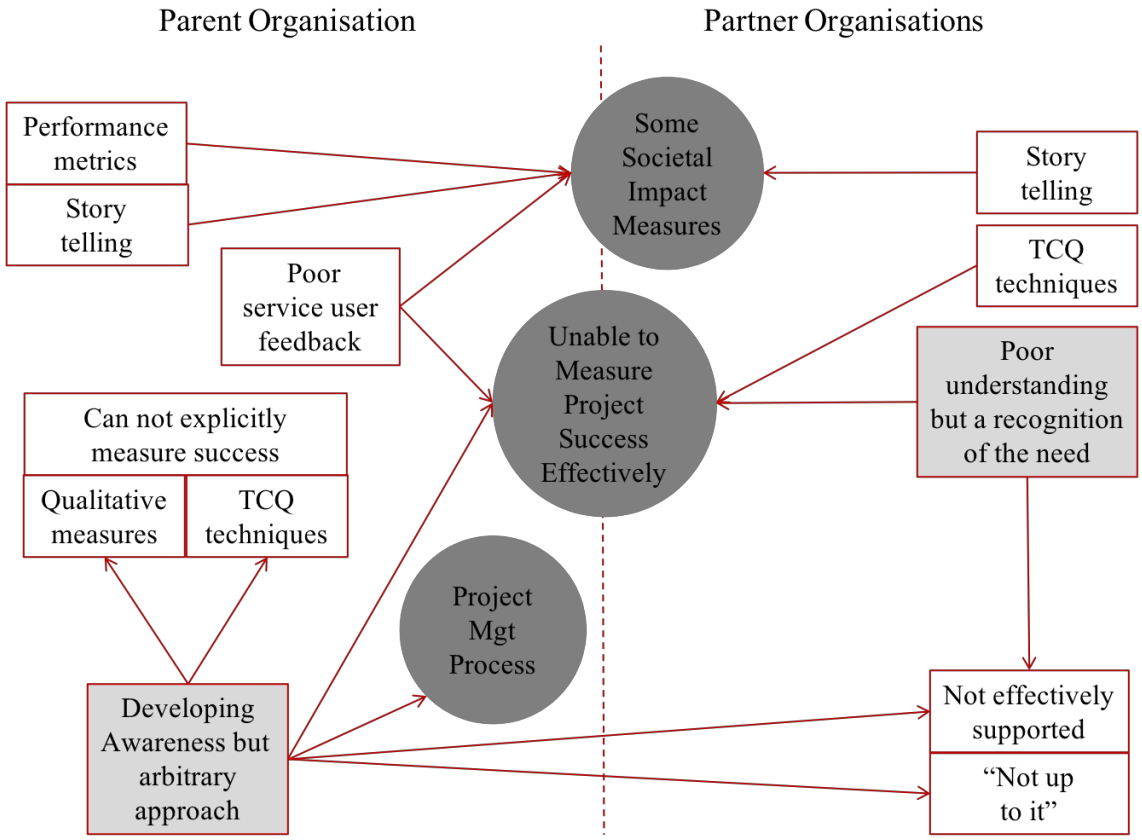

Figure 4.14 Observed Project Management Performance Knowledge Paradigm

Having presented the collective LASIS project management performance knowledge paradigm, in the next sub-section, stage-two presents the relationship between the VRIO factors as predictors of *project* and *firm* level performance.

4.4.3.8 Stage-two, introduction

Whilst the regression models presented in section 4.3.4.4 above are the main focus in which *organisational support* factors (OS1, OS2, OS3) and the *imitable embedded assets* (I1) apply

across most regression models, consideration of other factors identified predictors of performance was enhanced when combined the project management office (*PMO*) asset. Therefore, the objective of stage-two is to confirm regression analysis models and identify other significant predictors of performance. The following sub-sections present these findings starting with the thematic analysis performance frequency counts, followed by a narrative of participant evidence across the regression analysis models and when combined with the asset *PMO*, finally a summary of the significant thematic analysis findings and the degree of deviance from the statistical tests are presented.

4.4.3.9 Stage-two, phase 1: predicators of PP and FP frequency counts

Operationalising the method describe above (4.3.3) the thematic analysis frequency count table is presented in table 4.43 below. Based on positive, neutral and negative citations it is evident that all three *organisational support* factors (OS1, OS2, OS3) and the factor embedded assets (I1) support regression analysis models presented above (4.3.4.4). However, some differences emerge between the *parent* organisation and the *partner* organisations. Furthermore, hidden within the frequency counts is the number of positive citations, which combine the asset *PMO* with the predictors of performance, supporting the VRIO findings above (4.4.2.1).

Table 4.43: Predictors of performance citations across regression analysis models

Factor	Descriptor	Parent Participant Citations♯		Partner Organisations Participant Citations♯	
		Perform*	**VRIO^**	**Perform***	**VRIO^**
I1	Embedded assets and processes		13v+ 2v 1v-		8v+ 4v 2v-
OS1	Project management integration	6v+	7v+ 2v 4v-	3v+	2v+ 1v
OS2	Project management alignment	6v+	7v+	2v+ 1v-	5v+ 5v-
OS3	Project management communications	3v+ 1v+	8v+ 1v		2v+ 3v-
	Total positive citations (v+) **Total neutral citations (v)** **Total negative citations (v-)**	**17v+**	**35v+** **5v** **5v-**	**4v+** **1v-**	**15v+** **5v** **10v-**

♯Count only applicable if participant specifically cited or implied a performance predictor example
*Citations across specific project management performance analysis (Codebook.xlsx-PMgtPerformanalysis:tab)
^Citations across all VRIO analysis (Codebook.xlsx-VRIOanalysis:tab

4.4.3.10 Stage-two, phase 2: participant citations

This section relates to the degree of support participants provide across the aggression analysis models. Four factors in total including all three organisational support factors *integration* (OS1), *alignment* (OS2), *communications* (OS3) and one *imitable* factor *embedded assets* (I1). Whilst across all factors there is a general consensus that each factor provides a positive relationship with predicting performance there are some emerging differences between the *parent* and *partner*

organisations. Furthermore, within each factor there are some themes, which challenge the overall effectiveness of each independent factor. Participant citations across the performance aggression analysis factors are presented in table 4.44 below followed by a narrative of the main findings.

Table 4.44: Participant citations across regression analysis model factors (I1, OS1, OS2, OS3)

Factor	Theme(s)	Parent Participant Citations♯	Partner Participant Citations♯
I1: imitable embedded assets	Methodologies and templates effective use	1A1C113, 1A2G213 1A6G213	2B1D212, 2C1B223 2E1D323
	….but not standardised across projects		2C1B223
	Implicit knowledge effective use	1A5G212, 1A6G213	2E1D323
	….but unconscious		2D1E223
	Shadowing and mentoring effective use	1A1C113, 1A4G212	2C1B223, 2M1G223
	….but not enough time	1A5G212, 1A13C121	
OS1: Organisational support – project management integration	General consensus of project management integration in organisations	1A1C113, 1A2G213 1A4G212, 1A5G212 1A6G213, 1A7H322	2B1D212, 2E1D323
	Leadership environment supports effective working relationships	1A2G213, 1A6G213	2B1D212
	….not always effective	1A3G213	
	Upper management support promotes effective working relationships	1A3G213, 1A5G212	2C1B223, 2E1D323
	….time expectations impact of performance	1A3G213, 1A4G212 1A5G212	
OS2: organisational support – project management alignment	General consensus of project management practice alignment with organisations mission, aims and objectives and delivery of products and services	1A1C113	2D1E223, 2E1D323
	….specific to mission, aims and objectives	1A1C113, 1A2G213 1A4G212, 1A6G213	2B1D212, 2H1M212 2K1N232
	….specific to the delivery of products and services	1A2G213, 1A6G213	2B1D212, 2C1B223
	Upper management support alignment of project management practices to organisational aims and objectives	1A3G213, 1A5G212 1A6G213	2B1D212, 2C1B223
	….poor awareness of linking project management practices to organisational aims and objectives		2C1B223, 2D1E223
OS3: organisational support – project management communications	Contradictory effectiveness of project management communications	1A2G213, 1A3G213 1A6G213, 1A11K423 1A3G213, 1A7H322	2B1D212, 2E1D323
	….specific ineffective communications		2C1B223, 2D1E223 2H1M212
	Upper senior management effective communications	1A2G213, 1A3G213 1A4G212, 1A5G212 1A6G213	

♯individual respondents who provide one or more citations

4.4.3.10.1 Project Management Integration (OS1)

Whilst more evident within the *parent* organisation across the collective LASIS there is a general consensus that project management assets, process and practices are integrated in the organisations. For instance, several participants cite the overall project management integration paradigm including one *parent* assistant director 1A1C113, who said, *"project management is a strategic discipline linked to organisations mission, aim, objects. PM practices link with delivery of internal products and services, supportive leadership promotes good working relationships, sharing knowledge, learning environment, open communications on project"*. Going on to explain how certain activities support integration, saying *"project mgt shadowing and mentoring is available within our team with opportunities around coaching"*. This senior managers' view is supported by a *parent* organisation project manager 1A4G212 who explains, *"there is very much a sense of openness and needing to be honest about things, which I appreciate, and I think certainly helps. There is a good sense of togetherness amongst the team. There is a real sense of helping each other, sharing best practices. We will turn to each other for advice if we need it in certain area, we know each other's strengths we know each other's areas for development there is a real sense of togetherness"*. Which is further supported by a *parent* organisation programme manager 1A6G213 who summarised the degree of project management integration regarding a potential significant resource and scheduling problem, by stating *"so there is support going on"*. However, whilst very few *partner* organisations directly cite a positive integration paradigm two organisations imply a growing awareness particular the appointment of a dedicated project manager explains one *partner* trustee 2E1D323 who said, *"we've now taken our first step and we have now appointed XX full-time project manager"*. Moreover, a second *partner* trustee 2B1D212 made several inferences of a developing project management integration paradigm during the interview, for example, *"we apply project management regimes and methodologies to the implementation of our business plan"*. Moreover, and more specific when explaining a capability situation which when resolved has led to creating a more positive environment through leadership and effective support, *"the structure of the organisation is trustee, manager then project officer/developer. We had a hiccup that was personality driven by probably the manager,* [….] *we had a communication problem between the development officer and a trustee and the manager and a trustee. We were lied too and there was a lot of miss-trust and under performance issues.* [….] *XX thought XX was taking the piss, I think his quote was 'if we discuss ten things XX would argue on eight', that wasn't healthy* [….] *so as regards now, basically it's a very flat structure we get tasked, the manager co-ordinates, the development officer delivers"*.

A few participants cited supportive leadership encourages effective working environments. For example, one *parent* project manager 1A2G213, said, *"I think where we have got managers and*

leaders who have worked in projects or who are kind of used to this sort of way of working the leadership is really good [….] *as I say those pockets are shrinking now and I think it's generally the leadership is really strong, you know this is how we do things, this is our approach, this is why it's positive and this is how it helps us",* However, there are some participants who challenge the effectiveness of supportive leadership as one *parent* project manager 1A3G213 discusses leadership within the team, summarised, *"after meetings people will say 'what are they doing?' so to me it's almost like they are not allowed autonomy but nobody tells them* [….] *it's kind of that little bit of people management in a way and setting your stall out and knowing what your expectations are,* [….] *it's almost like there is no line manager sort of telling them what is expected on that real detailed level, so it's kind of like things that XX does, people then go and undo, if that makes sense".* Whilst a negative citation the context was the participants expressed views of other team members, though no other team members made such forceful comments.

Finally, several participants across the collective LASIS cite upper management are supportive. For example, one *parent* project manager 1A5G212 cites upper management support with an organisational wide project, saying that, *"our team were responsible for delivering the pilot project, [….] initially it was our team who were responsible for developing that work with the front line staff, with the support of senior management".* Also, how upper management support is provided to other project members implied one *partner* organisation trustee 2E1D323, who summarised, *"we try and encourage people to do their own thing because we want to develop leadership within the organisation. One of my key things that I keep going on about is succession planning to sustain the organisation. So, in order to get succession planning under way you need to be looking at what I term 'lead volunteers' to give them a little bit more responsibility and little tasks for them to get on and do. So, you can gradually find the people you need to keep the strength of the organisation intact [….] obviously XX wants to do more project management and was saying that he would like to do a bit more if he could for XX own development".*

However, several *parent* participants cited senior management time expectations impact on performance and internal politics affecting working relationships. For instance, one *parent* project management 1A3G213 is concerned with the workload and the inability to challenge, who said, *"we are almost like a victim or our own success because we never say no to work. We never manage that senior management expectation, it's almost like we have to keep going we have to keep going at a million miles an hour and you never really get that opportunity to sort of say yes we can deliver that work, but it will mean that you will have to make a decision on such a thing slipping".* Whilst a second *parent* project manager 1A5G212 links workloads to the lack of *mentoring* opportunities, saying, *"we need a mentoring or a buddying scheme, but I suppose*

sometimes things come into the office and they just take precedence". Moreover, another *parent* project managers 1A4G212, experience with a specific project sponsor's personal agenda, saying that, *"I can't simply go into a board meeting where there are endemic underlying problems and issues".*

4.4.3.10.2 Project Management Alignment (OS2)

Whilst more evident within the *parent* organisation across the collective LASIS there is a general consensus that project management assets, process and practices are aligned to the organisations mission, aims & objectives and generally deliver the organisations products and services. For example, one *parent* project manager 1A6G213 links project management at a strategic level, who said, *"the authority gives project management a high value in terms of its delivery of its organisations, missions, aims and objectives in that for all of its key objectives it has a programme board".* Whilst a second *parent* project manager 1A4G212 comments on the role of the *PMO* achieving organisational aims and objectives, saying that, *"determining what the project is looking to achieve so having those clear objectives, having clarity around what the ultimate aims are [….] to my mind that just demonstrates quite succinctly and neatly the importance we play in delivering the authorities objectives".* Both examples support the project management alignment paradigm implied by one *parent* assistant director 1A1C113, who said, *"project management a strategic discipline linked to organisations mission, aim, objects, PM practices link with delivery of internal products and services".*

However, whilst some *partner* organisations imply project management alignment, for instance, robust challenge against organisational objectives explains one *partner* organisation trustee 2B1D212, who said, *"now every project meeting we challenge everything and ask how its delivering anything relating to our mission, our aims and objectives".* Some *partner* organisations at senior level demonstrate an ambivalent disconnect between how the alignment of project management practices can deliver stated mission, aims and objectives. For instance, one *partner* organisation business development manager 2H1M212 cites poor alignment of business objects and project management, stating that, *"project objectives do not always provide benefits".* Whilst one *partner* organisation international branch vice chair 2K1N232 portrays a general paradigm, stating that, *"ideas created for project work both nationally and internationally from the executive are not always logical and well planned".* However, one *partner* organisation board member 2D1E223 provides a typical narrative regards the ambivalence attitude of the need to align project management to corporate mission etc i.e. no evidence to support defined strategic aims and objectives, who said, *"we can't afford to make a twenty-five grand lose, but it is important, but it wasn't at the beginning".* This last comment is typical of the ambivalent attitude first identified above (4.4.2.3.4 – VRIO thematic analysis, organisational support, alignment).

Several participants across the collective LASIS cite upper/senior supporting the alignment of project management assets, processes and practices with organisational aims and objectives. However, some *partner* organisation senior managers demonstrate an ambivalent attitude by demonstrating poor awareness of the concept including examples of contradiction. For example, though one *partner* social enterprise director 2C1B223 explains the alignment of project management practices with the delivery of specific project objects, the director is unable to define corporate strategy and implies an ad-hoc approach to using project management *"as and when opportunities arise"*. Another example of implied alignment and contradiction is provided throughout the interview of one *partner* trustee 2D1E223, who demonstrates a poor awareness of how alignment of project management practices can benefit social enterprise organisations achievement of stated mission, aims and objectives and the delivery of products and services.

4.4.3.10.3 Project Management Communications (OS3)

Whilst there is general consensus of project management integration and alignment, across the collective social enterprise scheme project management communication is rather contradictory in nature. Though the *parent* organisation demonstrates communications up the project and organisational hierarchy, the degree the collective LASIS has the freedom of timely and effective communications is inconsistent, particular senior management positions within *partner* organisations.

For example, effective and timely communications up the project and organisational hierarchy is demonstrated by one *parent* project manager 1A5G212 discussing the freedom to raise project issues, said, *"yes I have the freedom if I have any concerns or issues I could flag it up straight away and feel that I do have the freedom to do that and I will be listened too"*. Whilst a second example provided by a *parent* programme manager 1A6G213 discussing a complex project with several project and line managers, summarised, *"[…] it's a case of how that person inter-reacts with that person, what experience they have had of working with that person, has to be able to raise issues and suggestions, and the same with line managers, so you know in terms of the waste project I have spoken about, I would have no problem talking to XX about an issue or concern that I have got [….] likewise I can go to the service manager for waste XX or to XX and say 'listen we need to actually tie this down and sort this out at this meeting' [….] it's those discussions that you can have behind closed doors with the responsible officer"*. However, this is tempered by one *parent* project manager 1A3G213 who is concerned regards the effectiveness of wider communications, stating that, *"directors and senior mgt are aware of the programme office's remit and provide much of the project mandates, but this work is not effectively communicated throughout the organisations"*. Whilst a second *parent* organisation project manager 1A7H322 is

also concerned about wider communications of project endeavours, who said, *"clearer communications channels need to be developed to enable and encourage communities to become more aware and involved in understanding how specific projects are achieving and working towards sustainable communities of the future".*

Though, one *partner* trustee 2E1D323, implies a degree of timely and effective communications, saying, *"so, people are not afraid if they are asked to look at something to come back and say, well we have looked at it, but it is not feasible, it is not possible, and these are the reasons"*; another *partner* organisation trustee 2B1D212 further implies that staff openly communicate on project, stating, *"total if they could";* the general picture across the *partner* organisations is one of contradictions particular at a senior management level. For instance, the *partner* social enterprise trustee 2B1D212 contextualises 'openly communicate on project' from the perspective of senior management, stating that, *"they have lots of freedom within the constraints of it must delivery, what we are here to deliver, so it's freedom within the walls of the organisation"* implying trust issues. Similarly, one *partner* organisation director 2C1B223 implies freedom of communications, but at director level only, *"we have a lot of freedom purely because there is only two of us, in terms of the team there is eleven people. But what we do is it's up to myself and my partner how much of it we share, so we have the freedom to decide yes we share it or no we don't share it which is completely different to the way I have been involved in projects in the past".* Finally, several *partner* organisation participants accepted the need for better project management communications. For example, one *partner* biasness development manager 2H1M212, said that, *"communications can be a little disjointed"*. Whilst another *partner* organisation board member 2D1E223, admitted that, *"I think we could do a better job at communication"*. Similarly, with project management alignment (OS2) discussed above, *partner* organisations demonstrate an ambivalent attitude first identified above (4.4.2.3.4 – VRIO thematic analysis, organisational support, communication).

4.4.3.10.4 Embedded Assets (I1)

Across the collective LASIS there is general consensus that project management assets, processes and practices, which are embedded in an organisations routines and relationships are difficult to copy. Furthermore, across the collective social enterprise scheme the mix of *embedded assets* (I1) fall into three sub-themes: i) codified/tangible assets *methodologies* and *templates*; ii) intangible asset *implicit knowledge*; and, iii) intangible assets and practices *shadowing* and *mentoring*. Finally, though only evident in the local authority organisation, when *embedded assets* are combined with the codified and tangible asset *PMO* the factor (I1) appears to be enhanced.

However, whilst codified/tangible assets *methodologies* and *templates* are: i) unique said one *partner* trustee 2B1D212; ii) bespoke but consistently applied across all projects explained one *parent* programme manager 1A6G213; and, iii) shared across the *parent* organisation and some *partner* organisations said one *partner* director 2C1B223; it is difficult to directly link citations with predictors of performance. Similarly, while the collective *implicit knowledge* of the *parent* organisations *PMO* would be difficult to imitate and copy said one project manager 1A5G212; and reiterated by a programme manager 1A6G213; and the implied but unconscious state of exploiting *implicit knowledge* expressed by some *partner* organisation participants 2D1E223, and 2E1D323; it is also difficult to directly relate to predictors of performance. Likewise, though across the collective LASIS participants recognise the availability of *shadowing* and *mentoring*, said one *parent* assistant director 1A1C113; in development, said one *partner* organisation director 2C1B223; again it is difficult to directly link citations to predictors of performance.

4.4.3.10.5 Embedded assets (I1) when combined with asset PMO

Consistent with VRIO thematic analysis above (4.4.2.2) the asset *PMO* emerges as a theme particular within the *parent* organisation. Whilst one *partner* organisation director 2C1B223 links *mentoring* with the asset *PMO*, several *parent* participants cite the asset *PMO* across the three *embedded assets* (I1) sub-themes and also in combination with organisational support factors, project management integration (OS1) and project management alignment (OS2). table 4.45 below presents participant citations frequency counts, whereas table 4.46 below summarise themes when combined with *PMO* asset.

Table 4.45: Participant frequency count across regression analysis model combined with PMO

Factor	Sub-themes	Parent Participant Citations♯	Partner Participant Citations♯
I1	Codified/Tangible Assets *Methodologies*, *Templates*	1v+	
I1	Intangible Asset *Implicit Knowledge*	3v+	
I1	Intangible Assets and Practices *Shadowing, Mentoring*	7v+ 1v-	2v+
OS1 OS2	Organisational Support	4v+	
	Total positive citations (v+) **Total neutral citations (v)** **Total negative citations (v-)**	**15v+** **1v-**	**2v+**

♯from the same citation example one or more questionnaire variables may be cited

Table 4.46: Participant citations across regression analysis model combined with PMO asset

Project Management Asset	Theme(s)	Parent Participant Citations♯	Partner Participant Citations♯
Enhanced when combined with Project Management Office (PMO)	Methodologies and templates effective use	1A4G212	
	Implicit knowledge effective use	1A6G213	
	Shadowing and mentoring effective use	1AIC113, 1A1G213 1A4G212, 1A5G212 1A6G213	2C1B223
	….but not enough time	1A5G212	
	Organisational support – project management integration	1A5G212	
	….project management alignment	1A3G213, 1A6G213	

♯individual respondents who provide one or more citations

Before concluding the chapter and progressing to the discussion chapter, it is first necessary to summarise the factors across the collective LASIS which predict *project* and *firm* performance.

4.4.4 Stage-two, predictors of performance summary

A summary of key observations is provided in the following table 4.47, whilst figure 4.15 is a novel way to illustrate how the key thematic analysis observations deviate from the quantitative statistical analysis survey questionnaire.

Table 4.47: Summary of the significant predictors of performance thematic analysis findings

Factor I1: Embedded assets	• Though participants across LASIS acknowledge and recognise the impact of certain tangible and intangible assets and intangible practices, are hard to copy, it is difficult to directly link with how the participants associate these key imitable assets are likely to indicate performance.
Factor OS1: Organisational support – project management integration	• A general consensus of integration but largely from *parent* participants. • Leadership environment supports effective working relationships, though some *parent* participants do not think it is effective. • Upper management support promotes effective working relationships, though some *parent* participants challenge due to senior mgt work load expectations impacting on performance. • *Parent* organisations developing project management practice paradigm generally supports the VRIO analysis, however: • The *partner* organisations implied integration is contradictory supporting an ambivalent attitude toward PM practice as a strategic resource.
Factor OS2: Organisational support – project management alignment	• A weak general consensus of project management practice alignment with organisations mission, aims and objectives and delivery of products and services. • Upper management support alignment of project management practices to organisational aims and objectives, though this is generally in the *parent* organisation who demonstrate tangible awareness. • *Partner* organisations generally demonstrate poor awareness of linking project management practices to organisational aims and objectives, supporting the ambivalent attitude.
Factor OS3: Organisational support – project management communications	• Contradictory effectiveness of project management communications across both *parent* and *partner* organisations. • *Parent* organisation participants experience positive communications up the project hierarchy and up in the organisations hierarchy, however: • *Partner* organisation senior mgt demonstrate ineffective project communications, supporting the ambivalent attitude.
Combined with asset 'PMO'	• *PMO* asset emerging as a significant predictor of performance in *parent* organisation confirming VRIO analysis

General observations	• *Parent* organisation support I1, OS1, OS2 as predictors of performance, however • Less support for OS3 • *Parent* organisations developing project management practice paradigm is supporting the development of VRIO predictors of performance and other project management assets particular *PMO* • *Partner* organisations demonstrate some acceptance that *organisational support* is vital for project success, but largely senior mgt are ambivalent, supporting the VRIO analysis.

The degree the key observations deviate (exceed, support or challenge the effectiveness of the factor) from the quantitative statistical analysis survey questionnaire are illustrated in figure 4.15 below. This visual representation clearly demonstrates the disparities between the *parent* and *partner* organisation group, particular the *partner* organisations ambivalent attitude towards developing key *organisational support* processes and practices essential for a positive project management paradigm. These observations will be extensively explored in the subsequent discussion and conclusion chapters below.

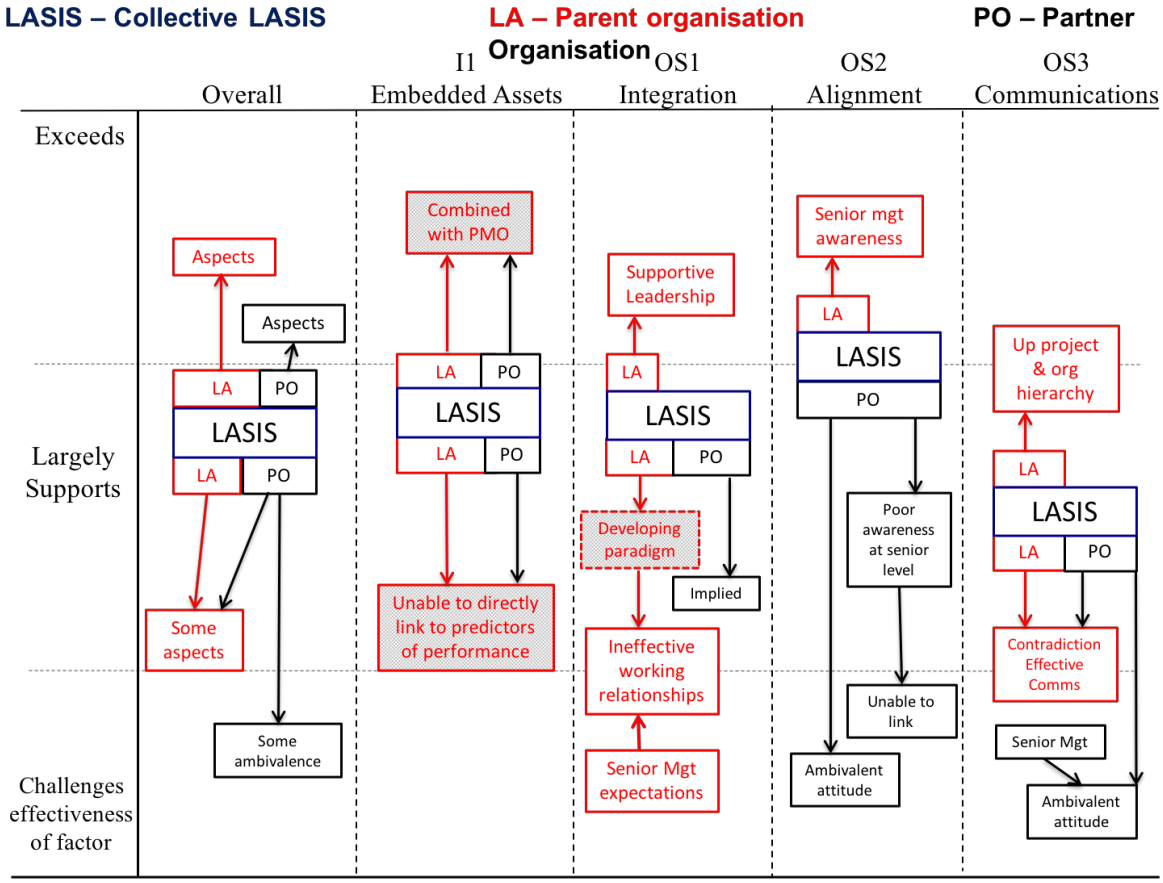

Figure 4.15: VRIO thematic analysis degree of deviation from statistical tests

4.5 Research Findings Conclusion

Through two empirical studies this chapter has presented the research findings to address each of the three identified central research questions. In the first quantitative study the VRIO framework was operationalised, where factor analysis identified project management assets and associated processes and practices that leverage certain degrees of competitive advantage and how advantage

is provided, whilst regression analysis determined which of these factors predict *project* and *firm* performance. In the second qualitative study thematic analysis explored certain anomalies exposed from the quantitative study and identified how LASIS current project management performance knowledge paradigm impacts on LASIS overall project management practice paradigm.

The findings from the two studies make it possible to present the development of two empirical conceptual models: i) Project Management Asset level degree of Competitive Advantage (figures 4.7, 4.13; and, ii) How assets provide levels of competitive advantage? (figures 4.8, 4.14). However, the identification of LASIS project management knowledge performance paradigm which emerged from the thematic analysis findings make it difficult to develop the predicators of performance beyond the initial regression analysis models (figures 4.9, 4.10). Thus, it is necessary to rephrase 'predictors of performance' to reflect the reality and from this point will be termed 'factors more likely to indicate LASIS performance'.

Having presented the extensive research findings, in the next chapter the central research questions *RQ1, RQ2 and RQ3* will be answered, with particular focus on an extensive exploration of the sub research questions.

Chapter 5 - Discussion

5.1 Introduction

This chapter examines the research findings from the survey questionnaire conducted June/July 2014 and the subsequent semi-structured interviews conducted August 2014. The core theme of this chapter is to provide a comprehensive discussion regards the central research questions. The discussion is a critical analysis of both empirical and theoretical findings from the research, drawing out areas, which support extant literature and identify significant 'gaps' in knowledge.

The chapter is presented in several subsections in which each of the three specific research questions are discussed, with a final subsection drawing together the main findings in a concluding summary and how the discussion relates with the next and final thesis chapter.

Before commencing with the discussion, in order to a provide consistent focus it is pertinent to restate the core central research questions and present the findings in a visual representation.

5.2 Research Questions

5.2.1 Introduction

In the previous chapter (research findings), presentation of the survey instrument findings was supported by the thematic analysis of semi-structured interviews of key participants identified from the survey analysis. This section now presents a discussion regards the aggregated analysis extracted from the mixed methods approach. To structure the discussion, each of the nine sub-research questions (SRQ) will be addressed in detail, which are once again presented in figure 5.1 below. Followed by addressing the three central research questions in the final concluding chapter. However, before examining each individual research sub-question it is necessary to present the visual representation of the findings and rationalise two key underpinning assumptions: i) what are the research question(s) and why they are relevant; and, ii) how do the research questions relate to the identified gaps in knowledge? Therefore, following the visual presentation of the multi-phase findings, illustrated in figures 5.2, 5.3 and 5.4 below, each assumption will be clarified at the onset of each research question.

Whilst the collective LASIS is the principle unit of analysis, relevant discussion will also focus on the disparities between the *parent* organisation and the *partner* organisations.

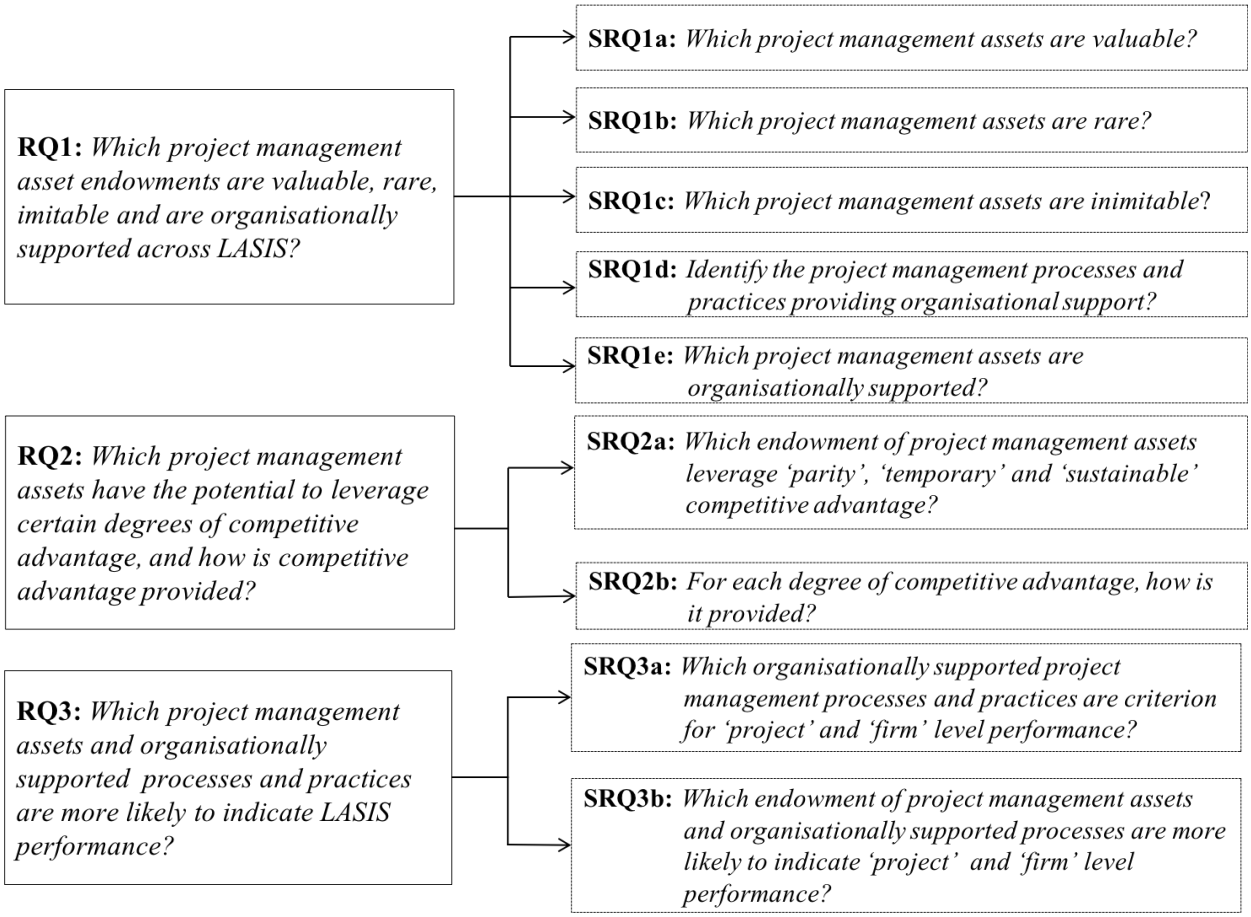

Figure 5.1: Central Research Questions and Supporting Sub-Research Questions

5.2.2 Findings visual representations

The following series of figures are visual representations of the findings presented in Chapter Four above. The first represents the questionnaire findings and highlights the main observations and significant anomalies across all three central research questions, as figure 5.2 illustrates. Whereas, figures 5.3 and 5.4 are visual representations of the thematic analysis findings; where in addition to highlighting the main observations and anomalies, themes are identified across all three central research questions.

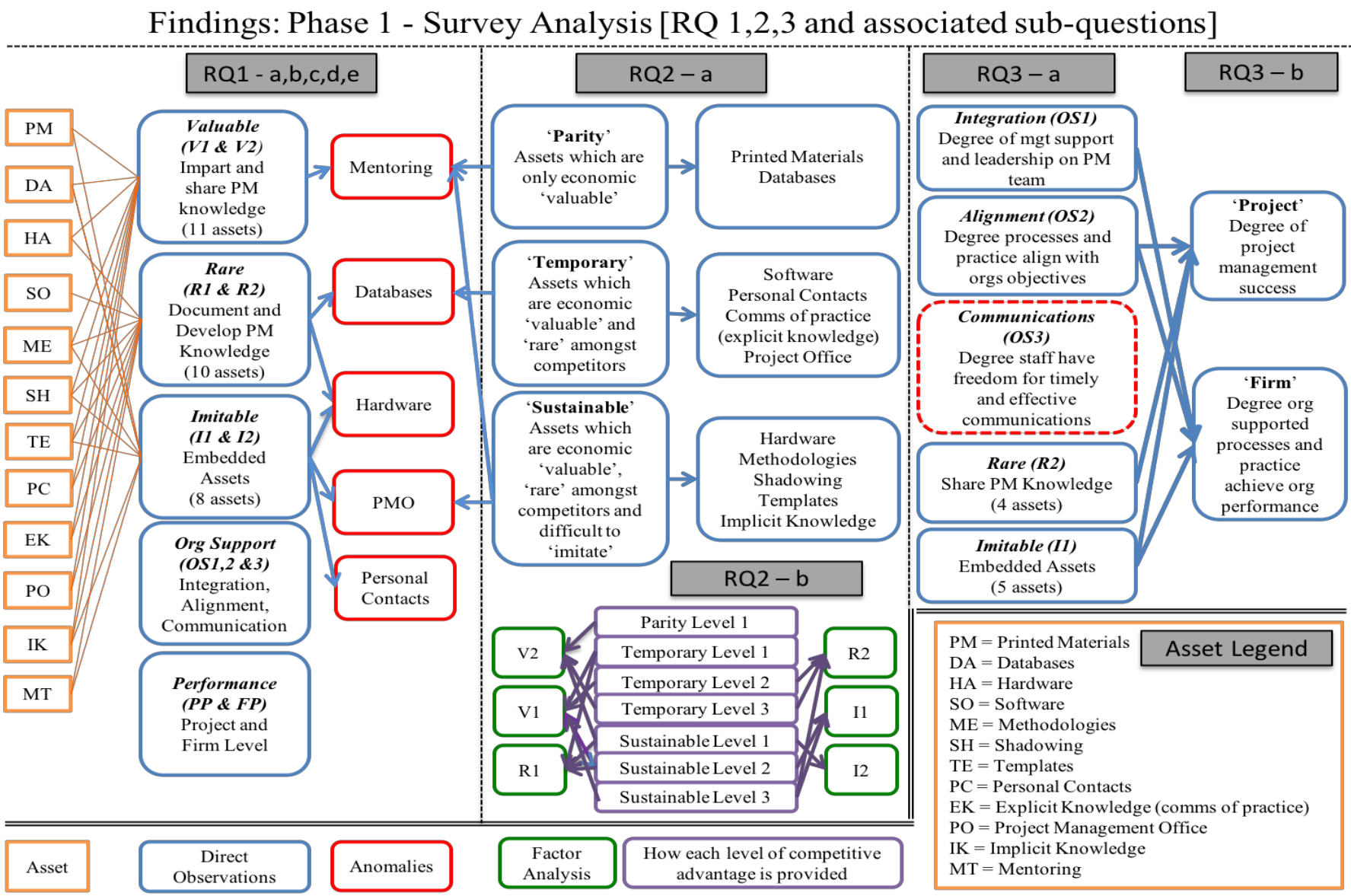

Figure 5.2: Survey findings visual representation

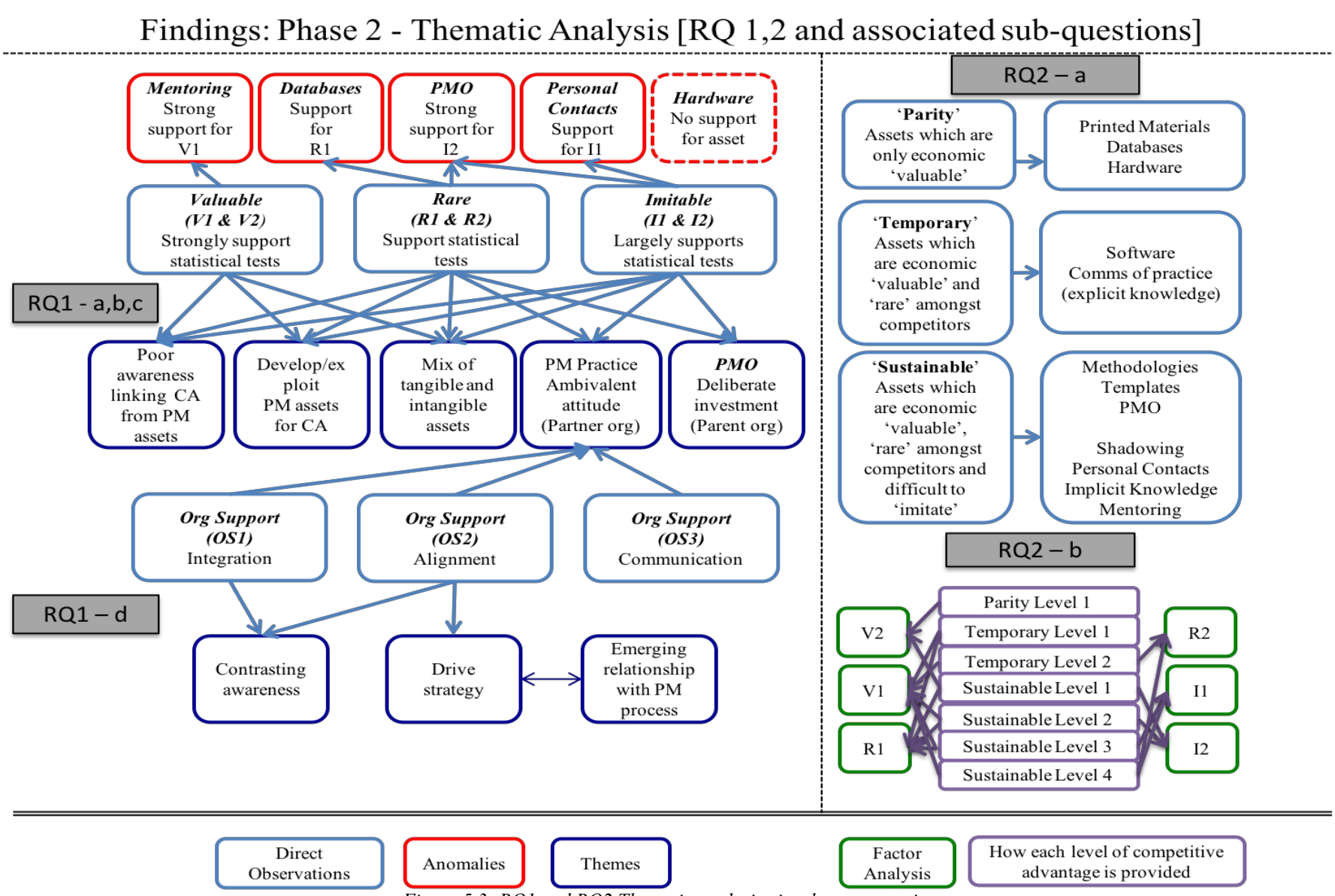

Figure 5.3: RQ1 and RQ2 Thematic analysis visual representation

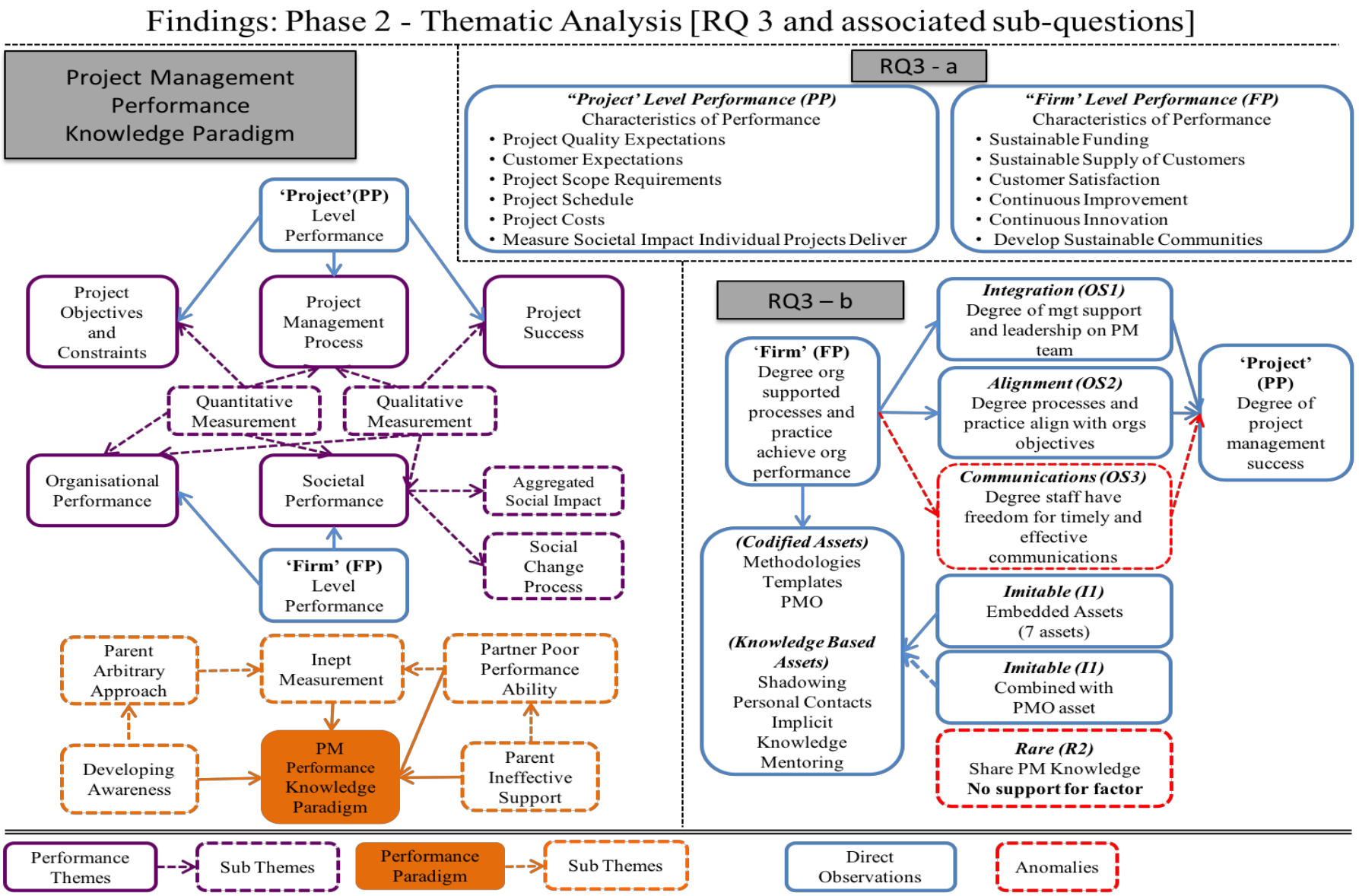

Figure 5.4: RQ3 Thematic analysis visual representation

5.2.3 Research Question 1

Assumption 1: What is the research question and why is it relevant?

RQ1: *Which project management asset endowments are valuable, rare, imitable and are organisationally supported across LASIS?* The traditional local authority third-sector grant dependant model is no longer viable. In replace both local authorities and third-sector organisations are compelled to become more financially and operationally sustainable whilst facing competitive challenges from other local authorities, community groups as well as from for-profit organisations. If the collective LASIS and individually the *parent* local authority and their collaborating third-sector *partners* are to become sustainable and secure funding and other resources, they need to acquire some form of competitive advantage. One such opportunity is the acknowledgement, development, deployment and exploitation of certain project management assets and associated processes and practices. This supposition emphasises Barney, 1991 theoretical position and Mathur at al., (2014) contextual empirical findings, suggesting that organisational performance based on successful project outcomes will generate better than average performance in comparison with direct and potential competitors. Thus, in turn, access to better than average financial funding and other resources. However, if competitive advantage from project management assets are to be realised, then LASIS need the managerial capabilities to recognise and exploit their productive opportunities, emphasised by Kraaijenbrink et al., (2010), and develop deliberate internal resource-based strategies, which exploit certain project management assets, processes and practices. Strategies should be developed to ensure project management assets are economically valuable in the sense that they exploit opportunities or neutralise threats in LASIS environment, are rare amongst LASIS direct and indirect competitors, are difficult to imitate/copy with no equivalent substitutes, and LASIS organisational support these project management assets, processes and practices. The endowment of project management assets relevant for this research are both tangible and intangible in nature and include specific explicit and tacit type assets [*printed materials, databases, hardware, software, methodologies, shadowing, templates, personal contacts, explicit knowledge, project management office, implicit/tacit knowledge, mentoring*).

To address *RQ1* it was necessary to develop five sub-research questions *(SRQ),* which was drawn from literature mainly the Resource-Based View body of knowledge and specifically the VRIO framework (Barney, 1995). A two-phased sequential approach was necessary in this multi-phased mixed method approach. First, a sequential explanatory phase collected survey data (n=70) and statistically manipulated to extract nine (9) factors across the six (6) sub-research questions. Having identified several anomalies from the survey analysis, and to gain a more detailed exploration, phase 2 consisted of thirteen semi-structure interviews (7 = *parent* organisation, 6 =

partner organisations) and thematically analysed based on Creswell (2009) iterative 6-steps, and Boyatzis (1998) deductive, inductive hybrid approach of using theory, existing research and raw data to identify codes and subsequent themes. Whilst thematic analysis generally supports the survey findings, an emerging ambivalent attitude theme, particular with the *partner* organisations, challenge the effectiveness of any deliberate strategies to exploit project management assets and the processes and practices providing organisational support, which is visually presented in figure 4.11 above - VRIO thematic analysis degree of deviation from statistical tests.

Sub-research questions:

SRQ1a: *Which project management assets are valuable?*

SRQ1b: *Which project management assets are rare?*

SRQ1c: *Which project management assets are rare?*

SRQ1d: *Identify the project management processes and practices providing organisational support?*

SRQ1e: *Which project management assets are organisationally supported?*

Assumption 2: How does the research question relate to 'gaps in knowledge'?

First, the importance of this research is the practitioner insight it offers in an area of extremely limited empirical study. To date, there is no research, which investigates project management assets as a source of competitive advantage from the RBV lens and VRIO framework in a public-sector arena, including local authority third-sector partnerships charged with becoming financially and operationally sustainable, which LASIS are an example. This research question specifically identifies key strategic issues when acknowledging, developing, deploying and exploiting certain project management assets and associated processes and practices, in the initial stage of setting up and subsequent implementation and maintenance of a LASIS or similar model, offering tangible practitioner insight.

Second, the primary participants are uniquely divergent in comparison with extent research into project manager professionals. Unlike project management professionals in private-sector organisations who recognise the value of such strategic project management practices, to date there is no empirical research in which non-professional project management practitioners in a public-sector context are the primary participants in a specific project management themed investigation. This is pertinent for non-professional practitioners particular project actuality and the lived experience associated with novice practitioners.

5.2.3.1 SRQ1a

Which project management assets are valuable? Results from factor analysis identified eleven project management assets across two factors. Factor V1 - Impart project management knowledge, Factor V2 - Share knowledge-based processes. Of significance is the removal of the *mentoring* asset due to cross loading, albeit across each factor *mentoring* returned a >.6 factor loading. However, the results from the phase two thematic analysis VRIO frequency counts and participant citations strongly suggest *mentoring* is considered a valuable asset. Refer table 4.29 above. Therefore, this positive affirmation that *mentoring* is considered a valuable asset and its dominance across one particular factor, *mentoring* belongs within the mix of assets related to V1 – Impart project management knowledge.

Other notable points extracted from the thematic analysis are the notion that *methodologies*, *templates* and *project management office* all support the statistical analysis. This is of particular significance when considering that these tangible assets are fundamental components of the project management function and should be considered absolutes in a deliberate investment in the project management function. For example, customised *methodologies* & *templates* and a conscious investment in *project management office* are developing across both *parent* and *partner* organisations. However, at this early stage alignment is to specific organisational needs, and not the collective LASIS. Whilst some recognition of the value these assets leverage (survey mean value 4.95, almost equivalent to agree on the 7-point Likert scale) and at an unconscious level the notion of potential competitive advantage, alone, these tangible assets at best only provide parity competitive advantage (Mathur et al., 2007). However, without these assets, LASIS will probably be at a disadvantage in comparison with their direct and indirect competitors.

However, whilst there is strong support for endowments of project management assets being valuable, and a positive affirmation that *mentoring* is considered a valuable asset, two embryonic issues emerge from these statements. First, the degree of organisational support for project management practices i.e. *mentoring* as 1A5G212 above indicates, and ii) the disparities between LASIS *parent* and *partner* organisations, particular the *parent* organisations deliberate investment in project management as a strategic function. These two themes will be discussed in more detail as the discussion develops.

As already stated above, having analysed both data sets, two distinct factors emerge. V1 refers to the assets LASIS use to capture and disseminate project management knowledge and consists of a mix of tangible and intangible assets. Whereas V2 refers to the assets LASIS use to enable the application and sharing of project management knowledge, and only consists of tangible assets.

Whilst the findings demonstrate similarities with Mathur et al., (2013) study of 212 Project Management Institute® members from North America and Canada, the mix of LASIS assets and factor descriptors are synonymous in the early stages of project management implementation. For example, it is to be expected that all assets provide some economic value and are both tangible and intangible assets. However, understanding the nature of value in relation to competitive advantage is a challenge for the collective LASIS. Though when prompted participants did eventually imply several examples where and how project management assets add economic value to their respective organisation, albeit at an unconscious level. For examples, refer to 4.4.2.3.1 above.

Though most applicable to the *parent* organisation, whilst LASIS are starting to invest in project management as a strategic function, the analysis of valueness identified certain scenarios in which endowment of assets have the potential of leveraging some degree of competitive advantage. Confirming with scholars (Barney, 1991; and Killen et al., 2012), though tangible assets are necessary and offer some degree of competitive advantage it is the intangible assets, which are more likely to satisfy the VRIO conditions and offer sustained competitive advantage (Spender, 1996; Jugdev, 2014; Almarri & Gardiner, 2014). This is due to their inherent difficulties to imitate, as Hitt et al., (2016) contends in their challenge to interrelate RBV with other complementary meta-competences; which is an area of future investigation the researcher is currently developing. This is clearly evident across both valueness factors. Particular the mix of V1 knowledge 'know what' to do assets and 'know how' to do it assets essential for early stage implementation, as table 5.1 below illustrates.

Table 5.1: Value factor descriptors and associated assets and their state

	Impart Project Management Knowledge (V1)	**Share Knowledge Based Processes (V2)**
Tangible Assets	Software, Methodologies, Templates, Project Management Office,	Printed Project Management Materials, Databases, Hardware, Communities of Practice (Explicit Knowledge)
Intangible Assets	Shadowing, Personal Contacts, Implicit (Tacit) Knowledge, Mentoring	

To sum up, three key points are recognised. First, considering the non-professional project management status, and the embryonic stage in recognising the strategic value and implementation of project management as a strategic source of competitive advantage; the collective LASIS have an emerging notion of competitive advantage from project management assets. However, articulating how certain project management assets add economic value is a challenge, as figure 5.5 above illustrates. This is of particular importance in this post 2008 new public-sector funding environment. LASIS managers (*parent* and *partner*), need to understand which assets should: i) be acknowledge as providing potential competitive advantage; ii) how to deliberately develop these assets, iii) when to strategically deploy these assets, and, iv) how to tactically exploit the mix

of assets for competitive advantage? Second, whilst the value factor *share knowledge based processes* V2 are all tangible assets, there is no clear distinction between tangible and intangible assets across the factor *impart project management knowledge* V1. Of relevance, here is the mix of assets necessary for developing project management knowledge at the individual, team, organisational (*parent* and *partner*) and LASIS level during the initial stages of implementing a non-professional project management practitioner LASIS.

Finally, though the analysis of valueness is only the first component of the VRIO framework, early emergence of two themes are identified, which pervade throughout the analysis. To begin, the degree to which LASIS (*parent*, *partner* and the collective) provide organisational support to endowments of project management assets, is a moderating factor, confirming Jugdev et al., (2011) contention that to fully exploit a firms resources and capabilities (in this study the project management function and its assets) requires a significant investment in organisational support (Barney & Wright, 1998) particular project management processes and practices necessary to fully exploit the endowment of project management assets.

The second emerging theme relates to the disparities between the level of deliberate and a conscious investment in the project management function between the *patent* and *partner* organisations. Whilst the *parent* organisation has a program of deliberate project management investment this is not replicated across the majority of *partner* organisations. The relevance here is a fragmented approach with little evidence how the project management function will support the collective LASIS strategic intention.

5.2.3.2 SRQ1b

Which project management assets are rare? Results from factor analysis identified ten project management assets across two factors. Factor R1 – Document formal project management knowledge, R2 – Development of individual project knowledge. Factor R1 refers to assets and processes, which document and facilitate sharing project management knowledge that are unique to LASIS (*parent*, *partner*, collective). These include at the individual level intangible assets, which are be both formal and informal processes; and at a structured level formal tangible asset processes. Factor R2 refers to assets and processes, which enable development of explicit and tacit project management knowledge at an individual level, these being rare when customised for LASIS (*parent, partner*, collective) uniqueness.

Table 5.2: Rareness factor descriptors and associated assets and their state

	Document Formal Project Management Knowledge (R1)	**Development of Individual Project Management Knowledge (R2)**
Tangible Assets	Hardware, Software, Methodologies, Templates, Project Management Office,	
Intangible Assets	Shadowing, Mentoring	Personal Contacts, Communities of Practice (Explicit Knowledge), Implicit (tacit) Knowledge

In comparison with valueness, the factor analysis results for rareness highlight a significant decline in the average mean (3.88), which is almost equivalent to 'neither agree or disagree' on the 7-point Likert scale. This represents a scale reduction from the relatively high rareness average mean (4.95), which is further supported by the low number of thematic analysis frequency counts and evaluation of participant citations. A potential explanation for this decline is the notion that local authorities and their *partner* organisations belief they do not have competitors for their direct services. This rationale is contrary to successive public-sector competition regime since the early 1970s (OECD, 2002) and the post 2008 global financial crisis rise in local third-sector competition (Milbourne & Cushman, 2013). Therefore, generally both *parent* and *partner* organisations are ignorant of the relevance of developing rare organisational assets. Typically, respondents were ignorant of '*rare'* assets including staff in senior positions. For examples, refer to 4.4.2.3.2 above.

Thematic analysis highlighted a potential factor analysis anomaly. Factor analysis didn't extract *databases* across either *rareness* factor. Conversely, *databases* were cited by both *parent* and *partner* organisations on several occasions, has been a *rare* asset. Which, when compared with the positive extractions across valueness and inimitableness factor analysis, been a *rare* asset would consider *databases* the potential for sustaining competitive advantage. However, because of the limited application of project management *databases* across the collective social impact scheme, and the limited use restricted to modest monitoring, controlling and simple queries, until the developing bespoke and customised *databases* suggested by 2B1D212 is evidenced, the asset '*databases'* continues to only provide parity advantage, confirming the statistical tests.

Despite the general apathy (across LASIS) of recognising the relevance of acknowledging and developing *valuable* and *rare* project management assets, the *parent* organisation particular the *project management office* team do articulate the notion of how certain assets do offer some degrees of *rareness* (*shadowing* in the *PMO*, *personal contacts* for developing *explicit* and *tacit knowledge*, bespoke *communities of practice* for developing formal *explicit project knowledge*, *implicit knowledge* and *mentoring* within the *PMO*). This is a significant finding confirming factor analysis R2, in which individuals are actively engaging in both formal and informal processes to acquire and develop their own personal project knowledge. However, this is confined to the group

of participants who are assembled for specific project management responsibilities. Generally, across *partner* organisations and other *parent* organisation participants, including senior managers, there is poor awareness that assets can be *rare*, and limited practical application of developing assets to either document formal project management knowledge (R1), or develop individual project knowledge (R2).

To sum up, three key points are recognised. First, supporting the valueness analysis, the recognition of *PMO* is emerging as a significant asset when considered as a deliberate project management investment. Accepting that a tangible asset is unlikely to offer long-term sustained competitive advantage, as argued by Jugdev et al., (2007) hypotheses that tangible project management assets if valuable and organisationally supported will leverage competitive parity. In this post 2008 global financial crisis public sector competitive funding paradigm, LASIS should consciously acknowledge, develop and deploy *PMO* in the early stages of start-up and implementation. However, resource constraints may prohibit dedicated *PMO* investment in all *partner* organisations. Thus, it is suggested that the *parent* organisation take the key role and coordinate *PMO* resources centrally, and whilst supporting LASIS *partners*; individual *partner* organisations develop a pragmatic *PMO* role. The key point here for the *parent* organisation is to support their *partners* with the alignment of LASIS strategic aims and objectives, whilst the *partners* become sustainable and develop their own *PMO* role. This will be further explored in SRQ1d&e below, organisational support.

Second, whilst participants assembled for specific project management responsibilities (largely parent *PMO* participants and sporadic *partner* organisations paid employees) are acknowledging the need to develop *rare* assets, generally there is a growing divide between accepting the need to develop project management assets for organisational success and to exploit these same project management assets to sustain this success. This divide is both within organisational type i.e. *parent* senior management and *PMO*, and across LASIS i.e. *partner* organisations are less likely to acknowledge this distinction. The key point here is the limited understanding of project management practices associated with non-professional project management practitioners, and the traditional notion that competitive forces are not applicable for LASIS, and therefore no need to develop competitive strategies.

Finally, whilst the *parent* organisation is actively engaged in the deliberate investment in project management assets, processes and practices (though not consciously for competitive advantage), emerging from the analysis is the growing ambivalent attitude towards project management assets, process and practices across most *partner* organisations. The key point here is the *partner*

organisations disconnect between the strategic nature of project management practice and organisational strategy and specific services these organisations provide. These key points are visual presented in figure 4.11 above - VRIO thematic analysis degree of deviation from statistical tests.

5.2.3.3 SRQ1c

Which project management assets are inimitable? Initial results from factor analysis identify several observations, which challenged the suitability of the extracted three factors. Therefore, as previously explained in Chapter 4 Findings, to find the best-fit parsimonious (Field, 2009) model, it was necessary to conduct several tests in which certain combinations of assets where systematically removed? Thus, factor analysis identified eight project management assets across two factors. Factor I1 – Embedded assets, I2 – Embedded codified proprietary assets. Factor I1 refers to assets and processes, which are embedded in LASIS routines and relationships and are therefore hard for competitors to imitate. These include both tangible and intangible assets that are customised and bespoke to specific LASIS *parent* and *partner* organisations. Factor I2 refers to tangible assets, which embody codified knowledge that is, LASIS specific or proprietary and therefore difficult for competitors to copy. These include tangible formal processes, which gather accessible knowledge for sharing and dissemination. The key point here is that this type of knowledge is explicit and codified (Polanyi, 1964), which is embedded in the organisation in forms that are easily taught or written down, akin to Spender, (1996) Objectifies knowledge type. Of note, whilst the assets *PMO* is highlighted as a significant asset, *printed project management materials* and *hardware* is seldom extracted from any of the valueness, rareness and inimitableness factor analysis.

Table 5.3: Imitable factor descriptors and associated assets and their state

	Embedded Assets (I1)	**Embedded Codified and Proprietary Tangible Assets (I2)**
Tangible Assets	Methodologies, Templates, PMO (not statistically supported)	Printed Project Management Materials, Hardware, Project Management Office (not statistically supported)
Intangible Assets	Shadowing, Personal Contacts (not statistically supported), Implicit (Tacit) Knowledge, Mentoring	

Of consequence is the best-fit parsimonious model consisted of removing *personal contacts* and *PMO* assets. Additionally, similar with the rareness analysis there is a further decline in the average mean for the eight extracted assets (3.66), which is mid-way between ‘disagree’ and ‘neither agree or disagree’. Again, this represents a marked scale reduction, which is once again supported by the very low number of thematic analysis frequency counts and evaluation of participant citations. Similar with the valueness and rareness analysis, there is evidence of poor inimitable awareness of why difficult to copy or imitate assets link with providing competitive

advantage, though this relates more to the *partner* organisations. Once again, an explanation may be the notion that local authorities and their *partner* organisations belief they do not have competitors, and therefore are not aware of the relevance of developing valuable, rare and inimitable organisational assets. However, thematic analysis supports the *parent* organisation, particular *PMO* participants and a few *partner* organisation participants belief that certain embedded assets (I1) including *methodologies*, *templates* and *implicit knowledge*, may be difficult to imitate. They also strongly acknowledge that *PMO* and *personal contacts* will be difficult to imitate by competitors. Therefore, this positive affirmation that *personal contacts* is considered an *inimitable* asset with a dominance across one particular factor, *personal contacts* belongs within the mix of assets related to I1 – embedded assets. Whereas, *PMO* asset is dominant across I2 - embedded codified proprietary tangible assets. Literature contends that *PMO* assets are tangible and largely codified the participants within *PMO* teams develop and exploit structures and processes which become more and more embedded in an organisations routines and relationships. Therefore, whilst I1 is the dominant factor the developing significance of I2 should be considered as a complementary mechanism.

With interest thematic analysis identified a key theoretical posits, of the latent inimitableness potential from history and casual ambiguity (Barney, 1991). Though, at an unconscious level, both *parent* and *partner* organisations firmly believe that their long established relational history, trust and reputation with the community and collaborating organisations would be virtually impossible for competitors to quickly and easily copy. Also, and again at an unconscious level, casual ambiguity is demonstrated. For example, within an embryonic project management paradigm, one *partner* social enterprise director 2C1B223 is blissfully unaware of how their management knowledge contributes towards positive and measurable organisational impact. Whilst a second LASIS *partner* trustee 2E1D323 is naive and unable to see that though an ambivalent attitude towards project management their unconventional approach to managing the organisations projects does influence the degree of societal impact.

To sum up, three key points are recognised. First, generally, at an unconscious level both the *parent* and *partner* organisations recognise that the degree of customisation and the bespoke nature, certain assets and processes may be difficult to imitate or copy by any direct or potential competitor. Here such assets like the tangible assets *methodologies* and *templates*, and the intangible assets *personal contacts*, *implicit knowledge*, *shadowing* and *mentoring*, in time become embedded within the organisations relationships and routines, as empirically demonstrated by Mathur et al., (2014) investigation into the relationship between project management process characteristics and performance outcome, associated with project management orientated

organisations. This type of organisational knowledge is both explicit and tacit but 'private' in nature (Matusik and Hill, 1998), and concerning components of the organisation (LASIS, *parent*, *partner* or collective), which are individually acquired or collectively embedded in the organisation's relationships and routines. This makes factor I1 a key consideration for competitive advantage, particular combined with LASIS unique history and aspects of casual ambiguity making project management assets, an imperfectly inimitable resource (Barney, 1991).

Second, further supporting the valueness and rareness analysis, the recognition that *PMO* is emerging as a significant asset when considered as a deliberate project management investment. The significance of this is clearly recognised by *parent PMO* participants that the *PMO* function would be difficult to copy and implied by one *partner* organisation. For example, refer to table 4.31 above. Whilst the *parent* organisation participants make impressive claims, they are personal opinions as no analysis of other local authority organisations can be compared. However, the researcher is aware of anecdotal evidence that both neighbouring local authorities and in general similar social impact schemes outside this LASIS do not recognise the value of *PMO* investment.

Finally, adding weight to the valueness and rareness analysis, emerging from the analysis is the ambivalent attitude towards project management assets, process and practices across most partner organisations, is manifesting as a reluctant and ignorant paradigm at a strategic level. The key point here is again the strategic disconnect between the nature of project management practice, organisational strategy and specific services these organisations provide. A potential explanation may be offered from the descriptive analysis of the participant demographic data (though no other analysis performed). Off the n=44 *partner* participants, only 11.3% have any formal project management qualifications (PRINC2, APMP, MSP, MSc, Diploma etc), and only 31.8% have attended any informal project management training (in-house on the job training or further education programme). However, 72.7% state they are either project executives or project managers, responsible for the delivery of projects. Once again, these key points are visual presented in figure 4.11 above - VRIO thematic analysis degree of deviation from statistical tests.

Having discussed which assets are likely to be considered valuable, rare and inimitable across six factors, it is now necessary to discuss, which project management processes and practices provide organisational support. This will be followed by discussion regards, which project management assets are organisationally supported.

5.2.3.4 SRQ1d

Identify the project management processes and practices providing organisational support? As previously suggested, and articulated by Barney (1995), Barney & Wright (1998) the VRIO

framework suggests that resources developed for competitive advantage need to be organisationally supported. In other words, firms must be so organised that allow its human resources to exploit the full potential of it resources and capabilities to sustain competitive advantage. These include the systems, processes and practices that allow human resources to administer, maintain, develop, deploy and exploit firm resources for competitive advantage. In reality, as suggested by Jugdev et al., (2007) as a firm moves from parity, temporary and sustained competitive advantage, there is increasing organisational support for these resources. The theoretical rationale suggests that resources deliberately developed for competitive advantage i.e. project management assets; they need to be valuable, rare, imitable and organisationally supported. Without the correct level of organisational support, resources developed for competitive advantage strategies are unlikely to achieve sustainable competitive advantage and may put organisations at a competitive disadvantage. In fact, and some significance is Jugdev et al., (2011) argument that the level of competitive advantage from valuable, rare and imitable resources is moderated by the degree of organisational support, as figure 5.5 below illustrates.

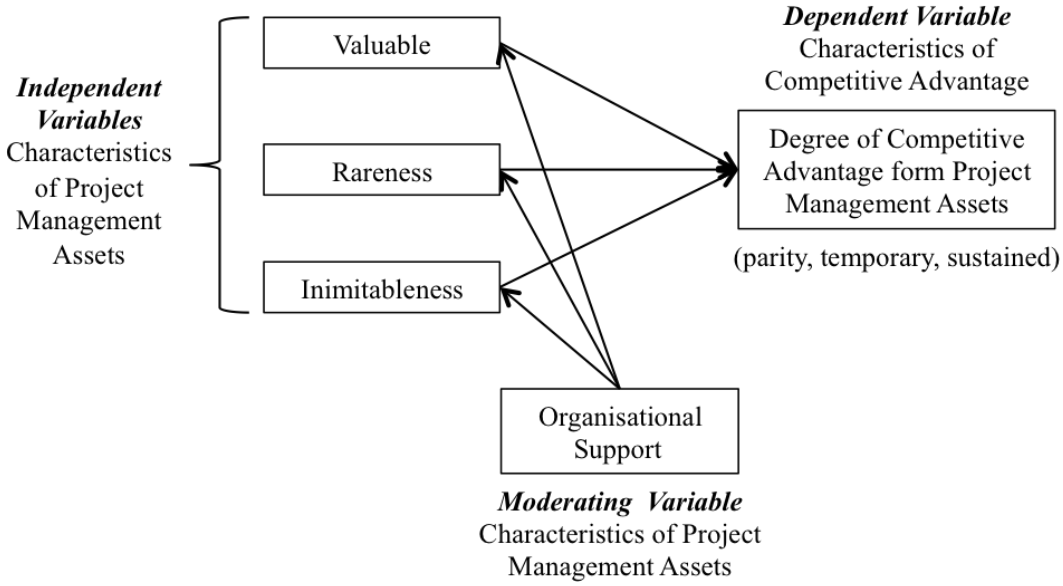

Figure 5.5: Adapted Jugdev et al., (2011) model
Characteristics of project management assets and CA

As discussed previously in Chapter 4 Methodology, the rationale for applying Mathur et al., (2013) survey constructs for process and practices, which offer organisational support to project management assets, was to enable comparison between the divergent context of professional project manager organisations and non-professional project manager practitioner organisations associated with LASIS, as highlighted in knowledge gap 2 above. Additionally, whilst the organisational support constructs are intentionally orientated towards project management, in spirit they relate to mechanism which foster organisational strategic performance across most organisational disciplines and functions. Therefore, where the value, rare and imitable constructs

were modified to reflect the gaps in LASIS knowledge and awareness of project management practices, a consensus of acceptable LASIS knowledge and understanding of activities designed to support strategic performance, the organisational support constructs replicate Mathur's 2013 survey constructs. Three survey question sets (20, 21 & 22) comprising twelve constructs were entered into SPSS and returned identical factors combinations when compared with Mathur et al., (2013) professional project manager type organisations. As shown in table 5.4 below, three factors were extracted. OS1 – project management integration, OS2 – project management alignment, OS3 – project management communications.

Factor OS1 relates to the degree of project management integration in the organisation (LASIS collectively, and individual *parent* and *partner* organisations). This factor relates to intangible management dynamics, which encourage participants to effectively engage in project management practice. Factor OS2 relates to the alignment of project management processes and practices with the organisations mission, and products & services on offer. These are specific to how processes and practices help deliver the organisations' mission, aims and objectives, and the delivery of its products and services. Factor OS3 relates to project management communications, particular the degree to which staff have the freedom of timely and effective communications. Whereas factor OS2 are from a structural perspective i.e. delivery of higher order goals and expectations, factors OS1 and OS3 are based on individual perspectives i.e. processes and practice which facilitate delivery of stated goals.

Before looking at each factor individually, it is worthwhile to discuss some key observations associated with descriptive findings and selected comparative findings from Mathur et al., (2013) investigation. First, across all twelve constructs the average mean (5.35) is equivalent to the midway point between 'agree' and 'strongly agree', and the variance explained for the three factors are OS1 (38.8%), OS2 (23.9%), OS3 (20.8%). The significance here is the general perception that LASIS value supporting mechanisms, particular processes and practices, which encourage and facilitate a participant's project actuality, i.e. the lived experience of actors put forward by Cicmil et al., (2006) and Sampaio et al., (2014) of applying project management practice to achieve organisational goals and deliver products or services. In comparison with Mathur et al., (2013) investigation, with the exception of one construct (in my organisation I can communicate openly on the project) all survey constructs had very similar loadings across all three factors. Similar with Mathur et al., (2013) investigation, the communications construct 'openly on the project' returned the lowest loading. Though 0.59 is marginally below the recommended minimum factor loading >0.6 (Field, 2009), because of the high factor loadings across all other eleven constructs, 'openly

on the project' was included. The significance of this minor deviation will be further discussed in RQ3.

Table 5.4: Processes and Practices providing Organisational Support

Project Management Integration (OS1)	Project Management Alignment (OS2)	Project Management Communications (OS3)
• Upper Management • People Trust Each Other • People Work Well Together • Environment Encourages Learning • Encourages Sharing of Knowledge and Information • Leadership is Supportive and Encourages Effective Working Relationships	• Alignment of Project Management Practices with Organisations Mission, Aims and Objectives • Alignment of Project Management Practices with Organisations Services it Delivers • Alignment of Project Management Practices with Organisations Products it Delivers	• Upwards in the Project Hierarchy • Upwards in the organisations Hierarchy • Openly on the Project

Whilst there are elements, which exceed the statistical tests, thematic analysis largely supports the factor analysis results for organisational support, across all three extracted factors. However, some participants do challenge the effectiveness of the organisational support provision, but these concerns are mainly expressions of limiting dynamics associated with a developing project management paradigm. Moreover, there is further evidence to support *partner* organisations ambivalent attitude towards project management practice, particular at a strategic leadership level.

OS1 – project management integration. Results from factor analysis identified six constructs with an average mean (5.3), which is almost the midway point between 'agree' and 'strongly agree', suggesting participants believe that there is a supportive culture which promotes the reality of project management practice. Overall the degree of integration across the collective LASIS is a positive experience, particular trusting and working well with people, in an environment which encourages learning and sharing knowledge and information.

However, similar with Mathur et al., (2013) investigation, there is some concern regarding 'upper management support' and 'supportive leadership encouraging effective working relationships', mostly expressed by the *parent* organisation. For example, demanding expectations of senior management, (1A3G213), insufficient time (1A5G212), ineffective working relationship between PMO and senior management (1A3G213), and internal politics (1A4G212). A plausible explanation could be the dynamics from a developing paradigm associated with the *parent* organisations deliberate investment in project management practices. For example, some participants including senior management will have specific project management responsibilities aligned to strategic objectives whilst they are new to project management practice.

Finally, consistent with the valueness, rareness and imitable analysis once again the analysis found that generally *partner* organisations demonstrate an ambivalent attitude, though some do infer elements of their management style facilitate operational integration (2B1D212), though unable to explicitly link with any strategic intention.

OS2 – project management alignment. Results from factor analysis identified three constructs with an average mean (5.4), which is almost the midway point between 'agree' and 'strongly agree', suggesting participants perceive the quality of project management practice alignment is important to the delivery of the organisations mission, aims & objectives and the delivery of products and services on offer.

However, in reality thematic analysis exposed some clear variations. Whilst there are some promising examples of where and how project management is aligned with an individual organisations' (i.e. *parent* and *partner*) mission, aims & objectives, and the delivery of products and services, there is limited evidence to advocate at the collective LASIS level. Which suggest poor harmonisation at the disaggregated level (individual organisations) with the aggregated LASIS level.

The analysis exposes examples of project management practice alignment with corporate and business strategy, explicitly expressed by the *parent* organisation, and inferred by some *partner* organisations. Furthermore, some *parent* organisation project managers advocate the operational importance that the PMO asset plays in the delivery of corporate strategy. However, in contrast, a few *partner* organisations unconsciously inferred alignment. For examples, refer to 4.4.2.3.4 and table 4.32 above. Despite this strategic nature of project management practice alignment, there is no evidence that project management practices are directly aligned to the delivery of specific products and services offered by individual organisations or the collective LASIS.

Allied to strategic alignment thematic analysis exposes some examples across LASIS of the link with project success. Though as will be discussed in RQ3 there is little evidence to support how success is determined and measured. Whilst one *parent* organisation project manager 1A3G212 relate success of projects to the organisational success, one *partner* organisation trustee 2E1D323 links the alignment of project management practice with project process success, and a second *partner* trustee 2B1D212 infers that their organisations project management paradigm supports the measurement of project outcomes and societal benefits. Of significance, here is that participant 2B1D212 is the only *partner* organisation investing in project management practice, albeit at a cautionary pace. Project management practice investment is proving to be a key distinction

between professional project manager organisations associated with Mathur et al studies and non-professional project practitioners and their live experience of project management actuality.

Finally, consistent with project management integration once again thematic analysis found that with minor exceptions *partner* organisations demonstrate an ambivalent attitude towards project management practice. Particular, key *partner* organisation people in senior positions demonstrate a disconnection between how investing in project management practices as a strategic discipline can yield benefits at an operational and strategic level. For example, one trustee 2D1E223 was unable to define the organisations business strategy. The same trustee was also unable to identify what is a project, stating that funding bids were projects and could not link project to change. Furthermore, a director 2C1B223 explains that there is no clear strategy and project management practices are ad-hoc when opportunities arise.

Once again, a plausible explanation may be the level of formal project management qualifications (11.3%) and informal project management training (31.8%), first highlighted in SRQ1c above.

When compared directly with the *parent* organisation (34.6% formal project management qualifications, 69.2% informal project management training) a significant assumption is emerging. The degree an organisation deliberately invests in project management practices the more likely the level of organisational performance increases, including potential degrees of competitive advantage from project management assets and practice. However, whilst the researcher believes this supposition to hold some value no statistical tests were performed to support or refute the claim.

OS3 – project management communications. Results from factor analysis identified three constructs with an average mean (5.4), which is almost at the midway point between ‘agree’ and ‘strongly agree’, suggesting participant perceive they have a large degree of freedom of timely and effective communications.

However, whilst thematic analysis exposed a general acceptance that participants have a healthy degree of timely and effective communications across the collective LASIS, once again, the emerging ambivalent attitude of *partner* organisations is further demonstrated, this time by senior management’s poor project communications, including autocratic style of leadership. This is particularly relevant when communicating organisational aims and objectives. For examples, refer to 4.4.2.3.4 and table 4.32 above.

Additionally, while thematic analysis largely supports the statistical tests for 'communications up the project hierarchy' and 'communications up the general organisation hierarchy', thematic analysis challenges the relatively low 'factor loading' construct 'communications openly on the project'. Exclusive to the *parent* organisations participants expressed several examples of timely, open and effective project communications. Specific themes relate to: i) flexible and open approach; ii) autonomy of action and reporting back; iii) effective reporting mechanisms; and, iv) actual reality of open communications up and down the project hierarchy. Once again this is testament to an organisation with a deliberate investment in project management practices and justifies the inclusion of the survey construct "communications openly on the project" within the mix of organisationally processes contributing to the project management communications factor OS3.

Finally, some *parent* participants are conscious of the need for senior management to promote the role and capabilities of the *PMO* function specifically, and project management practice more generally throughout the wider reaches of the organisations.

As with the valueness, rareness and inimitableness analysis, the organisational support issue exposed from thematic analysis, are visually presented in figure 4.11 above. The diagram visualises the degree of deviation particular where provision exceeds and challenges factor analysis findings.

5.2.3.5 SRQ1e

Which project management assets are organisationally supported? Having discussed at length the key operational support findings, it is necessary to make informed judgement which project management assets across the collective LASIS enjoy organisational support. Therefore, offering LASIS the potential of leveraging degrees of competitive advantage, which VRIO literature suggests (Barney, 1995 & 1998; Jugdev et el., 2007; Mathur et al., 2014) is a necessary condition for competitive advantage from exploitation of a firm's resource endowment.

Whilst not directly statistically tested this discussion will be based on two criteria: i) the average construct mean score taken from the organisational support descriptive analysis data set; and, ii) thematic analysis frequency counts and analysis of participants observations.

First, having previously established in Chapter 4 Methodology that the survey constructs for organisational support were project management practice orientated. Base on the assumption that the relatively high Likert scale average mean score (5.35) organisational support constructs is towards 'strongly agree', it was judicious to justify that there is a reasonable degree of

organisational support mechanisms across the collective LASIS. A summary of the project management assets, which are organisationally supported, and the justification is presented in table 5.5 below.

Table 5.5: Summary of organisationally supported project management assets

Project Management Asset	**Thematic Analysis Frequency Counts (Value, Rare, Imitable)**	**Participants Observations from thematic analysis**	**Judgement:** • **Degree of organisational support** • **Parent, Partner, collective LASIS**
Printed Project Management Materials	Nil	Nil	• Not supported
Database	11 positive (net)	General business databases, though one partner developing bespoke business database with project management elements	• Not supported
Hardware	Nil	Nil	• Not supported
Software	3 positive (net)	No observations	• Not supported
Methodologies	12 positive (net)	Widely used across parent and some partner organisations	• Strong support parent • Weak support partner • Not supported LASIS
Shadowing	5 positive (net)	Some examples largely parent organisation	• Moderate support parent • Weak support partner • Not supported LASIS
Templates	9 positive (net)	Good use of customised and bespoke templates, largely parent organisation	• Strong support parent • Weak support partner • Not supported LASIS
Personal Contacts	15 positive (net)	Evidence of need to develop networks	• Strong support parent • Moderate support partner • Moderate support LASIS
Comms of Practice (Explicit Knowledge)	10 positive (net)	Examples of how participants acquire explicit knowledge, largely parent organisation	• Strong support parent • Moderate support partner • Not supported LASIS
Project Management Office	26 positive (net)	Significant evidence supporting deliberate investment in assets	• Strong support parent • Limited support partner • Not supported LASIS
Implicit (Tacit) Knowledge	14 positive (net)	Examples of participants engaging in processes that develop implicit project management knowledge	• Strong support parent • Moderate support partner • Moderate supported LASIS
Mentoring	9 positive (net)	Examples of participants engaging in mentoring processes	• Strong support parent • Weak support partner • Not supported LASIS

(net) = after calculating total number of positive, neutral and negative citations

However, as the thematic analysis exposed the degree of organisational support mechanisms is not widespread across individual organisations and across the collective LASIS, and not all assets are equally considered including the two organisations that are deliberately investing in project management practices. Therefore, the analysis suggests that though the *parent* organisation generally provides strong organisational support for the majority of assets and one *partner* organisation provides some support for a few assets (mainly *PMO*), it is reasonable to conclude that the collective LASIS does not enjoy the necessary degree of organisational support to leverage

potential degrees of competitive advantage. Of specific note, here are the four assets, which do not receive any organisational support i.e. the computer-based assets (*database*s, *hardware* and *software*) and the codified *project management printed material* asset (manuals, books, professional journals etc), which is divergently opposite to Mathur et al., (2013), who contend that at a competitive advantage level all these assets are considered as providing sustained competitive advantage.

Whilst this will be further discussed in RQ2, a plausible explanation for project management materials is the non-professional practitioner context particular the inexperienced *partner* organisations who see no need for such *explicit knowledge*. Similar, with the computer-based assets, *partner* organisations, who are largely small local organisations in existence to provide community services, would not acknowledge the necessity for such systems and would not have the desire and funds to invest in such systems. On the other hand, the legislative and devolved duties imposed on the *parent* organisation would require extensive computer-based systems to coordinate and maintain the services they provide to the local authority community. However, the extent the *parent* organisation maintains dedicated project management systems cannot be established through this analysis? However, anecdotal evidence suggests that whilst participants engage in processes to record and share project management information such as planning, control & monitoring, risk and knowledge transfer, they do not articulate the use of dedicated systems, though they do infer the use of proprietary project *software* i.e. Microsoft Office and Microsoft Project. Similar with *printed project management materials*; anecdotal evidence (researcher's observations during formal and informal visits) indicates that the *parent* organisations participants actively engage and use project management manuals, guides, Body of Knowledge and popular books, whilst also consulting with project management standard operating procedures (SOPs), which are continually developing and very customised, though this is not reflected in the thematic analysis observations.

Finally, once again the impact from a deliberate investment in project management practice suggests that project management assets enjoy increased organisational support mechanisms.

5.2.3.6 Summary – RQ1 Sub-questions

Whilst thematic analysis generally supports the survey findings, an emerging ambivalent attitude theme, particular with the *partner* organisations, challenge the effectiveness of: i) strategies that exploit project management assets as a strategic source of sustained completive advantage; and, ii) the processes and practices necessary for organisationally supporting these assets. Two issues have surfaced to explain these findings: i) the degree of deliberate project management practice investment is disproportionate across LASIS; and, ii) the poor level of experiential project

management knowledge, qualifications and informal training, particular with the *partner* organisations.

However, what is clear from the aggregated analysis is the categorisation of two complementary asset endowments for valueness, rareness and inimitableness. First, factors V1, R2 and I1 consist of both tangible and intangible assets that enable participants to acquire project management knowledge. Second, with the exception of *shadowing* and *mentoring* (R1) factors V2, R1 and I2 consist of tangible codified assets only, which facilitate the process of knowledge acquisition. Of significance and contrary to RBV literature is that both tangible and intangible assets offer LASIS the potential for competitive advantage including sustainable advantage. However, the contextual setting (non-professional practitioners and poor levels of project management practice investment) is unique and influences these findings**. These two categorisations of factors i.e. acquire project management knowledge and the facilitation process of knowledge acquisition is further explored and developed in RQ2 discussion, including the introduction of two empirical based conceptual models presented in figures 5.8 and 5.10 below.**

Finally, agreeing with Mathur et al., (2013) posit that the level of organisational support moderates the degree of competitive advantage from project management assets; **the researcher further posits that organisational support mechanisms (integration, alignment and communications) are the foundations to competitive advantage. Without a deliberate and conscious investment in organisationally support mechanisms valuable, rare and imitable endowments assets are unlikely to achieve their competitive advantage potential, as figure 4.11 above illustrates - VRIO thematic analysis degree of deviation from statistical tests.**

Having identified project management assets, which are valuable, rare and inimitable, and acknowledged the management processes and practices, which offer the greatest degree of organisational support, RQ2 will discuss which project management assets leverage certain degrees of competitive advantage and how it is provided.

5.2.4 Research Question 2

Assumption 1: What is the research question and why is it relevant?

RQ2: *Which project management assets have the potential to leverage certain degrees of competitive advantage, and how is competitive advantage provided?* In isolation, simply establishing valuable, rare, imitable and organisationally supported project management assets, processes and practices serves little productive purpose other than the categorised inventory of organisational resources and managerial processes and practices. **However, when the assets are organised into theoretical levels of competitive advantage, and the operational value of the**

managerial processes and practices are aligned, an explicit model emerges. Thus, the model provides strategic consciousness and operational activities when developing deliberate strategies to exploit project management assets and associated managerial processes and practices for competitive advantage. Furthermore, a deep cognisance of how specific endowments leverage competitive advantage is alone a valuable managerial resource. As a result, armed with this organisational knowledge deliberate strategies are more likely to be conceived, developed and deployed that utilise organisational resources and managerial competences more effectively.

This supposition is pertinent for LASIS or similar public sector collaborating schemes in the acknowledgement, development and early implementation stages of exploiting project management practices as strategic source of competitive advantage.

To address *RQ2* it was necessary to develop two sub-research questions (SRQ), which was drawn from literature mainly the Resource-Based View body of knowledge, specifically the VRIO framework (Barney, 1995) and empirical project management VRIO investigations, such as Jugdev et al., (2011) and Mathur eta al., (2013, 2014).

Sub-research questions:

SRQ2a: *Which project management assets leverage 'parity', 'temporary' and 'sustainable' competitive advantage?*

SRQ2b: *For each degree of competitive advantage, how is it provided?*

Assumption 2: How does the research question relate to 'gaps in knowledge'?

First, once again, the importance of this research is the tangible practitioner insight it offers in an area of extremely limited empirical study. As already established, to date, there is no research, which investigates project management assets as a source of competitive advantage from the RBV lens and VRIO framework in a public-sector arena, including LASIS. This specific research question presents an empirical VRIO model to support LASIS strategic decisions regarding deliberate strategies to invest in project management assets and associated processes and practices, as a source of competitive advantage, particular in the initial stage of setting up and subsequent implementation and maintenance of a LASIS.

Second, as already clarified in RQ1, LASIS are novice project management practitioners who are uniquely divergent in comparison with extent research into professional project managers. The account for divergence is largely the degree of deliberate investment in project management

practice, and the level of experience, qualifications and training. Therefore, the significance of this research question is the interpretation of the LASIS VRIO empirical models, which is divergently opposite to existing studies into professional project managers associated with Mathur et al., (2013). Thus, increasing the body of knowledge regards the lived experience of novice non-professional project management practitioners.

5.2.4.1 SRQ2a

Which project management assets leverage 'parity', 'temporary' and 'sustainable' competitive advantage? The premise for resource-based view competitive advantage assumes that the exploited internal resources are organisationally supported and, in some way, provide economic value, are rare amongst direct and potential competitors and are difficult to copy or imitate. However, not all resources have characteristics that satisfy all value, rare and imitable VRIO components. Furthermore, organisations like the collective LASIS may not have the managerial competences to recognise and exploit the productive potential from internal resource endowments, particular asset-based accumulations such as project management practices. However, outputs from an empirical VRIO analysis enable latent characteristics to surface in the form of *explicit knowledge*.

Based on the supposition of RBV scholars including Barney (1991), Barney & Wright (1998), Mathur et al., (2013, 2014), Jugdev (2006) and Hitt et al., (2016) the more a resource satisfies the conditions of VRIO the greater the potential for competitive advantage. Therefore, based on this authoritative believe, table 5.6 presents the LASIS aggregated VRIO findings from RQ1 above, and includes clarification of factors which acquire project management knowledge (AK), and which facilitate the process of knowledge acquisition (FP). Though highlighting the aggregated analysis, the table also signposts the anomalies justified in RQ1 discussion. **The table represents the final aggregated degree of competitive advantage leveraged from project management assets, based on the analysis presented in table 4.27 and 4.38 above.**

Table 5.6: Aggregated analysis - LASIS degree of CA from project management assets

Factor / Project Management Asset	Valuable V1 (AK)	Valuable V2 (FP)	Rare R1 (FP)	Rare R2 (AK)	Imitable I1 (AK)	Imitable I2 (FP)	Degree of Competitive Advantage
Printed Project Management Materials*		✓				✓	Parity
Project Management Databases*		✓	✓#			✓	Parity##
Project Management Hardware*		✓	✓			✓	Parity##
Project Management Software*	✓		✓				Temporary
Project Management Methodologies*	✓		✓		✓		Sustained
Shadowing**	✓		✓		✓		Sustained
Project Management Templates*	✓		✓		✓		Sustained
Project Management Personal Contacts**	✓			✓	✓#		Sustained
Communities of Practice (Explicit Knowledge**		✓		✓			Temporary
Project Management Office*	✓		✓			✓#	Sustained
Project Management Implicit (tacit) Knowledge**	✓			✓	✓		Sustained
Mentoring**	✓#		✓		✓		Sustained

(AK)Acquire Knowledge, (FP)Facilitating Processes, *Tangible Assets, **Intangible Assets, #thematic analysis positively challenges statistical anomalies, ##thematic analysis negatively challenges statistical analysis anomalies

The table presents the explicit outputs from the LASIS VRIO analysis. Of significance is the relationship between the level of competitive advantage and the mix of tangible and intangible assets. As the table clearly articulates in the LASIS context, though some tangible assets are considered key it is the intangible assets that are more likely to offer greater levels of competitive advantage, including potential sustainable advantage, supporting the general competitive advantage strategy literature and RBV theoretical position.

However, contradicting the empirical investigations of Jugdev et al., (2007) and Mathur et al., (2013, 2014) professional project managers, in this LASIS context, the tangible assets of *methodologies*, *templates* and *project management office* all satisfy the conditions of value, rare and inimitableness, thus maximising their potential for competitive advantage. Where an investment in *methodologies* & *templates* provide economic value particular, guidelines and checklist (Jugdev et al., 2007) that ensure practices are followed and the desired outcomes are delivered, the tangible nature of these assets is readily available and easy to imitate, and thus if rare amongst competitors, would only provide a period of temporary advantage. Also, though the general function of the asset *PMO* is to: i) coordinate, monitor & control the performance of projects; and, ii) the standardisation of methods and processes including tools and techniques (Aubry & Hobbs, 2011), the nature of this function is also tangible. Which again, though providing economic value it is unlikely that *PMO* will be a long-term rare asset, as existing and potential competitors can easily acquire, copy or imitate the practices associated with a *PMO* function. Consequently, whilst LASIS operate in an environment of virtually no competitors, there is the opportunity to exploit the tangible nature of these key assets. Thus, a conscious and deliberate strategy of investment in bespoke and customised *project management methodologies*, *templates*

and the *PMO* function, will contribute to a period of sustainable competitive advantage. However, as LASIS environment matures and they become exposed to competitors the period of sustainable competitive advantage is only short term. Subsequently, this conscious investment is relevant in the early stages of start-up and implementation.

Furthermore, sustainable competitive advantage consists of both tangible codified assets, and intangible knowledge-based assets. Supporting the supposition that certain asset endowments enable participants to acquire project management knowledge; whilst other endowments facilitate the process of knowledge acquisition, presented in RQ1 above. Simply, in a LASIS context assets which impart project management knowledge (V1), develop individual project management knowledge (R2) and, assets which are embedded in an organisations routines and relationships (I1) are associated with an individual acquiring project management knowledge. Whereas, assets which document formal project management knowledge (R1) enable the facilitation of acquiring that project management knowledge. **Therefore, in designing a sustainable competitive advantage strategy based on project management assets and organisational supported processes and practices it is prudent to consider the relationships between the acquisition and facilitating elements, as figure 5.6 below illustrates.**

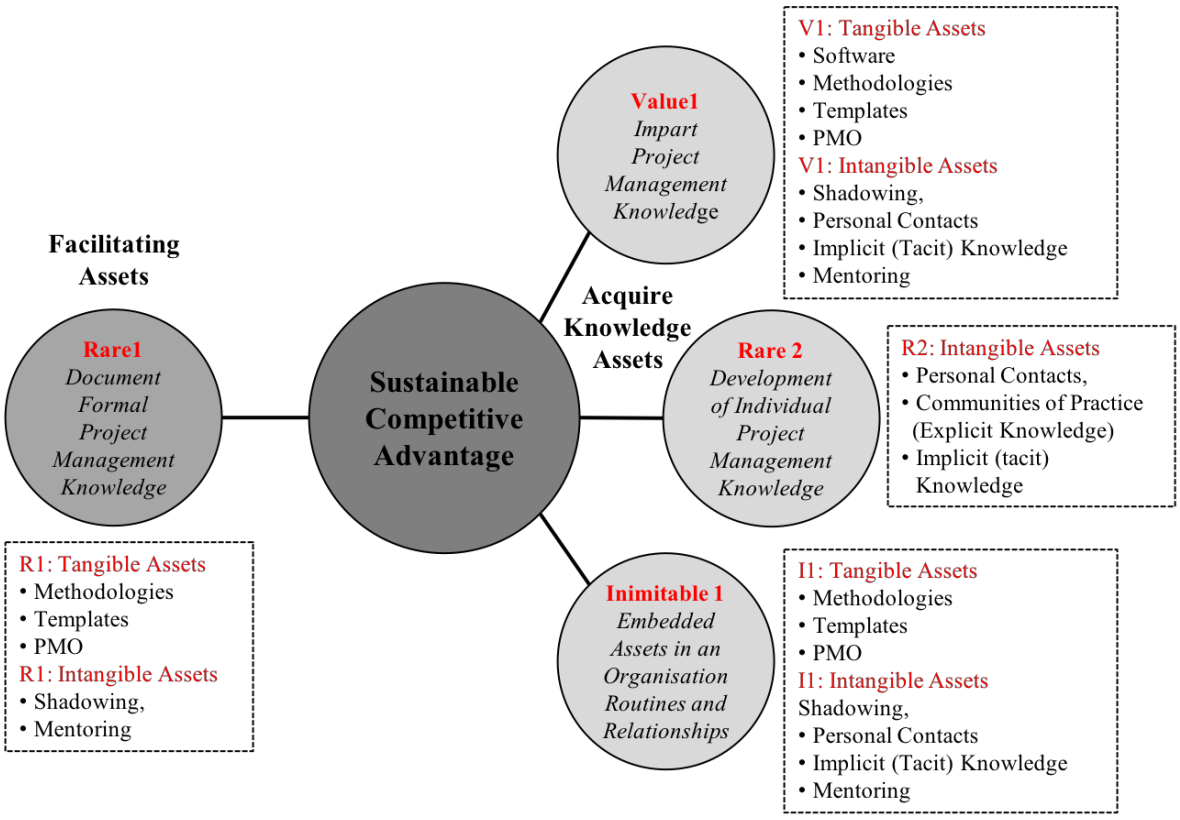

Figure 5.6: Relationship between factors, which are Acquire Knowledge Assets, Facilitating Assets with Sustainable CA

Whilst the interpretation of LASIS empirical VRIO analysis is uniquely contextual, compared with the Jugdev et al., (2011) and Mathur eta al., (2013, 2014) empirical investigations into professional

project managers, LASIS are divergently contradictory. In particular potential sustainable competitive advantage from the tangible physical technological assets of *database*, *hardware* and *software*, codified *printed project management materials*, in addition to assets LASIS recognise i.e. *methodologies* and *templates*, as table 5.7 below demonstrates. Though the survey is a sample of members from North American Project Management Institute® and based on factor analysis results only, it is evident that organisations who invest in project management practices support the traditional tangible tools and techniques often used as part of the project management infrastructure to aid project information flow and decision making, emphasised by Jugdev et al., (2007). Whereas, the intangible knowledge acquisition and knowledge sharing assets receive less support, confirming the notion that scholars, organisations and practitioners pay more attention to the traditional tangible assets, particular the 'know-what' type of asset.

Table 5.7: Mathur et al., (2014) exploratory investigation into project management professional's degree of CA from project management assets

	Valuable		**Rare**		**Imitable**		
Factor / Project Management Asset	V1	V2	R1	R2	I1	I2	Degree of Competitive Advantage
Printed Project Management Materials*	✓		✓		✓		Sustained
Project Management Databases*	✓		✓		✓		Sustained
Project Management Hardware*		✓		✓	✓		Sustained
Project Management Software*		✓		✓	✓		Sustained
Project Management Methodologies*	✓			✓	✓		Sustained
Shadowing**	✓		✓				Temporary
Project Management Templates*	✓			✓	✓		Sustained
Project Management Personal Contacts**						✓	None
Communities of Practice (Explicit Knowledge**			✓			✓	None
Project Management Office*	✓		✓				Temporary
Project Management Implicit (tacit) knowledge**						✓	None
Mentoring**			✓			✓	None

Notionally this divergence can be explained. One the one hand, professional project managers, would expect organisations to provide the tools and techniques necessary for successful delivery of projects. Thus, including *PMO* investment these organisations are more likely to financially invest in the physical and tangible technological assets and *printed project management materials* including journal subscriptions and body of knowledge qualifications and competence training. However, intangible assets are primarily concerned with the individual and challenging to quantify organisationally. Thus, organisations are less likely to invest in the intangible assets they cannot measure and control. Whereas, the finance inhibited non-professional project manager practitioner associated with LASIS are more likely to personally invest in the intangible assets as a mechanism to overcome the constraints associated with limited physical technological assets.

Finally, having: i) identified which LASIS project management assets leverage potential degrees of competitive advantage; ii) discussed the relevance of tangible and intangible project management assets and their relationship between acquire knowledge assets & facilitating process assets with sustainable competitive advantage; and, iii) discussed the reasons for a divergence with existing empirical investigations, including organisational support processes and practices, figure 5.9 below presents the composite LASIS empirical VRIO conceptual framework, which is developed from empirical models presented in figures 4.7 and 4.12 above. Organisational support is the processes and practices that allow the assets to bear fruits of their potential advantage (Barney & Wright, 1998), thus the LASIS framework incorporate project management integration, alignment and communications as the foundation for leveraging an assets potential competitive advantage. Without this organisational and managerial support, it is unlikely that assets will fulfil their potential, as discussed in RQ1 above.

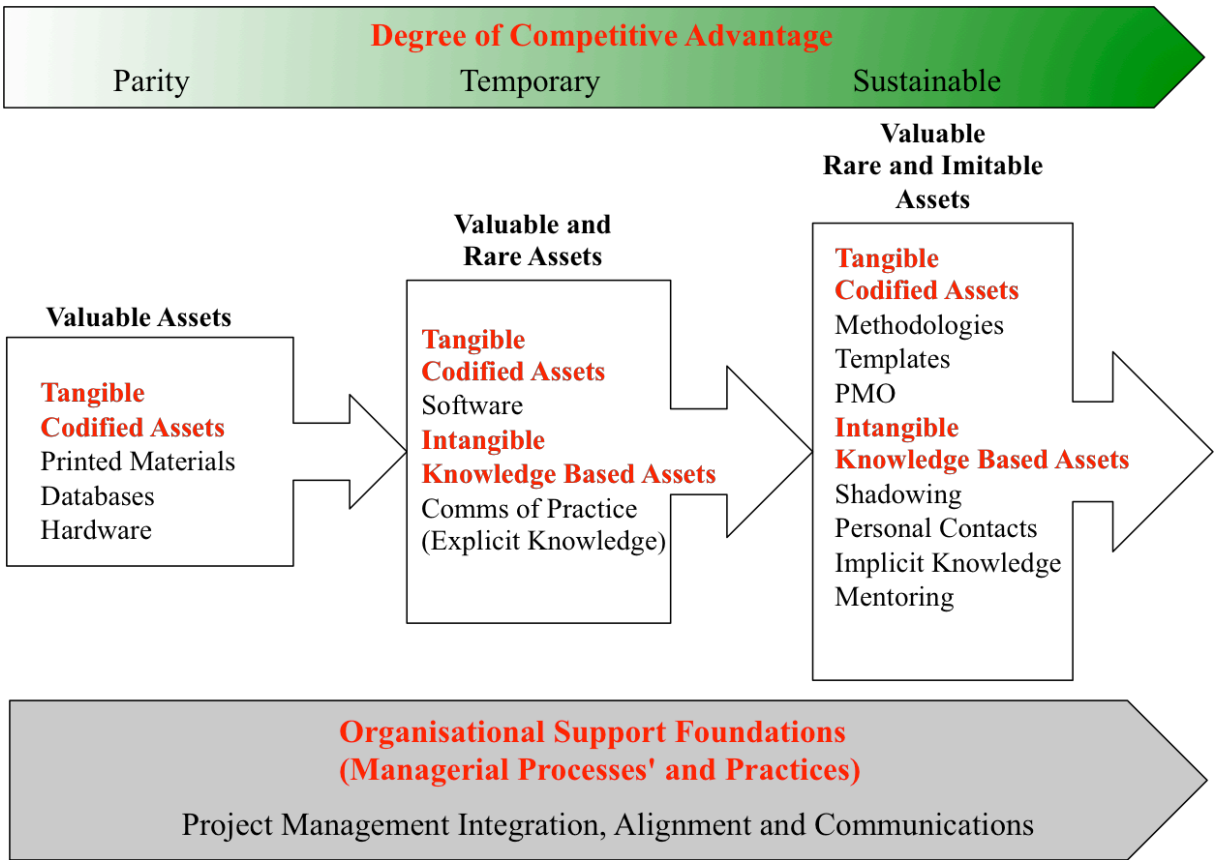

Figure 5.7: LASIS VRIO Conceptual Framework

At a strategic and operational level, cognisance of the LASIS VIRO conceptual framework content is an essential consideration for competitive strategies involving project management assets. However, a deeper understanding of how the assets endowments provide competitive advantage should inform LASIS strategic decision-makers in allocating scarce resources when conceiving such deliberate competitive strategies. The next research sub-question addresses this key cognitive intangible knowledge issue.

5.2.4.2 SRQ2b

For each degree of competitive advantage, how is it provided? As reviewed in Chapter 2 Literature Review, organisational resources comprise of both tangible and intangible assets, as described in Penrose (1959), Barney (1991), Teece et al (1997), Porter (1991, 2004); Grant (1991); Amit & Shoemaker (1993); Shapirio (1998) and Rowe, (2008). Organisational capabilities used for project management practice also consist of tangible and intangible assets, as detailed by Jugdev et al., (2007), Killen et al., (2012) Mathur et al., (2013), Kraaijenbrink et al., (2010) and Almarri & Gardiner (2014). Additionally, Chapter 2 reviewed that organisational knowledge-based assets are tangible and intangible. For example, explicit, tangible and codified knowledge (Polanyi, 1964; Nonaka, 1998), which is freely accessible and therefore easy to copy or imitate, (Killen et al., 2012). Or tacit, intangible knowledge (Spender, 1996; Nonaka & Konno, 1998; Killen et al., 2012 and Mathur et al., 2014), which is classed as an organisations private knowledge (Matsuik & Hill, 1998) often embedded in an organisations routines and relationships, as elucidated by Jugdev et al., (2011), and thus difficult to copy or imitate. Finally, Chapter 2 reviewed that organisational resources can be labelled as tangible codified 'know what' (Nonaka, 1994; Killen et al., 2012), which include tools & techniques, *methodologies*, management practices to support the project management function, and training & development (Jugdev, 2004), and the sharing 'know what' assets associated with *project management software*, *database*s, *templates*, *PMO*, project management bodies of knowledge and *printed project management material* (Jugdev et al., 2011; Killen.et al., 2012). Also, organisational resources can be labelled as intangible knowledge based 'know how' (Lytras & Poulondi, 2003), which are primarily knowledge-based accumulations (Teece et al., 1997; Dierickx & Cool, 1989, Lockett, 2009; Polyani, 1962) particular tacit knowledge (Eisenhardt & Santos, 2000; Jugdev, 2004). For example, *project management shadowing* and *mentoring*, social capital (*personal contacts*), *communities of practice* (*explicit knowledge*) (Lesser & Storck, 2001) and *tacit (implicit) knowledge.*

Thus, the circumstances which leverage potential degrees of competitive advantage from project management assets is a combination of tangible 'know what' and intangible knowledge-based 'know how' assets, which satisfy degrees of valueness, rareness and inimitableness conditions and are organisationally supported. As figure 5.6 above demonstrate i.e. the *Relationship between Acquire Knowledge Assets, Facilitating Assets and Sustainable Competitive Advantage,* LASIS enjoy the diverse combination of project management assets necessary for leveraging potential levels of competitive advantage. Also, figure 5.6 above displays how the collective LASIS and the individual *parent* and *partner* organisations should design, implement and maintain a deliberate strategy for competitive advantage, particular the managerial knowledge and competences to exploit the characteristics from factors (V1 R2 and I1) consisting of the acquire

knowledge assets and the characteristics from the factor (R1) consisting of the facilitating acquiring knowledge assets.

Based on accepted conceptual theoretical positions and empirical investigations that intangible assets are more likely than tangible assets to leverage sustainable competitive advantage (Jugdev, 2004; Killen et al., 2012); and that assets can be either 'know how' or 'know what', figure 5.8 below demonstrates how LASIS current accumulation of project management assets may provide 'parity', 'temporary' and 'sustainable' competitive advantage. Of specific relevance are the relationships between the: i) degree of competitive advantage; ii) the managerial associations for each VRIO factor; and, iii) whether the factor assets are used to 'acquire knowledge' or 'facilitating process'. Based on the tangibleness of the asset in relation to propensity for competitive advantage the model considers how each project management assets contributes to degrees of competitive advantage.

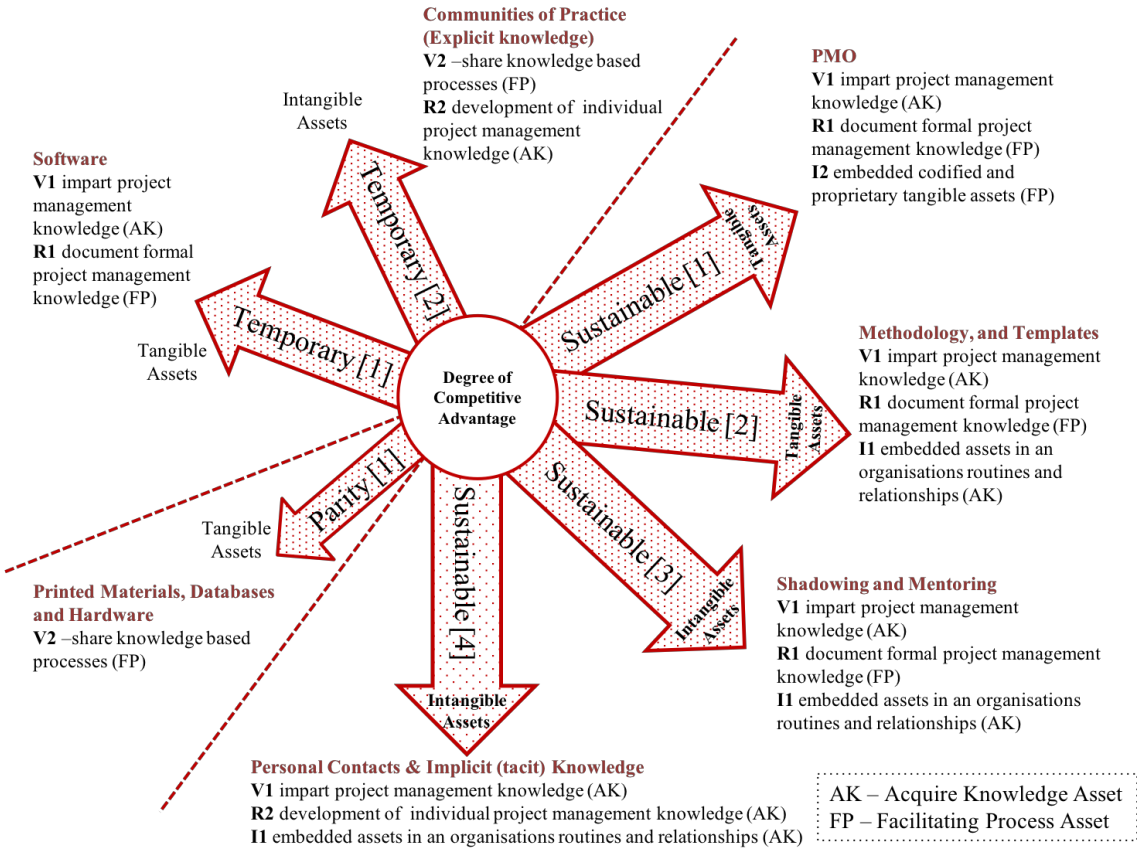

Figure 5.8: Levels of CA from endowments of project management assets

Starting with 'parity' competitive advantage. Whilst LASIS do not organisationally support (strategic and operation) these value-based assets, they are nonetheless vital facilitating processes which enable the application of sharing project management knowledge (V2) across the collective LASIS and individual *parent* and *partner* organisations. *Printed project management materials* should be available for all project practitioner's particular the novice LASIS non-professional

practitioner. These assets include manuals, guides, books and body of knowledge associations, and are a relatively inexpensive asset. When conceiving a competitive strategy based on project management practices it is necessary to invest in project management *hardware* and development of *project management databases*. However, it is likely that the public-sector, Local Authorities and the third-sector are financially constrained, as described by Hills (2011), Joseph & Rowlingson (2012); Putten & Green (2011); Patties & Johnston (2011); Milbourne & Cushman (2012) and HM Treasury (2015). Therefore, to aid decision-making and dissemination, judicious consideration of customising existing systems for project management use, particular the collation, recording and sharing project management information. A likely benefit of customisation may satisfy the inimitableness condition and thus contribute to sustainable competitive advantage. Finally, it is noted that when analysed from factor analysis only, *printed project management materials, databases* and *hardware* load across value, rare and imitable factors (V2, R1 and I2) which are all facilitating process factors confirming that these tangible assets play a vital role in the disseminating of project management information and knowledge.

Looking at 'temporary' competitive advantage, two stages are extracted. First, 'temporary [1]' consist of the tangible asset *software*, which is both a valuable acquire knowledge factor (V1) and a rare facilitating process factor (R1). The significance here is that whilst *project management software* should be used to document formal project management knowledge i.e. plans, reports, decisions and lessons learned; at an unintentional level the human and systems interface characteristics of *project management software* is an imparting project management knowledge process i.e. capturing, recording and disseminating project management knowledge on systems such as popular proprietary or branded *project management software*. In other words, users of *project management software* intentionally document project management information, and unconsciously absorb project management knowledge.

When *software* is combined with the intangible knowledge-based *communities of practice* (*explicit knowledge*) asset, 'temporary [2]' competitive advantage can be leveraged. Here, traditional *communities of practice* (*explicit knowledge*) activities such as formal structured training and informal unstructured workplace learning are the usual mechanisms available across most organisational types. For example, professional qualifications, project management tools & techniques, formal frameworks, customised *methodologies*, and project management practices. However, transferring *explicit knowledge* into *tacit knowledge* is an organisational challenge, as highlighted by Naphapiet & Ghoshal (1998); Lesser & Storck (2001); Storck & Hill (2000) and Bresen et al., (2003), which necessitates a different approach including deliberate investment. Whilst these challenges will be explored in more detail below, of significance here is the

understanding that *communities of practice* (*explicit knowledge*) is the first of five intangibles acquire knowledge asset, which offer LASIS opportunities to develop key project management assets for long periods of competitive advantage. First, the facilitating process factor (V2), like with the 'parity' assets, *communities of practice* (*explicit knowledge*) are economically valuable and play a vital role in the disseminating of project management information and knowledge. However, their role as an asset, which acquires knowledge, is evident in factors, which converge assets developing individual project management knowledge (R2), in which individuals actively engage in activities, which develop their own bank of project management tacit knowledge i.e. the 'know how' type of knowledge.

Finally, looking at 'sustainable' competitive advantage, four stages are extracted. First, 'sustainable [1]' consists of the codified tangible asset *PMO*, which is a valuable acquire knowledge factor (V1), a rare facilitating process factor (R1) and an imitable facilitating process factor (I2). Whilst project management competitive advantage literature challenges the propensity of *PMO* to leverage sustainable competitive advantage, as suggested by Jugdev et al., (2007), as previously discussed in RQ1 above, in the LASIS context of little or limited competition, *PMO* has emerged as a key asset with the potential to leverage a period of sustainable competitive advantage. In this LASIS context the role of the *parent* organisations *PMO* function standardises project-related governance processes and facilitates the sharing of resources, *methodologies*, tools, and techniques, as defined by the PMI PMBOK® Guide (2013). Thus, the significance to LASIS is the role of the *parent* organisations *PMO* ability to provide opportunities to impart project management knowledge (V1) and document formal project management knowledge (R1) to its own members and more widely across the collective LASIS, hence acting as a central coordinating function and a centre of excellence for the collective LASIS. Also, and key to sustainable advantage is the ability of an asset to become in some way embedded in the organisation, thus making it difficult for competitors to copy or imitate. *PMO* being a tangible asset associated with very specific LASIS codified knowledge (I2) fulfils this condition and therefore difficult to copy.

Complementing the *PMO* base are the tangible codified *methodologies* & *template* assets, which have the potential to leverage 'sustainable [2]' competitive advantage. As a common function of the *PMO* role, *methodologies* & *templates* assume similar characteristics of: i) acquire knowledge by the process of imparting project management knowledge (V1); and, ii) the facilitating process of documenting formal project management knowledge (R1) to its own members and more widely across the collective LASIS. Where these assets demonstrate a slight divergence with *PMO* is the ability for these assets to become embedded in an organisations routines and relationships (I1), meaning that the customisation and bespoke nature of these tangible codified assets are ingrained

in the organisation in forms that are easily taught or written down, akin to Spender, (1996) Objectifies knowledge type.

Moving onto the first set of knowledge-based intangible assets, *shadowing* and *mentoring* offer LASIS the potential of leveraging 'sustainable [3]' competitive advantage. Once again, these assets are common functions of the *PMO* function and are often available to project managers and project team members (Sambrook, 2005) formally and via ad hoc systems to encourage and support workplace tacit learning? Whilst sharing the same factors (V1, R1, I1) with the codified tangible *methodologies* & *templates* assets, a primary difference with the *shadowing* & *mentoring* intangible assets reside in the individual, and therefore organisations are less likely to deliberately support due to the difficulties in measuring impact from intangible asset accumulations.

Finally, the second set of knowledge-based intangible assets, social capital (*personal contacts*) and *implicit (tacit) knowledge* offer LASIS the potential of leveraging the greatest degree of 'sustainable [4]' competitive advantage. Of significance, here is that all three value, rare and inimitableness components are acquire knowledge factors (V1, R2, I1).

In an organisational performance context, similar to the collective LASIS and the individual *parent* and *partner* organisations, project management social capital (*personal contacts*) is the mechanism of how organisational knowledge, often tacit in nature (Nonaka & Takeuchi, 1995; Spender, 1996) is collected, analysed and shared from the interactions of actors within organisational social communities (Kogut & Zander, 1992). The purpose of social capital (*personal contacts*) is to facilitate knowledge creation both within and external to the organisations. Common with *implicit (tacit) knowledge*, which is knowledge that is unspoken but understood (Teece et al., 1997), social capital (*personal contacts*) is a knowledge-based 'know how' asset in which the acquisition and development is the responsibility of the individual. Thus, making it difficult for organisations to measure and therefore deliberately invest and support. However, Vincenzo & Mascia (2012) argue that moderate levels of project social capital cohesion within an organisation have a positive effect on project performance. This is particularly relevant in a project management setting as it is unlikely that project team members will have all the relevant knowledge and expertise and therefore likely to create and develop individual and organisational networks in order to make sense of both organisational processes and project specific knowledge, drawing upon their collective social capital, as Tansley & Huang (2004) argue. Furthermore, embedding project management intangibles such as social capital (*personal contacts*) and explicit (tacit) knowledge into an organisations routines and relationships (Mathur et al., 2014) and in a firm's ways of working (Rumelt et al., 1994; Foss, 1997), increases the propensity of the asset satisfying the

inimitableness condition of the VRIO framework, thus making it difficult to copy or imitate by competitors. Thus, increasing the potential competitive advantage of the asset.

5.2.4.3 Summary – RQ2 Sub-questions

Whilst agreeing with RBV and project management competitive advantage literature that intangible assets are more likely to leverage sustainable competitive advantage, certain LASIS tangible assets (*methodologies*, *templates* and *PMO*) demonstrate their potential to leverage sustainable competitive advantage. Also, contradicting professional project manager practitioner empirical investigations, LASIS value the tangible technology assets of *database*s and *hardware* as only providing 'parity' competitive advantage, *software* 'temporary' and codified project management materials as 'parity' competitive advantage. These divergences can notionally be explained as a period of temporary advantage in the early stages of a novice LASIS implementation. Also, the finance inhibited LASIS non-professional project manager practitioner is more likely to personally invest in the intangible assets as a mechanism to overcome the constraints associated with limited physical technological assets.

Key considerations when developing deliberate LASIS strategies which exploit project management assets are presentation in two empirical informed models: i) *Relationship between factors which are Acquire Knowledge Assets, Facilitating Assets with Sustainable Competitive Advantage*, presented in figure 5.6 above; and, ii) *LASIS VRIO Conceptual Framework - Relationship between LASIS VRIO analysis and levels of potential competitive advantage*, presented in figure 5.7 above.

Finally, understanding how degrees of competitive advantage are leveraged form project management assets should better inform LASIS strategic decision-makers when allocating scarce resources to conceive such deliberate competitive strategies. Based on the notion that intangible assets are more likely to leverage sustainable competitive advantage the model *Levels of Competitive Advanatage from endowments of project management assets* articulate the propensity of intangible assets that are 'acquire knowledge' assets to leverage sustainable competitive advantage, presented in figure 5.8 above.

Having identified the combination of project management assets, which leverage certain degrees of competitive advantage and discussed how the asset endowments provide competitive advantage, RQ3 will discuss which project management assets and organisational support processes and practices are more likely to indicate '*project'* and '*firm'* level performance.

5.2.5 Research Question 3

Assumption 1: What is the research question and why is it relevant?

RQ3: *Which project management assets and organisationally supported processes and practices are more likely to indicate LASIS performance?* Traditional across a diversity of governance types, organisational performance is measured from the financial perspective (Newbert, 2008, p.753), particular the financial performance from aggregated strategies and the return on investments including organisational assets. Though this objective approach satisfies a range of stakeholder requirements, it is just one indicator at LASIS disposal. Subjective non-financial performance indicators are equally important indicators when impact is a key dynamic consideration, particular for the not-for-profit type organisations, like the collective LASIS and the individual *parent* and *partner* organisations. Finally, RBV performance is linked to Ricardian rents (Lockett, 2009), which a firm accrues as a result of the implementation of its strategies (Rumelt et al., 1994). For example, aggregated rents from deliberate competitive strategies of acknowledging, developing, deploying and exploiting project management assets and organisationally supported processes and practice.

However, financial performance alone does not account for measuring impact from competitive advantage strategies. Whilst financial and operational sustainability is a foremost objective for LASIS *parent* and *partner* organisations, ultimately LASIS overall objective is to deliver measurable impact from their collective endeavours specifically their projects. Two levels of performance *project* and *firm* each should deliver value and impact. Understanding what success is and how to measure this success should underpin LASIS performance objectives, particular the efficient and effective use of resources and overall impact of their projects. Whilst impact is difficult to define, and measure LASIS need to integrate performance from the outset which aligns levels of performance with the design, development, deployment and exploitation of project management assets and organisationally supported processes and practices. This is particular key at the early stages of implementing LASIS.

Therefore, the intention of this research question is, first to inform managers and decision-makers, which of the VRIO project management asset endowments and organisational supported processes and practices are the most likely factors indicating *project* level performance and *firm* level performance. Second, to emphasis the potential relationship between a deliberate investment in project management assets, processes and practices, competitive advantage and levels of performance, particular in the initial and implementation stages of a LASIS. Third, understanding the dynamics between the factors most likely to indicate performance should encourage a more directed deliberate investment. However, not exclusively and at the expense of other related

competitive advantage project management assets and organisationally supported processes and practices. Finally, identify LASIS current performance knowledge paradigm and to what extent this supports or constrains effective delivery of *project* and *firm level* and societal performance.

To address *RQ3* it was necessary to develop two sub-research questions (SRQ), which was drawn from literature mainly the Resource-Based View body of knowledge, specifically the VRIO framework (Barney, 1991), project success and measuring project performance, and empirical project management VRIO investigations, such as Jugdev et al., (2011) and Mathur et al., (2013, 2014).

Sub-research questions:

SRQ3a: *Which organisationally supported project management processes and practices are criterion for project level and firm level performance?*

SRQ3b: *Which endowments of project management assets and organisationally supported processes and practices are more likely to indicate project and firm level performance?*

Assumption 2: How does the research question relate to 'gaps in knowledge'?

First, as in RQ1 and RQ2 above, the importance of this research is the tangible practitioner insight it offers in an area of extremely limited empirical study. As already established, to date, there is no research, which investigates project management assets as a source of competitive advantage from the RBV lens and VRIO framework in a public-sector arena, including LASIS. This specific research question extends the LASIS VRIO empirical suppositions and presents tangible empirical observations, empowering decision-makers with the knowledge to focus LASIS in delivering performance from project management assets and organisationally supported processes and practices. Hierarchical regression analysis developed two parsimonious models of LASIS VRIO factors more likely to indicate performance at *project* level and *firm* level, which were first presented in figures 4.1 – 4.6 and 4.9 – 4.10 above.

Second, as already explained in RQ1 and RQ2 above, LASIS are novice project management practitioners who are uniquely divergent in comparison with extent research into professional project managers. Whilst the account for divergence is largely the degree of deliberate investment in project management practice, and the level of experience, qualifications and training, there is no extent research that links RBV with an organisations level of performance knowledge from projects and the subjective impact from individual and programmes of projects. Therefore, the significance of this research question is the interpretation of LASIS VRIO hierarchical regression model of factors more likely to indicate performance at *project* level and *firm* level. Additionally,

to what extent does LASIS performance knowledge paradigm influence performance from the deliberate investment in project management assets and organisationally supported processes and practices. Thus, increasing the body of knowledge regards the lived experience of novice non-professional project management practitioners.

5.2.5.1 RQ3a

Which organisationally supported project management processes and practices are criterion for project level and firm level performance? The Resource-Based View theory suggests that resource heterogeneity and immobility of resources are foundations for competitive advantage strategies, particular if the resources satisfy the VRIN(O) requirements of being valuable, rare, imitable and not easily substituted and are organisationally supported (Barney, 1991). Similarly, RBV theory suggests that there is a correlation between competitive advantage from exploited resources and a *firm* performance (Newbert, 2007). Thus, LASIS need to gain a better understanding of how competitive strategies from project management assets and organisationally supported processes and practices contribute to LASIS performance. However, whilst it is practical to predetermine which project management assets and organisationally supported processes and practices correlate to sustainable competitive advantage, it is also necessary to identify the characteristics and capabilities of the project management assets, processes and practice which are related to delivering performance, as Newbert (2007) demonstrates, and to what extent LASIS performance knowledge paradigm supports or constrains *project* level and *firm* level performance. Figure 5.9 below illustrates this relationship between the characteristics of VRIO and performance knowledge paradigm, competitive advantage and performance.

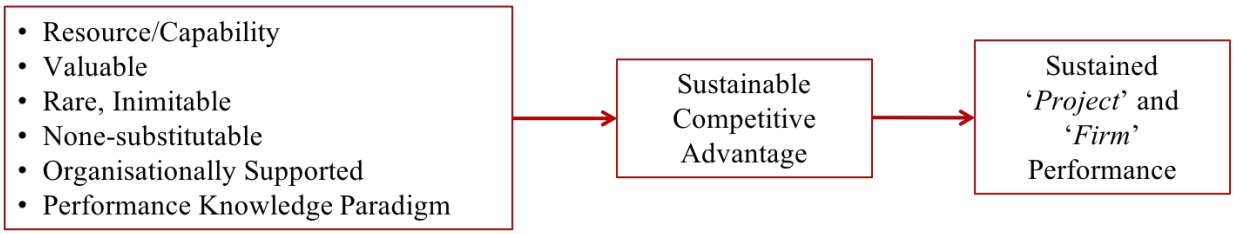

Figure 5.9: Adapted Barney (1991) conceptual model LASIS relationship between VRIO resource/capabilities and performance knowledge paradigm, sustainable CA and sustained performance

Before conducting statistical tests to identify the most parsimonious model more likely to indicate *project* level and *firm* level performance, as with the organisational support factor analysis (above), it was necessary to first identify which survey constructs relate to *project* and *firm* performance. With exception of *measure the social impact from individual projects* all survey performance constructs returned factor loading >.6 with an average mean of 4.89, which represents a mean response rate almost equivalent to 'agree' on the Likert Scale. Whilst the survey construct *measures the social impact from individual projects* returned a loading slightly less than .6 and the

lowest mean average 4.56, it was retained based on the constructs relevance to LASIS performance. Therefore, factor analysis identified twelve characteristics of performance across two factors. Factor PP – Project Level Performance, and Factor FP – Firm Level Performance. Importantly, both sets of survey constructs were extracted onto their respective performance factors, suggesting a high degree of correlation with project management performance literature and Mathur et al., (2013, 2014) investigations.

Project Level Performance (PP), relates to the degree to which LASIS project management practices achieve project management success (time, cost, quality and scope) and project success (customer expectations and measurement of societal impact from projects). Furthermore, project management performance literature identifies three disaggregated project level performance themes: i) project objectives and constraints; ii) the project management process; and, iii) project success, as table 5.8 below illustrates.

Table 5.8: Relationship between 'project' level constructs and disaggregated measures of performance

Project Level Performance			
Disaggregated Themes / **Aggregated Survey Constructs**	Project Objectives and Constraints	Project Management Process	Project Success
Project quality expectations	Yes	Yes	Yes
Customer expectations	-	-	Yes
Project scope requirements	Yes	Yes	Yes
Project schedule	Yes	Yes	Yes
Project costs	Yes	Yes	Yes
Measure the social impact individual projects deliver	-	-	Yes

Firm Level Performance (FP), relates to the degree in which project management practices achieve organisational performance (sustainable funding, sustainable supply of customers, customer satisfaction, continuous improvement, continuous innovation and development of sustainable communities). Furthermore, project management and social literature identifies two disaggregated *firm* level performance themes: i) organisational performance; and, ii) societal performance, which was further subdivided into: a) aggregated social impact; and, b) social change process, as table 5.9 below illustrates.

Table 5.9: Relationship between 'firm level constructs and disaggregated measures of performance

Firm Level Performance				
Disaggregated Themes / **Aggregated Survey Constructs**	Organisational Performance	Societal Performance	Subdivided Themes	
			Aggregated Social impact	Social Change process
Sustainable Funding	Yes	Yes	Yes	-
Sustainable Supply of Customers	Yes	Yes	-	Yes
Customer Satisfaction	Yes	Yes	Yes	Yes
Continuous Improvement	Yes	Yes	Yes	Yes
Continuous Innovation	Yes	-	-	-
Development of Sustainable Communities	Yes	Yes	Yes	Yes

Finally, whilst the survey instrument captured participants perceptions regards aggregated performance criteria, thematic analysis identified two literature informed project management measurement themes, as figure 5.11 below details. First, traditional objective based quantitative measures associated with project costs, time, quality and scope, as emphasised by Baker et al., (1983); Cleland (1986); de Wit (198); Pinto & Slevin (1988); Atkinson et al., (1996); Baccarini (1999) and McLeod et al., (2012). Second, subjective qualitative measures favoured by scholars who recognise the importance of multiple-stakeholder perspectives particular customer-oriented factors, for example Baker et al., (1988); Crawford, (2002); Jugdev & Muller (2005) and McLeod et al., (2012). Finally, whilst there is some evidence that both objective and subjective methods are used to measure aspects of LASIS performance, evidence of measuring societal impact, which is inherently difficult due to changing societal criteria Slootweg et al., (2001 and Estevez et al., (2013), by the collective LASIS and individual *parent* and *partner* organisations is limited if any at all. This is a particular significant finding contributing to a poor performance knowledge paradigm, which will be further explored throughout this research question.

Table 5.10: Relationship between methods of 'project' and 'firm' level measurement

Project Level Performance			
Disaggregated Themes / **Aggregated Survey Constructs**	**Project Objectives and Constraints**	**Project Management Process**	**Project Success**
Project quality expectations	Quantitative	Quantitative	Quantitative Qualitative
Customer expectations	Quantitative Qualitative	-	Quantitative Qualitative
Project scope requirements	Quantitative	Quantitative	Quantitative Qualitative
Project schedule	Quantitative	Quantitative	Quantitative
Project costs	Quantitative	Quantitative	Quantitative
Measure the social impact individual projects deliver	Qualitative	-	Quantitative Qualitative

Firm Level Performance				
Disaggregated Themes / **Aggregated Survey Constructs**	**Organisation Performance**	**Societal Performance**	**Subdivided Themes**	
			Aggregated Social impact	Social Change process
Sustainable Funding	Quantitative	Quantitative	Quantitative	-
Sustainable Supply of Customers	Quantitative Qualitative	Quantitative Qualitative	-	Quantitative Qualitative
Customer Satisfaction	Quantitative Qualitative	Quantitative Qualitative	Qualitative	Qualitative
Continuous Improvement	Quantitative Qualitative	Quantitative Qualitative	Qualitative	Qualitative
Continuous Innovation	Quantitative Qualitative	-	-	-
Development of Sustainable Communities	Qualitative	Qualitative	Qualitative	Qualitative

Thus far this research sub-question as achieved several outputs: i) presented the literature informed LASIS conceptual model representing the relationship between characteristics of VRIO, performance knowledge paradigm, competitive advantage and performance; ii) determined the

characteristics which measure *project* and *firm* level performance; and, iii) identified methods of project management measurement. However, before discussing models, which are more likely to indicate *project* and *firm* performance, it is necessary to position and defend two analysis technical processes: i) hierarchal regression analysis; and, ii) the two-stage thematic analysis process, in which across the collective LASIS a poor understanding of project performance knowledge is exposed.

First, as explained in Chapter 3 Methodology and presented in Chapter 4 Findings, hierarchical regression analysis was the statistical method applied to determine the degree of variance and relationship between the independent variables of VRIO and the dependent variables of LASIS *project* and *firm* performances. As reviewed in Chapter 4 Findings, based on sound theoretical evidence from extant literature (Barney, 2007; Mathur et al., 2013 & 2014), hierarchical regression analysis was applied to allow the researcher to decide the order in which the independent variables were entered into the model. Therefore, acquiescing with Barney & Wright (1998) notion that a resource or asset needs to be organisationally supported to leverage its potential, and Jugdev et al., (2011) and Mathur et al., (2013, 2014) contention that organisationally supported processes and practices moderate the degree of competitive advantage from valuable, rare and imitable project management assets, the order in which independent variables were entered into the hierarchical regression analysis model followed the convention, organisational support (OS1, OS2, OS3), valuable (V1, V2), rare (R1, R2) then imitable (I1, I2), separately for each level of *project* and *firm* performance. Figure 5.10 below illustrates Jugdev et al., (2011) adapted Barney and Wright (1995) VRIO competitive advantage model, applied in RQ3.

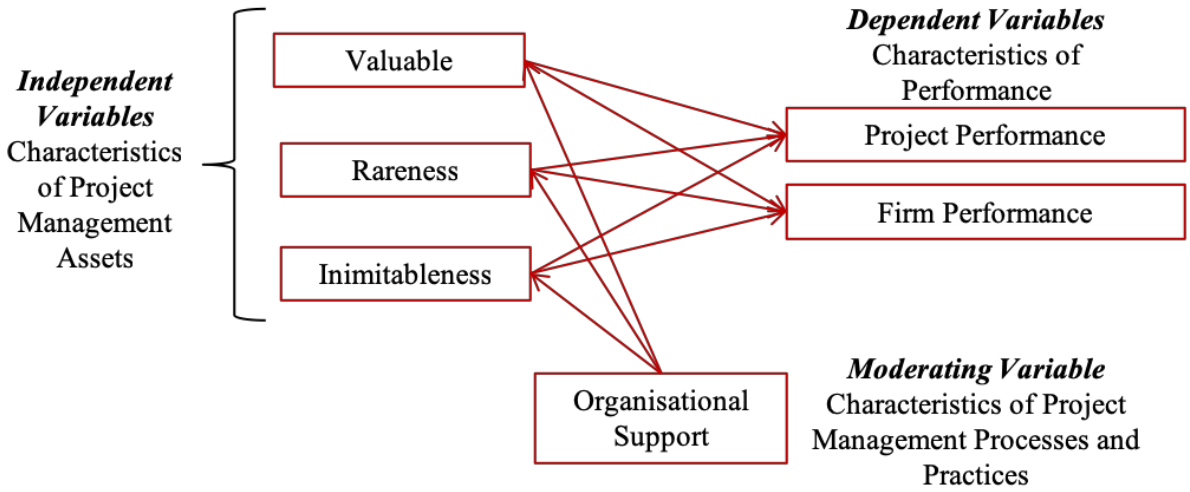

Figure 5.10: Adapted Jugdev et al., (2011) model
Characteristics of project management assets and performance

Second, as explained in Chapter 3 Methodology and presented in Chapter 4 Findings, to challenge and further explore the regression analysis parsimonious model of the factors most likely to indicate LASIS *project* and *firm* performance, it was necessary to conduct a two-stage thematic analysis procedure to: i) expose the collective LASIS knowledge of project management performance; and, ii) the subsequent relationships between the VRIO factors more likely to indicate *project* and *firm* performance. The objective of stage-one was to draw out the collective LASIS latent understanding of project performance knowledge aligned to the characteristics associated with Factor PP – Project Performance, and Factor FP – Firm Performance, hereafter the 'project management performance knowledge paradigm'. Similarly, the objective of stage-two was to draw out the collective LASIS latent understanding of the relationships between the VRIO factors more likely to indicate performance and the extent LASIS acknowledge, develop, deploy and exploit these relationships for competitive advantage and thus performance.

To contextualise the VRIO factors most likely to indicate LASIS performance, which will be explored in SRQb below, it was first necessary to explore the collective project management performance knowledge paradigm exposed from stage-one thematic analysis, which is now presented.

Emphasised by project management performance and social impact literature, as presented above *project* level performance relates to the degree in which LASIS project management practices achieve project management success (time, cost, quality and scope) and project success (customer expectations and measurement of societal impact from projects). Whereas, *firm* level performance relates to the degree in which LASIS project management practices achieve organisational and societal performance (sustainable funding, sustainable supply of customers, customer satisfaction, continuous improvement, continuous innovation and development of sustainable communities). Thus, knowledge of what is performance and how performance is measured is an imperative consideration when converting project management assets and organisationally supported processes and practices exploited for competitive advantage into measurable sustainable performance. Moreover, the collective LASIS and the individual *parent* and *partner* organisations should be proficient in recognising project performance expectations, and thus the design and implementation of actions in order to reach objectives or targets (Lebas, 1996) so that preordained objectives can be defined with levels of performance which can be measured against a priori of targets, as emphasised by Otley (1999). Figure 5.11 below illustrates at theme level performance considerations which ideally should be integrated into project performance objectives and deployed as a strategic awareness mechanism for efficient and effective use of project management

assets and organisational continuous improvement, in the early and maintenance stages of LASIS implementation and strategies for sustaining competitive advantage.

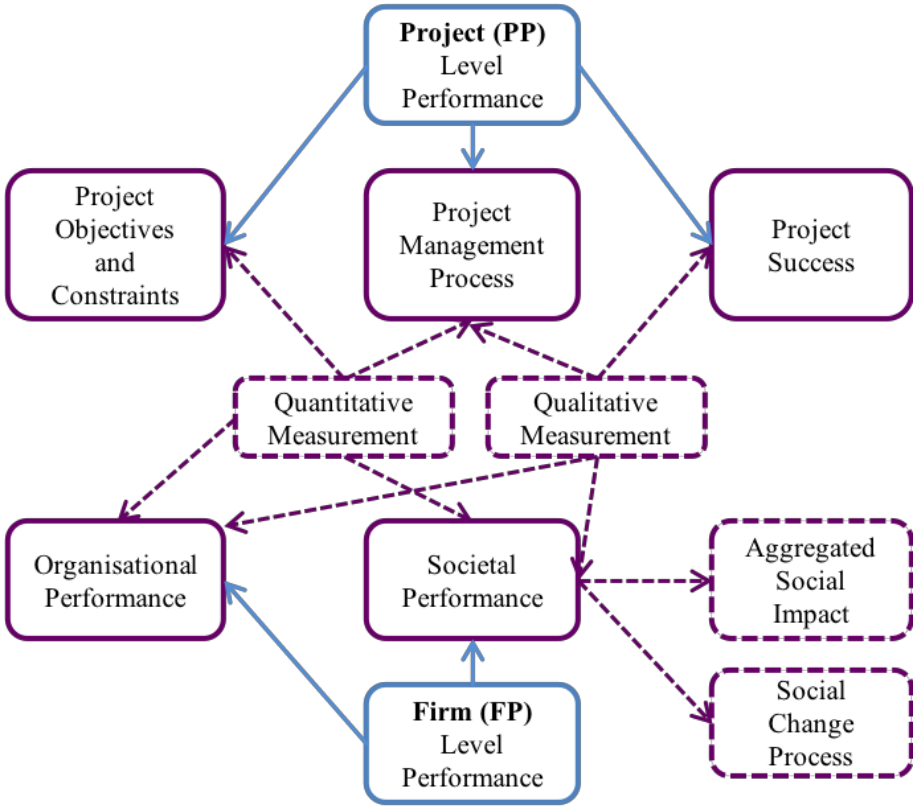

Figure 5.11: Relationship between LASIS Performance Factors and themes identified from Project Management Performance and Social Impact literature

However, at a cognitive strategic and operational level the current project management performance knowledge paradigm of the collective LASIS severely prohibits awareness and understanding of notional relationships between competitive advantage, as detailed by Barney (1991) and Newbert (2007), specifically from project management assets (Jugdev et al., 2011; Mathur eta al., 2013, 2014), and performance.

5.2.5.1.1 Project Level Performance (PP)

At the *project* level (PP) LASIS performance knowledge is in the early stages of recognition and development. Whilst some isolated examples of 'project management process' and 'project success' is demonstrated across the collective LASIS, the deliberate application of project management performance knowledge is more evident in the *parent* organisation. For example, the *parent* organisation consciously applies quantitative methods, such as time, cost and quality goals associated with the Iron Triangle, as emphasised by Barnes (1998); de Wit (1998); Atkinson (1999); White & Fortune (2002); Bryde (2008); Toor & Ogunlana (2010) and Ebbessen & Hope (2013), and a reporting system to monitor the delivery of projects against both project and corporate objectives. Which suggests knowledge of *project* level performance characteristics i.e. quality expectations, scope, schedule, costs and customer expectations, and *firm* level performance

characteristics i.e. improvement, innovation and customer satisfaction. For examples refer to 4.4.3.5 and table 4.41 above.

However, whilst some *partner* organisations imply the use of project constraint theory (Rand, 2000), in decision-making and evidence for funding bid applications (2E1D323) and the use of simple *software* to manage and balance project constraints (2C1B233), there is little support that *partner* organisations have the necessary knowledge epitomised by one *partner* trustee (2D1E223) acknowledgement that their organisation is unable to determine if their projects or their project management process is successful. This is particularly relevant as this *partner* organisations are a capacity builder supporting both other LASIS *partner* organisations and social impact organisations outside this specific LASIS collaboration.

Similarly, project management process knowledge is divergent between the *parent* and *partner* organisations. Once again, the *parent* organisation demonstrates some tangible application of knowledge to define and measure the performance of their project management process. As reviewed in Chapter 2 Literature Review, the degree of project success can be influenced by the project management process, which is similar influenced by the balance between the Iron Triangles constraints, stakeholder criteria, throughout the project life-cycle, as emphasised by Pinto & Slevin (1998) and Atkinson (1999). Subsequently, measuring the degree of success of the project management process in terms of aggregated efficiency metrics informs a variety of stakeholders on project status and the performance of the project manager and team (Jugdev & Muller, 2005). Thus, measuring whether the actual project management process supports effective project outcomes is an operational process, which is influence by the level of project practice organisational support, particular supportive top management (Pinto & Slevin, 1989; McHuge & Hogan, 2010), who provide project teams with strategic vision and direction (Johns, 1998), and project management training (Loo, 1996).

Whilst examples of project management process organisational support mechanisms are clearly evident in the VRIO discussion above, the collective LASIS do not evidence the cognitive, strategic or operational understanding of how this knowledge relates to project performance and thus the relationship between competitive advantage from project management assets and sustainable performance. Though some do demonstrate an embryonic developing awareness, particular the *parent* organisation. For example, 1A6G213 links the project management process with managing internal customer expectations and future improvement opportunities associated with *firm* performance, whilst 1A2G213 is of the opinion that lessons learned from previous projects is a source of organisational performance particular the mechanisms of sharing and

disseminating project management knowledge and opportunities for mentoring. However, *partner* organisations demonstrate little understanding of project management process knowledge. Though one salaried *partner* organisation project manager (2M1G223) alludes to formal processes, which measure individual projects performance, project monitoring and team development evaluation. Finally, across the collective LASIS and individual *parent* and *partner* organisations there is no evidence of tangible application of quantitative metrics or structured methodology to align performance of the project management process with actual defined project success or performance.

Conversely, where the collective LASIS demonstrate some project management performance knowledge is the objective and subjective measurement of overall project success, particular aggregated and disaggregated social impact. However, generally this is at the unconscious level and not a deliberately constructed action. Once again, as reviewed in Chapter 2 Literature Review, at the *project* performance level, because projects success means different things to different people and projects are inherently different (Shenhar et al., 2001, p.699), defining and measuring 'overall project success' goes beyond the traditional tangible objectives associated with the Iron Triangle, and considers a range of subjective criteria often from the perspective of stakeholder's particular customers/clients, end-users, management and project team members, as highlighted by Pinto & Slevin (1988); Cooke-Davis (2002); Bryde & Brown (2005); Jugdev & Muller (2005) and Ebbessen & Hope (2013). Thus, measuring actual project success goes beyond operations efficiency metrics and incorporates subjective criteria specific to the individual project. Examples of LASIS engagement in understanding project success knowledge, include the *parent* organisations evaluation of end-user feedback to determine the quality of a project provided service (1A3G213), aggregated social impact from a health and well-being project (1A4G212), and the disaggregated social impact of one venerable service user, particular customer expectations, customer satisfaction and sustainable communities (1A4G212). Whereas, one *partner* organisation (2D1E223) quantifies disaggregated social impact in actual numbers representing the North of England in a sports related project, and a second (2B1D212) links a specific tailored project to help LASIS partner organisations recruit members of staff, including sustainable funding. However, what is not clearly evident across the collective LASIS is the conscious relationship between project success knowledge and project objectives.

To sum up *project* level performance, across the collective social enterprise scheme there is a developing embryonic project management performance paradigm. However, the tangible application is most evident within the *parent* organisation and is generally performed

unconsciously across all *partner* organisations. Though some *partner* organisations do recognise the need for project management performance knowledge and practical application.

5.2.5.1.2 Firm Level Performance (FP)

At the *firm* level (FP) similarly to *project* level (PP) LASIS performance knowledge is in the early stages of recognition and development. As reviewed in Chapter 2 Literature Review, scholars such as Barney (1991) and Killen et al., (2011) link organisational performance with competitive advantage. Whereas, Jugdev et al., (2011), and Mathur et al., (2013 & 2014) operationalise the relationship between competitive advantage and *firm* performance from the exploitation of project management asset. Thus, knowledge of what are the characteristics of *firm* performance and how to measure *firm* performance is essential for LASIS to leverage potential degrees of competitive advantage from a deliberate investment in project management assets.

Therefore, whilst *firm* level performance is a preordained objective of competitive advantage strategies conceived from project management asset; *project* level performance underpins and operationalises the degree of *firm* performance. **In other words, *project* level performance defines and measures the management process of project delivery and the disaggregated performance from individual projects, whereas *firm* level performance defines and measures the organisational impact from *project* level performance. Thus, there is an inextricable relationship between the degree of *project* level performance, and *firm* performance.**

As reviewed in Chapter 2 Literature Review, *firm* level performance, as detailed by Jugdev et al., (2011) and Mathur et al., (2013 & 2014), is from the internal and external perspective. Thus, form the internal perspective; organisational performance is the long-term measurement of project success with the performance of the firm in terms of achieving overall objectives and advancing the firm towards its strategic goals, as emphasis by de Wit (1999); Cooke-Davies (2002); Jugdev & Muller (2006) and MacLeod et al., (2012). Consequently, measured by a mix of traditional project objectives, such as time, cost and quality; and a range of subjective measures particular from the stakeholder standpoint. However, from the external perspective, societal impact refers to the wider non-financial impacts of projects and programmes, and an organisations intervention, including the well-being of individuals and communities, or more put direct, the difference an organisation makes, as emphasised by Cabinet Office (2013). Moreover, societal impact is contextualised as an organisations intervention projects, described by Vanclay (2002), and the deliberate interventions of social change processes directly or indirectly impacting on individuals and groups in society (Vanclay, 2001,2003). Thus, measuring societal impact is a difficult exercise. The diverse subjective nature of societal impact is more qualitative and not easily measured in any objective manner as outcomes are typically long-term and thus not measurable

immediately. Also, capturing social impact criteria is subjective and prone to changing perceptions, making it particular difficult for defining project performance objectives**.** However, to simplify this conundrum LASIS would benefit if projects or programmes with a societal focus are measured on one of two broad assumptions: i) aggregated impacts for projects with a wider community or society focus; and, ii) disaggregated impacts for projects which focus on the individual or small groups. Paradoxically, both assumptions can be applied to either focus, thus conflicting project performance objectives.

Though the characteristics of *firm* level performance measure the collective LASIS and individual *parent* and *partner* organisations ability to achieve specific sustainable outcomes, these characteristics apply across two broad measures, organisational performance and societal performance. Organisational performance is concerned with the degree to which the collective LASIS and the *parent* and *partner* organisations develop, grow, improve and innovate. Societal performance is concerned with the human impact from LASIS project management practices and more directly the impact from individual and programme of projects. However, though *firm* performance has an internal and external perspective the six *firm* level performance characteristics are not exclusive to one broad measure and are equally applied across the organisational and societal impact measures.

Whilst there are anecdotal examples of organisational and societal impact performance knowledge across the collective LASIS neither the *parent* nor the *partner* organisations are able to explicitly measure *firm* level performance from their project management assets, and organisational supported processes and practices. In fact, knowledge of internal organisational performance generally refers to either saving money or implied generic organisational improvement.

For example, the *parent* organisation link individual projects to financial performance and aggregated savings at a societal level, resulting in a community tax freeze and marginal increases in the cost of individual services to users (1A4G212); and the disaggregated impact of a project which reduced the financial burden whilst increasing the well-being of venerable service uses (1A5G212). However, there is no evidence to suggest or infer that performance measures were formally applied to project objectives, other than a general criterion of reducing organisational costs borne from austerity measures burdening the organisation. Similarly, there is no tangible evidence to support deliberate action linking projects with organisational performance. Though at implied level projects deliver generic improvements such as the improved services and improved efficiencies in the way customers access services (1A3G213) and improved internal processes

particular the *PMO* team assisting other departments to deliver their part of corporate strategy (1A6G213).

However, *partner* organisations generally link organisational performance with funding bids (2E1D323 & 2B1D212) misunderstanding the logic of long-term sustainable funding from project management assets and organisationally supported processed and practices. Moreover, this disconnect from project management performance knowledge is typified by one *partner* trustee (2D1E223) interpretation of organisational improvement as a 'feel good factor' when a perceived successful project motivates staff to deliver more.

Finally, through story telling the collective LASIS demonstrate some understanding of subjective measures of societal impact, albeit generally unconsciously as no evidence supports deliberate actions to link societal impact with *firm* performance. For example, anecdotally the *parent* organisation treat service uses as individuals and not generically, and stories of how specific projects made a positive change to the lives of certain venerable service users (1A4G212). Whereas, *partner* organisations use storytelling to arbitrary measure social impact and social change process with specific *firm* level performance. For example, one director (2C1B223) praises the outcomes from an intervention project, which has made a positive impact on a group of venerable service users challenging behaviours, including a reduction in self-harm and harming others.

To sum up *firm* level performance, across the collective LASIS there are anecdotal examples of project management performance knowledge, though little evidence supports alignment with project and organisational objectives, and thus measurable *firm* performance from project management assets conceived for competitive advantage strategies. Epitomised by a *partner* organisation trustee (2D1E223) admittance of being unable to define success criteria and an acceptance of an ambivalent attitude towards the value of project management performance.

Finally, though factor analysis identifies the characteristics of *project* and *firm* level performance, thematic analysis uncovered the practical reality and the lived experience, as theorised by Cicmil et al., (2006) and Sampaio et al., (2014), of the collective LASIS and individual *parent* and *partner* organisations, command of project management performance knowledge. Yet despite some positive examples particular the *parent* organisations *PMO*, the reality of this observable project management knowledge paradigm can be summarised as in the early stages of LASIS implementation and the arbitrary application and support across both *parent* and *partner* organisations. To illustrate this arbitrary approach, engagement and application is not ubiquitous

across the *parent* organisation and shared across the collective LASIS, for example best practice is not replicated in the organisations or shared with other organisations (1A2G213), poor communication channels connecting service users and partner organisations (1A7H322), ineffective sharing performance knowledge with partner organisations and the consensus that partner organisations are not mature enough in project management practices (1A2G213), and of significance the ineffective support from the *parent* organisation (1A6G213) impacting on the ability to directly measure LASIS performance and thus the *parent* organisations return on their social investment.

Before moving onto discussing which endowments of project management assets and organisationally supported processes and practices are more likely to indicate *project* and *firm* level performance, figure 5.12 below conceptualises LASIS project management performance paradigm. Overall there is a cognitive strategic and operational disconnect regards how project management performance knowledge contributes to competitive advantage strategies from project management assets and organisationally supported processes and practices, potentially negatively influencing the degree of *project* and *firm* performance. Thus, ultimately effecting potential degrees of competitive advantage, including sustainable performance.

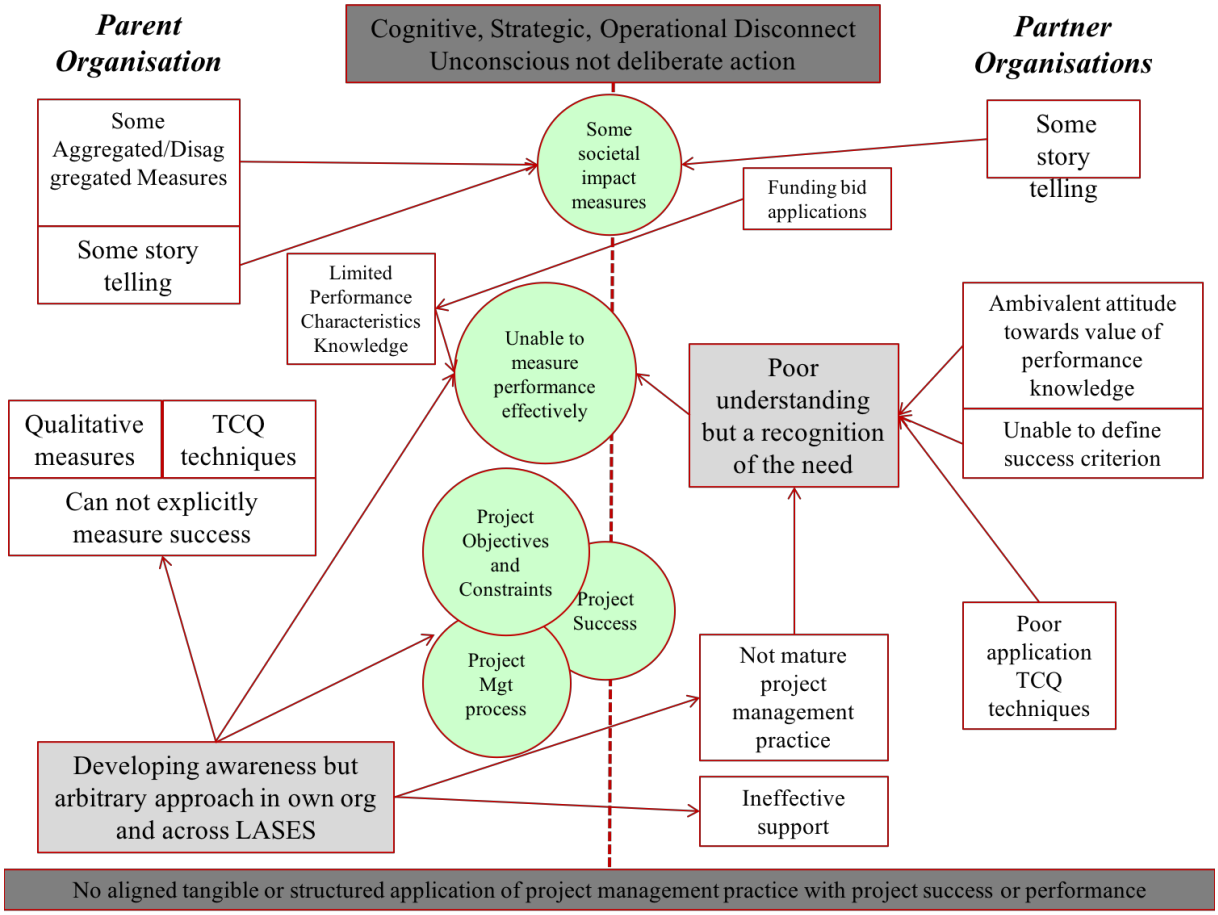

Figure 5.12: Observed Project Management Performance Knowledge Paradigm

Having exposed from thematic analysis stage-one, the collective LASIS project management performance knowledge, the next section will present thematic analysis stage-two which draws out the collective LASIS latent understanding of the relationships between the VRIO factors most likely to predict performance, and the extent LASIS acknowledge, develop, deploy and exploit these relationships for competitive advantage and thus sustainable performance.

5.2.5.2 SRQ3b

Which endowments of project management assets and organisationally supported processes and practices are more likely to indicate project and firm level performance? As reviewed in Chapter 2 Literature Review, Chapter 3 Methodology and explained in SRQ3a above, hierarchical regression analysis was appropriate for this investigation as it allowed the researcher to decide the order in which the independent variables were added into the model. The rationale for hierarchical regression was that organisationally supported processes and practices moderate the degree of competitive advantage from valuable, rare and inimitable project management assets, as detailed by Jugdev et al., (2011) and Mathur et al., (2013,2014). Furthermore, the two dependent variables *project* and *firm* level performance were treated separately. In other words, two separate hierarchical analysis tests were performed, in which the independent variable organisational support factors (O1, O2, O3) were entered into the model followed by valuable (V1, V2), rareness (R1, R2) and finally inimitableness (I1, I2) for the dependant variable *project* level performance, with the whole process repeated for *firm* level performance.

Hierarchical analysis returned two similar parsimonious models for *project* and *firm* level performance. In each model, organisational support factors contributed most of the explained variance of the dependant variable, though inimitable factor (I1) embedded assets, explained some variance across *firm* level performance. It should be noted that while individual factors across organisational support, valuable, rare and imitable explained varying percentage of variance across both *project* and *firm* models, only factors that were significant (<.05) are included in the final models, which are presented in figure 5.13.

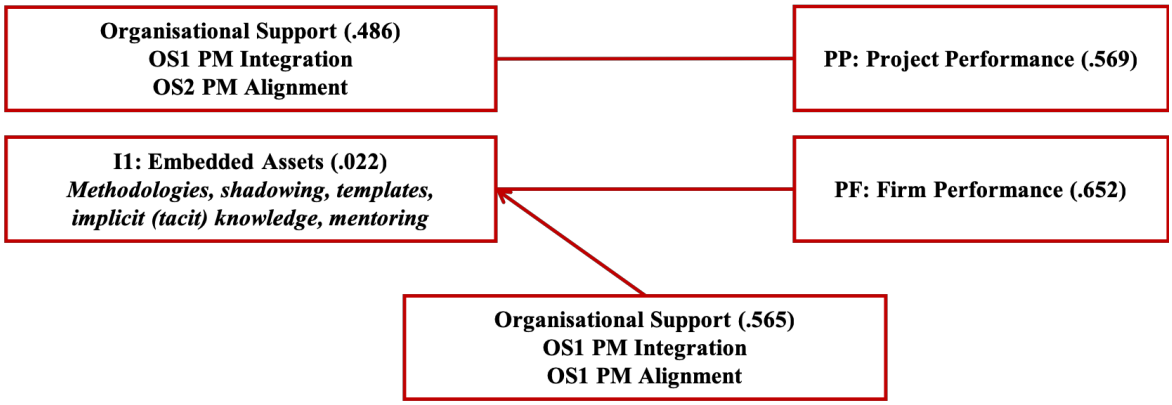

Figure 5.13: Hierarchical Regression Parsimonious models of VRIO factors most likely to indicate 'project' and 'firm' level performance

As reviewed in Chapter 2 Literature Review, Jugdev et al., (2013); and Mathur eta al., (2013,2014) posit that organisation support moderates the degree of competitive advantage from valuable, rare and inimitable project management assets. Thus, to establish the degree of moderation (if any) from organisation support it was necessary to conduct multiple regression analysis. Similar with the hierarchical regression models it should be noted that while individual factors across organisational support, valuable, rare and imitable explained varying percentage of variance across both *project* and *firm* models, only factors that were significant (<.05) are included in the final models, which are presented in figure 5.14.

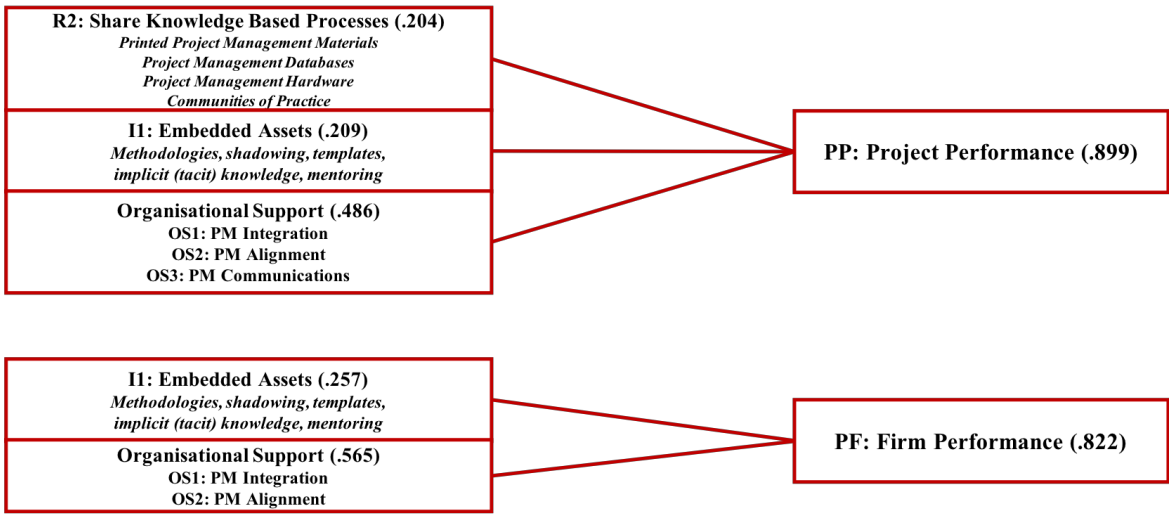

Figure 5.14: Multiple Regression Parsimonious models of VRIO factors most likely to indicate project and firm level performance

Confirming Jugdev et al., (2013) posit organisational support does indeed moderate the degree of potential competitive advantage from valuable, rare and inimitable project management assets. Looking at LASIS *project* level performance, when moderated by organisational support, three significant factors (project communications OS3, share knowledge-based processes V2 and embedded assets I1) were reversed into no significant factors. Additionally, though not significant three factors (project communications OS3, development of individual project management knowledge R2 and embedded codified and proprietary tangible assets I2) were marginally converted into negative indicators of *project* level performance. However, when LASIS *firm* level performance is moderated by organisational support, a different picture emerged. Other than the reduction in the significant coefficient value of embedded assets I1 and the marginal conversion into a negative indicator of *firm* level, performance for project communication OS3, but not significant, no other relevant moderation was apparent.

Project level performance (P1), relates to the degree LASIS project management practices achieve project success particular the disaggregated perspectives of: i) project objectives and constraints;

ii) the project management process; and, iii) overall project success. In other words, *project l*evel performance is internally process focused towards the efficient and effective use of project management assets, processes and practices in achieving LASIS and individual *parent* and *partner* organisations corporate and project objectives. Whilst specific project management asset endowments contribute to degrees of potential competitive advantage, and when not controlled by other variables certain asset endowments indicate *project* level performance (share knowledge based processes V2 and embedded assets I1), only organisational support factors project integration (OS1) and project alignment (OS2) indicate performance, confirming the researcher posit that organisational support mechanisms are the foundations to competitive advantage.

Without a deliberate and conscious investment in organisationally support mechanisms valuable, rare and imitable endowments assets are unlikely to achieve their competitive advantage potential, as first presented above in RQ1 5.4.3.6. Thus, a commitment of organisational support is a key strategic consideration potentially impacting on the operational ability of project team members to deliver stated project objectives and consequently performance. However, though project communications (OS3) marginally does not statistically feature as an indicator of *firm* level performance (coefficient $\beta = .234$ at sig p.079), this 7.9% chance of not being true is worthy of consideration particular thematic analysis evidence across LASIS. Whilst thematic analysis is further discussed below, one assistant director (1A1C113) provides an example of the *parent* organisations developing organisational support paradigm, stating that project management is a strategic discipline linked to the organisations mission, aims and objectives, and the delivery of internal products and services, in which supportive leadership promotes good working relationships, sharing knowledge, in a learning environment, with open communications on projects. Going on to explain how certain activities support *shadowing* and *mentoring* opportunities as well as coaching. Though organisational support factor project communications (OS3) is considered almost statistically significant, when controlled by organisations support factors, followed by valuable, rare and inimitable factors, project communications is a slight negative indicator of *project* performance, which will be explore further below.

In comparison with Mathur et al., (2013 & 2014) investigations into professional project managers affiliated to the Project Management Institute, it is observed that there are some similarities and differences between the professional project manager practitioners and LASIS non-professional project management practitioners. First, Mathur et al., (2013,2014) investigation reveals organisational support moderates the effects of rare factors and only the organisational support factor project integration as being significant. Second, an important difference is that two factors

associated with tangible assets are significant and predict *project* level performance. **This observation supports the researchers notional posit first presented above (5.4.4.1), that professional project manager practitioners, would expect organisations to provide the tools and techniques (usually tangible and often proprietary assets) necessary for successful delivery of projects.** Thus, these organisations are more likely to financially invest in the physical and tangible assets such as *PMO*, *methodologies*, *templates* and the technological assets and *printed project management materials* including journal subscriptions and body of knowledge qualifications and competence training. **Whilst there is evidence of LASIS deliberate investment in project management tangible assets, the degree of investment is process focused particular at the human resource level. Subsequently, this paradigm motivates the financial inhibited LASIS non-professional project manager practitioner to personally invest in processes including intangible assets as a mechanism to overcome the constraints associated with limited physical technological assets.** This observation is demonstrated when comparing LASIS *firm* level performance with Mathur et al., (2013,2014) professional project manager practitioner investigations.

Firm level performance (P2), relates to the degree in which project management practices achieve organisational performance and societal performance. In other words, *firm* level performance is both internal process towards the development and growth of the organisation, and external customer orientated particular the societal impacts from internally driven projects. In contrast to *project* level performance there were no significant moderated observations when controlled by organisational support, valuable, rare and inimitable factors. However, similar to *project* level performance organisational support factors project integration (OS1) and project alignment (OS2) are strong indicators of performance, further confirming the researcher posit that organisational support mechanisms are the foundations to competitive advantage in a LASIS. Whereas, no project management asset factors indicate *project* level performance, inimitable embedded assets (I1) is a strong indicator (coefficient $\beta = .285$ at sig p.027) of *firm* level performance after controlled by other factors, which supports the factors acquire project management knowledge characteristics propensity to leverage sustainable competitive advantage, first presented in RQ2a 5.4.4.1 above. Inimitable embedded assets (I1) include a mix of tangible and intangible assets (*methodologies*, *shadowing*, *templates*, *implicit/tacit knowledge* and *mentoring*), which as reviewed in Chapter 2 Literature Review, overtime become embedded into an organisations routines and relationships, and ways of working, as emphasised by Rumelt et al., (1994); Foss (1997); Mathur et al., (2007, 2013,2014). When considering thematic analysis there is general consensus that project management assets, processes and practices which are embedded in

organisations routines and relationships will be very difficult for competitors to copy or imitate, though this is most relevant in the developing project management practice paradigm of the *parent* organisation. However, with the exception of unique and bespoke *methodologies* & *templates* (2B1D212), consistently applied across all projects (1A6G213) and availability of shadowing & mentoring (1A1C113), there is little evidence that either the collective LASIS or the individual *parent* and *partner* organisations deliberately engage in such embedding activities. Though, anecdotal examples suggest a degree of 'casual ambiguity' as LASIS participants develop their own personal *implicit knowledge* of how things are done in reality. While this individual activity is an unconscious process, capturing and disseminating outputs is a challenge for LASIS, particular the coordination between the *parent* and *partner* organisations. However, this degree of casual ambiguity provides LASIS with an opportunity for sustaining a degree of advantage, as detailed by Barney (1991), though some formalisation will need to be adopted particular aspects which need to be standardised across LASIS.

When combined with *PMO*, embedded assets (I1) become a stronger indicator of *firm* level performance, though only with the *parent* organisation. This further supports the recognition that *PMO* is emerging as a significant asset when considered in a deliberate project management investment, particular in the early stages of LASIS design and implementation.

Statistical hierarchical tests identify the most likely factors predicting *project* and *firm* levels of performance. However, as previously discussed in 5.5.1 above, thematic analysis identified anomalies from the survey and challenged the effectiveness of the factors provision, figures 5.4 and 5.5 above, including the inclusion of *personal contacts* and *PMO* as acquiring knowledge assets that are difficult to copy or imitate and thus belong with the factor embedded assets (I1). Similarly, thematic analysis drew out an anomaly, which is synonymous with the lived experience of the LASIS none-professional project manager practitioner, emphasised by Cicmil et al., (2006) and Sampaio et al., (2014), namely organisational support project communications (OS3). Therefore it is judicious to revise the models predicting *project* and *firm* performance, based on the assumption that *personal contacts* and *PMO* have previously been justified belonging to embedded assets (I) presented in SRQ1c 5.4.3.3 and SRQ2a 5.4.4.1, and organisational support project communications (OS3) indicator of *firm* level performance (coefficient $\beta = .234$ at sig p.079), and factor analysis average mean (5.4), which is almost at the midway point between 'agree' and 'strongly agree', suggesting participant perceive they have a large degree of freedom of timely and effective communications. Figure 5.15 below presents the composite LASIS model of factors more likely to indicate *project* and *firm* level performance.

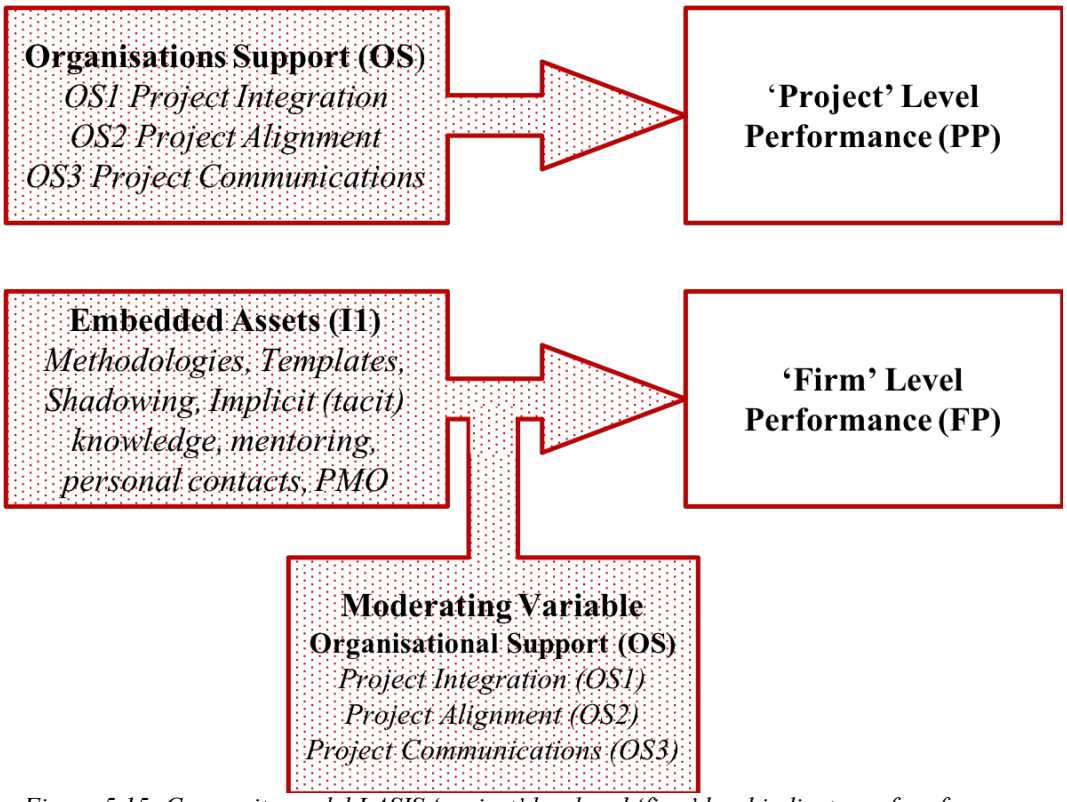

Figure 5.15: Composite model LASIS 'project' level and 'firm' level indicators of performance

The composite models (regression and thematic analysis) indicating both *project* and *firm* performance fundamentally support key VRIO outputs: i) organisational support are the foundations for competitive advantage; ii) organisational support moderates the degree of competitive advantage from valuable, rare and inimitable project management assets, as posit by Jugdev et al., (2013) and Mathur et al., (2013,2014); and, iii) the acquire project management knowledge embedded assets (I1) provide the best opportunity for sustainable competitive advantage. However, as with the VRIO analysis there are some overtures, which both exceed and challenge the effectiveness of the model, which are now summarised and once again illustrated in figure 5.16 below.

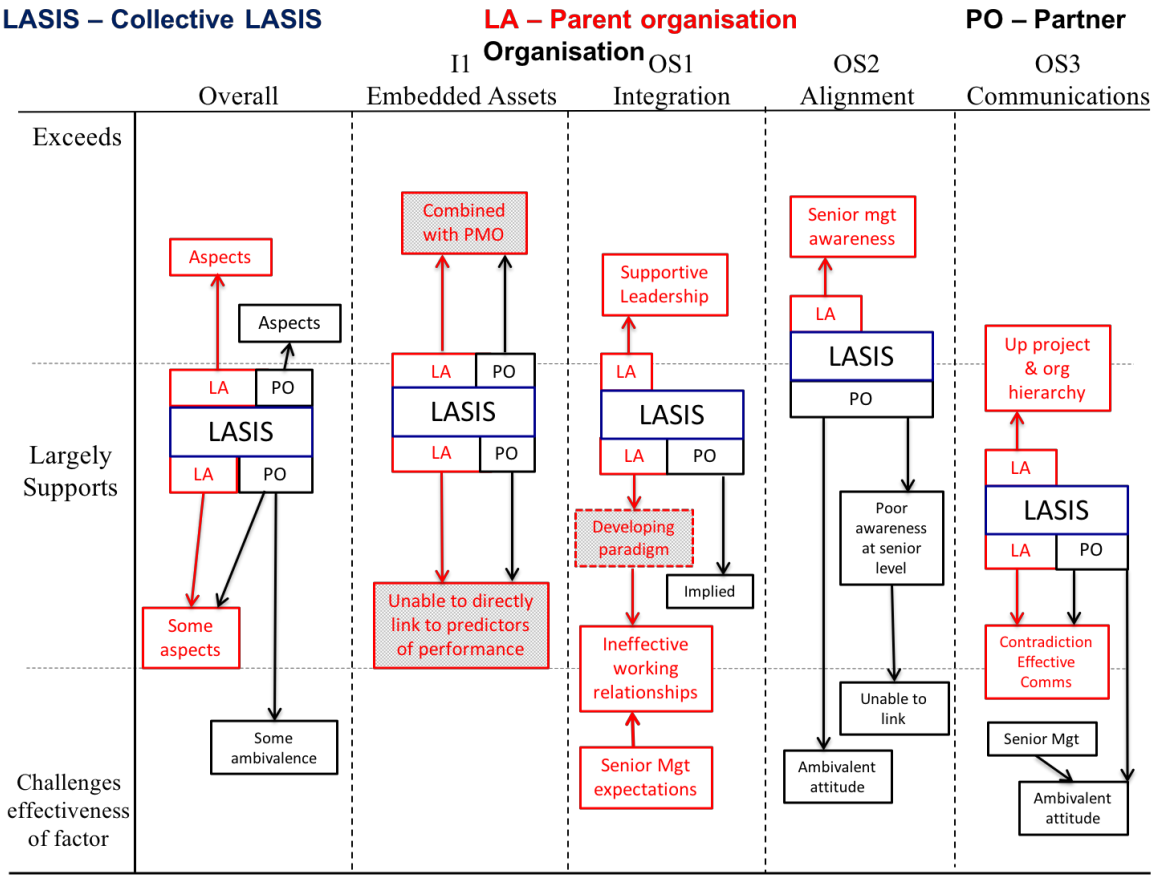

Figure 5.16: Indicators of performance thematic analysis degree of deviation from statistical results

Confirming VRIO analysis there is a general consensus that project management assets, processes and practices are integrated within the *parent* organisation, and in some *partner* organisations. Also, project management practice is aligned to the *parent* organisations mission, aims and objective, but less so in *partner* organisations. Finally, there is a degree of effective communication in the *parent* organisation. However, little evidence supports integration, alignment and communications across the collective LASIS. Moreover, whilst the project management paradigm associated with the *parent* organisations is developing, confirming VRIO analysis there is an ambivalent attitude at senior management level in *partner* organisations. Furthermore, though the *parent* organisation *PMO* asset enhances the embedded assets, confirming VRIO analysis that *PMO* is an important asset, across the collective LASIS it is difficult to link how embedded assets relate to indicators of performance.

Before moving onto the final chapter conclusions, it is necessary to summarise this complex and nuanced investigation into which project management assets and organisationally supported processes and practices are more likely to indicate LASIS performance? Whilst this short section will draw together the main outcomes, it will also introduce a schematic representation of the relationships between VRIO investment, performance knowledge and competitive advantage,

which is the last major contribution of this thesis and will be explored in detail the final Chapter 6 Thesis Conclusions.

5.2.5.3 Summary - RQ3 Sub-questions

Although, LASIS context confirms the characteristics of *project* and *firm* performance associated with Mathur et al., (2013 & 2014) professional project management practitioner empirical investigations, the VRIO factors most likely to indicate performance are once again divergent, particular LASIS propensity to personally invest in processes including tangible and intangible assets as a mechanism to overcome the constraints associated with limited physical technological assets expected by professional project manager practitioners. This is clearly evident in the VRIO factor embedded assets (I1) as an indicator of performance, supporting posit that both tangible and intangible assets offer LASIS the potential for competitive advantage including sustainable advantage.

Unique to this investigation is the analysis of an organisations project management performance knowledge paradigm. Though, the *parent* organisation is developing project management performance knowledge understanding, and isolated examples of performance knowledge in *partner* organisations, albeit unconsciously, the overall paradigm is one that LASIS are unable to measure performance effectively. Overall it can be expressed as a cognitive, strategic and operational disconnect regards how project management performance knowledge contributes to competitive advantage strategies from project management assets and the organisationally supported processes and practices, potentially negatively influencing the degree of *project* and *firm* performance. Thus, ultimately effecting potential degrees of competitive advantage, including sustainable performance, in part due to an ambivalent attitude towards project management practices across most *partner* organisations, are manifesting as a reluctant and ignorant paradigm at a strategic level.

Plausible reason for this disconnect is the contextual divergent setting between LASIS and professional project manager practitioners, particular project management experience and qualifications. The limited empirical studies concentrate on the professional project management community (Jugdev & Mathur, 2006; Jugdev et al., 2011; and Mathur et al., 2013, 2014), in which participants are PMI affiliated and thus hold professional qualifications and more likely to be post graduate level, for example in Mathur et al., (2014) investigation, 80.6% of participants were educated to undergraduates and postgraduate level, with 80% holding a project management designated qualification. In comparison, LASIS only [n=44(62.85%)] are educated to degree level, and only [n=14(20%)] have professional project management qualifications and less than half [n=32(45%)] have attended informal project management training. Additionally, whereas the

participants in Mathur et al., (2014) research are dedicated project management practitioners, in this research most LASIS participants have little conscious knowledge and understanding of project management practices.

Finally, a theme throughout RQ1 and RQ2 was the significance of LASIS deliberate investment in VRIO project management assets, processes and practices if competitive advantage was to be leveraged. Moreover, it was identified that VRIO organisational support is a foundation for competitive advantage, and the degree of organisational support provided to project management assets, processes and practices acts as a moderator in the determination of competitive advantage. Similarly, RQ3 identified the current LASIS project management knowledge performance paradigm and the VRIO factors more likely to indicate *project* and *firm* performance. Consequently, while confirming VRIO accumulation with potential levels of competitive advantage, as detailed by Barney and Wright (1998), and that the characteristics of project management VRIO organisational support moderates the valueness, rareness and inimitableness of project management assets, as posit by Jugdev et al., (2013) and Mathur et al., (2013, 2014), in this specific LASIS non-professional practitioner context project management performance knowledge is related to *project* and *firm* performance and thus a moderator of competitive advantage. These relationships can be expressed schematically as figure 5.17 below illustrates.

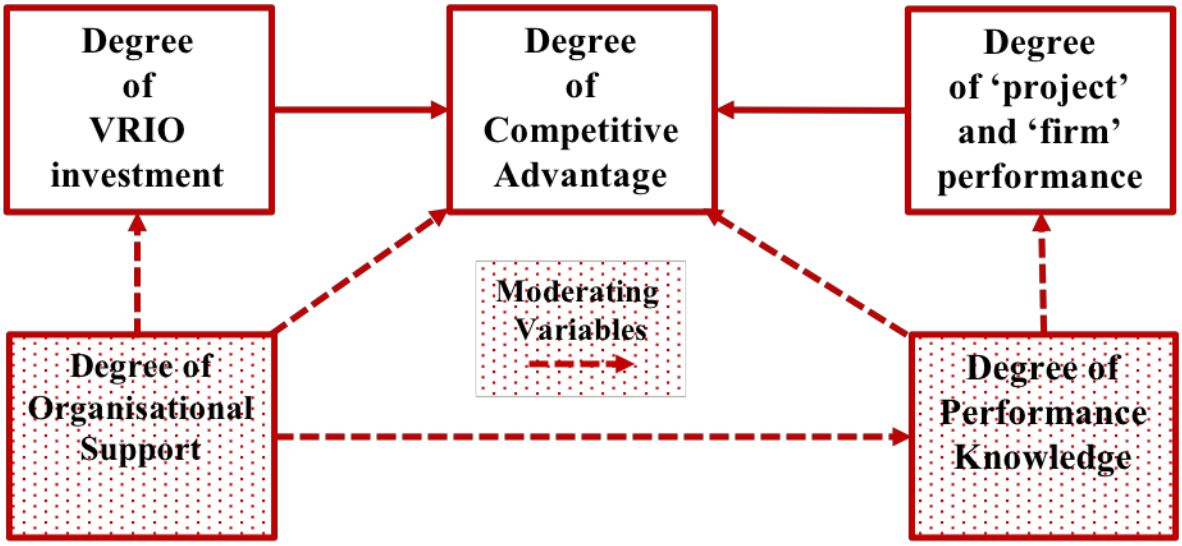

Figure 5.17: Schematic relationship between characteristics of VRIO investment & performance knowledge with degrees of 'project/firm' performance, and CA

This final thesis contribution is the aggregated output of the entire thesis in which the researcher suggests that competitive advantage from LASIS project management assets can be conceptually articulate as *'the degree of deliberate VRIO investment and the degree of project management performance knowledge influences the level of project and firm performance and thus moderates potential levels of competitive advantage'*. This proposition is further explored and presented as a formula in the final thesis Chapter 6 - Conclusions.

5.3 Discussion Conclusion

In this extensive chapter, drawn from the literature and the research findings the researcher has presented the discussion. The chapter was structured into three subsections. First, a review of the research gaps and a summary of the key points was presented; which was followed by the articulation of the overarching conceptual model inspired from literature and data finding. Then, the three central research questions and their associated sub-questions were addressed, including presentation of several key outputs, models and frameworks.

In conclusion, and of key importance this chapter has made all the necessary links to complete this thesis and produce a final aggregated output in the form of a proposition formula, which bridges the theory and practice, of an otherwise under represented body of knowledge. This final contribution will be detailed and explored in the final chapter – Research Conclusions, along with a discussion in regard the limitations of this research and recommendations related to possible future research.

Chapter 6 – Thesis Conclusion

6.1 Introduction

In this final chapter, the overall research conclusions and recommendations are presented, which emerged from the empirical investigation into the challenges of project management in Local Authority Social Impact Schemes (LASIS). Key to this chapter is the presentation of the final thesis contribution, which emerged from the previous discussion chapter. Here the proposition schematically illustrated in figure 5.17 above is expressed as a formula and a complementary practitioner matrix, hereafter defined as the LASIS Competitive Advantage Formula and Matrix.

The chapter is divided into three subsections; first it is necessary to revisit the original objectives, and highlighting the key research findings and the investigations contribution to knowledge. Subsection two presents the overall conclusions of the research and highlights the key theoretical and practitioner contributions. In subsection three a reflective perspective is presented upon the literature, and a critical evaluation of the chosen research methodology and the research limitations. In the final subsection the overall recommendations are presented, followed by further research necessary to strengthen the understanding of none-professional project management practitioners and the empirical testing of the LASIS competitive advantage formula and matrix.

6.2 Review of the Original Research Aims and Research Objectives

As described in Chapter 1 – Introduction, the investigations primary aims, were to identify which project management assets and associated processes and practices LASIS strategic managers need to deliberately: acknowledge; develop; deploy; and, exploit when conceiving competitive advantage strategies to deliver: i) impact from LASIS project management practices/paradigm; and, ii) to leverage sustainable competitive advantage post the 2008 financial crisis, public-sector funding retrenchment and reform paradigm.

In achieving these aims and the subsequent development of empirical models and conceptual frameworks, a suite of objectives were identified and attained throughout the investigation: i) to establish and justify the gaps in knowledge and to develop the research questions, a comprehensive review of extant literature identified key themes of: operations strategy, Resource-Based View, project management, and project management performance and measurement; ii) the empirical operationalisation of the VRIO framework identified which endowments of project management assets and associated processes and practices are valuable, rare, inimitable and organisationally supported, and which endowments leverage certain degrees of competitive advantage and how this competitive advantage is provided; and finally, iii) the empirical analysis of the survey and semi-

structured interviews identified the endowments of organisationally supported project management assets and associated processes and practices that are more likely to indicate performance.

Achievement of these aims allowed the investigation to develop several empirical models and conceptual frameworks, which will provide significant insight for the non-professional project manager practitioner, as well as making a contribution to knowledge across Resource-Based View, project management and Local Authority Social Impact Scheme literature.

6.3 Overview of the research finding observations and contributions to knowledge

As discussed in Chapter 1 – Introduction, the motivation for this investigation was theory and practice, with an intention of contributing to the Resource-Based View, project management and Local Authority Social Impact Scheme bodies of knowledge. From the theoretical perspective, the investigation makes claim to the empirical operationalisation of the RBV VRIO framework. From the practice perspective, the investigation makes claim to offering tangible insight for the non-professional project manager practitioner. Therefore, before presenting the final three research contributions it is necessary in this section to reiterate the key observations from the three central research questions and their connection with the claimed gaps in knowledge, as indicated in Chapter 1 Introduction and described in Chapter 2 Literature Review and Chapter 5 Discussion, above. First, each of the three central research questions will be briefly addressed in order to reiterate the key observations from the findings and discussions. Followed by a brief discussion how the resulting theoretical, practice motivations connect with the claimed gaps in knowledge.

6.3.1 RQ1

Which project management asset endowments are valuable, rare, imitable and are organisationally supported across LASIS? At the collective LASIS perspective it was established that the individual project management assets are combinations of economically valuable, rare amongst competitors and difficult to imitate or copy, and thus satisfy the conditions of leveraging potential degrees of competitive advantage (Barney, 1991; Mathur et al, 2014). It was also noted that endowments of valuable, rare and imitable project management assets were categorised as either *acquire knowledge assets* or *facilitating process assets*, which enable participants to develop their project management knowledge via organisational processes. Additionally, the collective LASIS identified the processes and practices (integration, alignment and communications) that are necessary to organisationally support the project management assets, which is a requirement of sustaining competitive advantage (Barney, 1995).

However, at the *parent* and *partner* organisation disaggregated level it was established that there are significant differences. It was identified that *partner* organisations more so than the *parent* organisation have an ambivalent attitude towards strategies that exploit project management assets as a source of competitive advantage and the necessary processes and practices to support these assets. The degree of deliberate project management investment as a source of competitive advantage and the poor level of experiential project management knowledge, formal qualifications and informal training are causes for the ambivalence. Furthermore, they act as moderators of VRIO potential.

Finally, agreeing with Mathur et al (2013) the level of organisational support can act as a moderator of competitive advantage and thus the researcher posits that organisational support mechanisms (integration, alignment and communications) are the foundations to competitive advantage. Figure 6.1. below, illustrate these key findings.

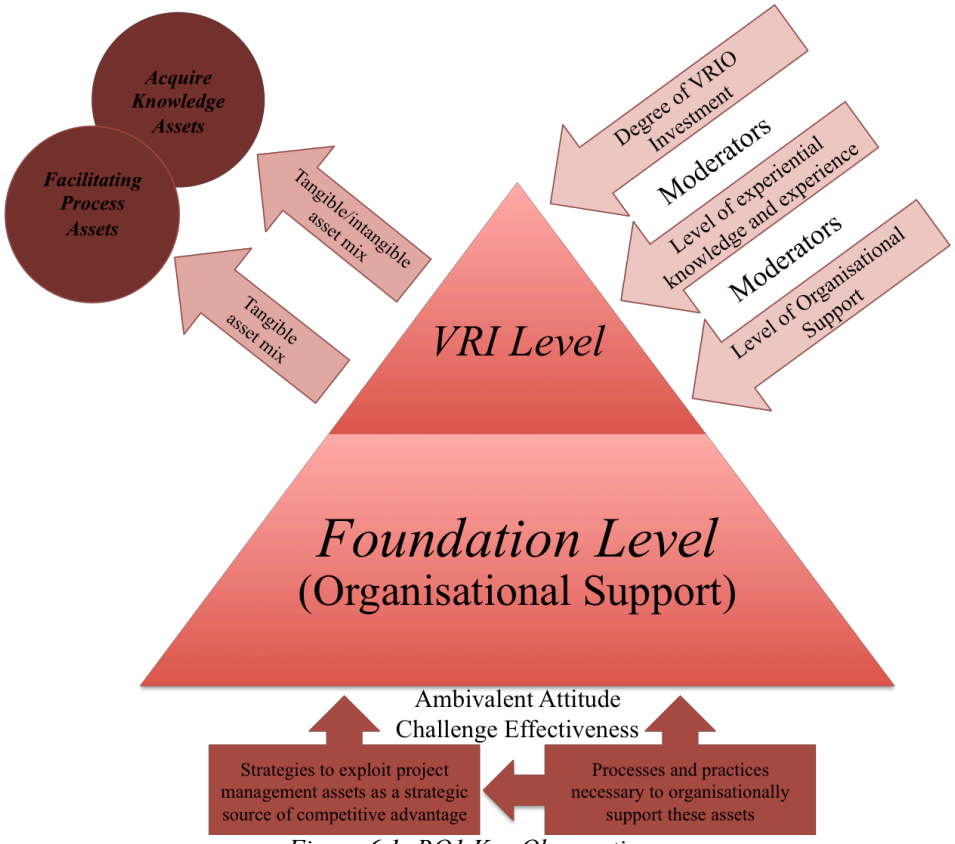

Figure 6.1: RQ1 Key Observations

The significance of this question is the practitioner insight it offers in an area of extremely limited empirical study. This is the first research, which investigates project management assets as a source of competitive advantage from the RBV lens and VRIO framework in a public-sector arena, including local authority third-sector collaborating partnerships charged with becoming financially and operationally sustainable, which LASIS are an example. This research question specifically identified key strategic issues when acknowledging, developing, deploying and

exploiting certain project management assets and associated processes and practices, in the initial stage of setting up and subsequent implementation and maintenance of a LASIS or similar model, offering tangible practitioner insight. Moreover, LASIS acknowledgement of the VRIO project management assets and associated processes and practices are the foundations satisfying Edith Penrose two assumptions: i) a firms growth (in this instance LASIS) can be as a result of the exploitation of existing resources and development of new ones; and, ii) that human capital particular management competence is necessary to manipulate and transform firm resources into something that can leverage degrees of competitive advantage, as discussed in 2.3.2.2 above.

Furthermore, the primary participants are uniquely divergent in comparison with extent research into project manager professionals. Unlike project management professionals in private-sector organisations who recognise the value of such strategic project management practices, this is the first empirical research in which non-professional project management practitioners in a public-sector context are the primary participants in a specific project management themed investigation. This is pertinent for non-professional practitioners particular project actuality and the lived experience associated with novice practitioners Cicmil et al., (2006).

6.3.2 RQ2

Which project management assets have the potential to leverage certain degrees of competitive advantage, and how is competitive advantage provided? Extant literature suggests that: i) intangible resources/assets offer the greater potential for competitive advantage (Almarri & Gardiner, 2014); ii) resources/assets can be either tangible codified assets (Jugdev & Mathur 2006; Mathur et al., 2013) or intangible knowledge based assets (Polyani, 1962; Dierickx & Cool, 1989; Teece et al., 1997; Lockett, 2009); and, iii) the more an asset satisfies the conditions of VRIO the greater the potential degree of competitive advantage (Barney, 1991; Hitt et al., 2016).

LASIS VRIO analysis identified the endowment of project management assets, which offer potential parity, temporary and sustainable degrees of competitive advantage. However, contradicting Mathur et al (2013, 2014) empirical investigations into professional project management practitioners, it was identified that the tangible codified assets (*methodologies*, *templates* and *PMO*) along with intangible assets (*shadowing, personal contacts, implicit* knowledge and *mentoring*) all satisfy the conditions of valueness, rareness and inimitableness, and thus offer the greatest potential of sustaining competitive advantage. This non-professional project manager practitioner's divergence can be explained by the partial deliberate investment in the tangible assets during the early stages of LASIS implementation. However, as the LASIS competitive environment matures this period of sustained competitive advantage is only short-term. Partial in the sense that certain codified tangible assets (*hardware, databases, software*) do

not receive deliberate investment, which contradicts with professional project management practitioner investigations (Mathur et al., 2014).

However, interpretation of the VRIO analysis identified two key outputs, which LASIS should consider when conceiving strategies for competitive advantage from project management assets and associated processes and practices. First, understanding how each project management asset contributes towards competitive advantage will support strategic decisions when apportioning resources for the deliberate investment in project management assets and associated processes and practices. Of specific relevance, here is how the asset contributes to each degree of competitive advantage (factor analysis descriptor) and whether the asset consists of acquire knowledge or facilitate process characteristics, as figure 5.8 above illustrates.

Second, the relationship between the factors which comprise the acquire knowledge assets and the factor which include the facilitating process assets. Simply, in this LASIS context assets which impart project management knowledge (V1), develop individual project management knowledge (R2) and, assets which are embedded in an organisations routines and relationships (I1) are associated with an individual acquiring project management knowledge. Whereas, assets which document formal project management knowledge (R1) enable the facilitation of acquiring that project management knowledge.

Appreciation of these outputs and cognisance of LASIS competitive environment will enable LASIS strategic managers to make informed decisions and allocation of resources when developing deliberate implementation and long-term strategies which, exploit project management assets and associated processes and practices for sustainable competitive advantage, as figure 6.2 below illustrates. Moreover, as discussed in section 2.3.2.2. above, of particular relevance to this investigation is Penrose's articulation that a firm's managerial resource should have the ability to manipulate the heterogeneous characteristics of a valuable and rare resource (or combination of valuable and rare resources) to exploit in a manner that is not easy to imitate or copy, and thus leverage advantage.

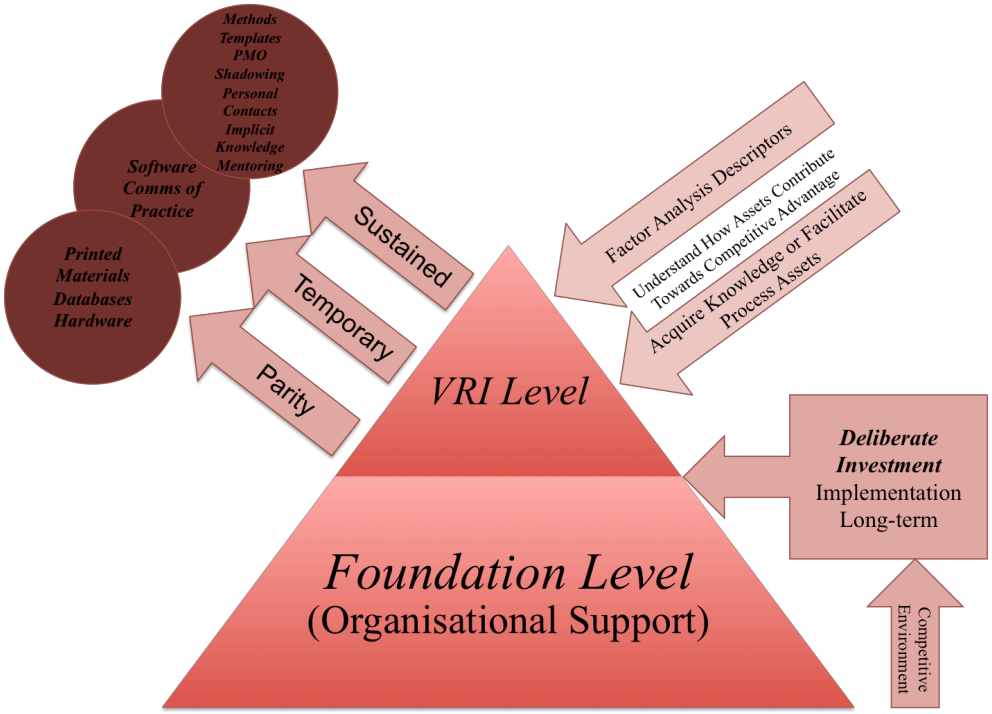

Figure 6.2: RQ2 Key Observations

The importance of this research is the practitioner insight it offers in an area of extremely limited empirical study. As already established, there is no research, which investigates project management assets as a source of competitive advantage from the RBV lens and VRIO framework in a public-sector arena, including LASIS. This specific research question presents an empirical VRIO model to support LASIS decisions regarding deliberate strategies to invest in project management assets and associated processes and practices, as a source of competitive advantage, particular in the initial stage of setting up and subsequent implementation and maintenance of a LASIS.

LASIS are novice non-professional project management practitioners who are uniquely divergent in comparison with extent research into professional project manager practitioner. The account for divergence is largely the degree of deliberate investment in project management practice, and the level of experience, qualifications and training. Therefore, the significance of this research question is the interpretation of the LASIS VRIO empirical model, which are divergently opposite to existing studies into professional project managers associated with Mathur et al., (2013). Thus, increasing the body of knowledge regards the lived experience of novice non-professional project management practitioners, Cicmil et al., (2006).

6.3.3 RQ3

Which project management assets and organisationally supported processes and practices are more likely to indicate LASIS performance? Resource-Based View theory suggests that there is a

correlation between the degree of competitive advantage from exploited resources and an organisations performance (Newbert, 2007). Thus, it is judicious that LASIS understand the relationships between their deliberate project management strategies and the impact on *project* level and *firm* level performance.

Having established that LASIS demonstrate similar *project* and *firm* level performance characteristics with Mathur et al (2013, 2014) investigation into professional project manager practitioners, and that the degree of organisational support acts as a *project* and *firm* performance moderating variable (Jugdev et al, 2011), it was established that the collective LASIS have a poor performance knowledge paradigm. Of significance is the inability to effectively measure *project* level: i) project objectives and constraints; ii) project management process; and, iii) project success, though this is more with *partner* organisations. Similarly, both the *parent* and *partner* organisations are unable to effectively measure *firm* level performance, particular organisational and societal impact from their project management assets and organisationally supported processes and practices.

Whilst there are encouraging signs particular the *parent* organisations developing awareness but arbitrary approach, and the *partner* organisations recognition of the need, overall there is no aligned tangible or structured application of project management practice with project success or performance. In fact, the examples of performance knowledge paradigm are largely unconscious and not a deliberate action. Therefore, at a cognitive strategic and operational level the current project management performance knowledge paradigm of the collective LASIS severely prohibits awareness and understanding of the notional relationships between project management assets and associated processes and practices, competitive advantage, and the relationship with performance.

One way of maximising the opportunities from the acquiesced project management performance knowledge paradigm is the strategic and operational cognitive understanding of which project management assets and associated processes and practice endowments most likely predict *project* and *firm* performance. Thus, it was identified that when moderated by the organisational support factors (integration, alignment and communications), only these three organisational support factors predict *project* level performance. Whereas, in addition to the three-organisational support factors the imitable factor I1 (embedded assets) predict *firm* level performance. Interestingly, I1 (embedded assets) predict *project* performance when not moderated by the organisational support factors.

Of significance, here is the confirmation that organisational support factors (integration, alignment and communications) are foundations for competitive advantage, and further confirmation that I1 embedded assets are key to sustainable competitive advantage as demonstrated in RQ2 above. Cognisance of the project management performance paradigm and the factors most likely to predict performance should aid LASIS strategic managers when conceiving initial and long-term competitive strategies that develop, deploy and exploit project management assets and associated processes and practices. A deliberate investment in an effective project management performance knowledge paradigm should be treated similar and in conjunction with the deliberate VRIO investment. Figure 6.3 below illustrates these key observations.

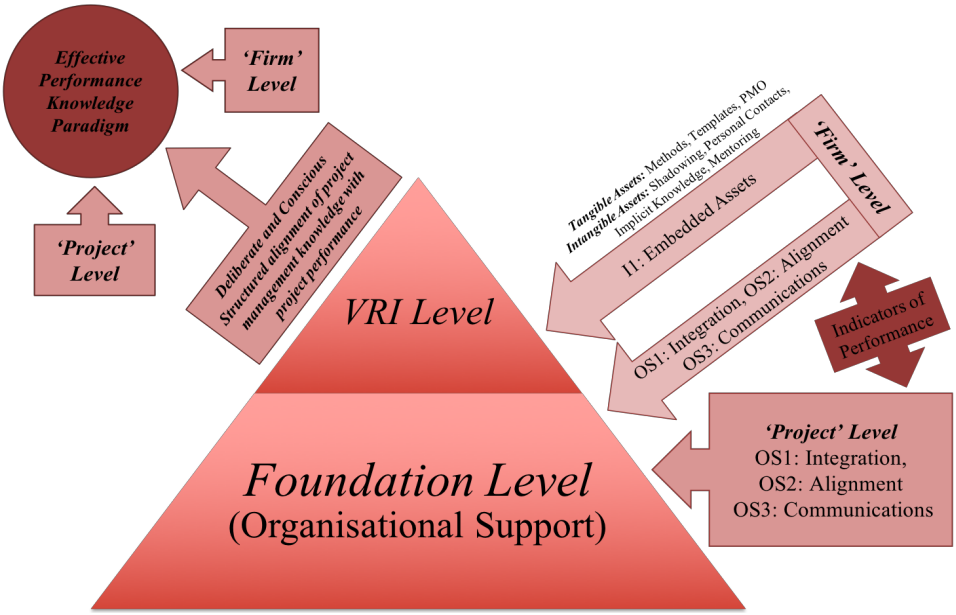

Figure 6.3: RQ3 Key Observations

Similar with RQ1 and RQ2 above, the importance of this research is the tangible practitioner insight it offers in an area of extremely limited empirical study. As already established, to date, there is no research, which investigates project management assets as a source of competitive advantage from the RBV lens and VRIO framework in a public-sector arena, including LASIS. This specific research question extends the LASIS VRIO empirical suppositions and presents tangible statistical observations, empowering decision-makers with the knowledge to focus LASIS in delivering performance from project management assets and organisationally supported processes and practices. Hierarchical regression analysis presents two parsimonious models of LASIS VRIO factors best predicating performance at *project* level and *firm* level.

Second, as already explained in RQ1 and RQ2 above, LASIS are novice project management practitioners who are uniquely divergent in comparison with extent research into professional project managers. Whilst the account for divergence is largely the degree of deliberate investment in project management practice, and the level of experience, qualifications and training, there is

no extent research that links RBV with an organisations level of performance knowledge from projects and the subjective impact from individual and programmes of projects. Therefore, the significance of this research question is the interpretation of LASIS VRIO hierarchical regression model of factors best predicating performance at *project* level and *firm* level. Additionally, to what extent does LASIS performance knowledge paradigm influences performance from the deliberate investment in project management assets and organisationally supported processes and practices. Thus, increasing the body of knowledge regards the lived experience of novice non-professional project management practitioners.

6.3.4 Research Question Final Conclusions

Drawing on Edith Penrose assumptions and Lockett et al., (2009) support for Penrose's position, presented in section 2.3.2.2 above; the collective LASIS demonstrate varying levels of awareness of resource exploitation and managerial competence to manipulate and transform a firm's resources into something that can leverage competitive advantage. However, the collective LASIS are in a position (albeit unconsciously) to exploit the unique nature of their existence, in two specific resource conditions i.e. resource combination and resource creation: Lockett et al., (2009). Whereby in resource combination, Penrose argues that managers ability to recognise how complimentary resources can be combined to create a productive service, which if consciously exploited may provide an organisational capability offering degrees of competitive advantage such as LASIS complimentary project management tangible and intangible assets combined with the managerial assets of organisational support. Whereas in resource creation, Penrose's argues that a firm develop resources through their own productive activities over time, and thus generate a unique resource-base that is directly related to a firm's past activities or path-dependent (Barney, 1991). It is this uniqueness of how a firm creates its resource-base that evolves into casual ambiguity claims Barney (1991). In which potential competitors will find difficult to isolate the specific factors necessary to imitate or copy and how the resource provides competitive advantage. Such as the individual histories and activities of the *parent* organisation and the individual *partner* organisations. Therefore, LASIS collective histories and activities are difficult to copy and thus have potential to invest and exploit project management assets, processes and practices combined to create a productive project management practice with the potential of leveraging degrees of competitive advantage.

Having summarised the key observations from each of the three research questions and before reviewing the main theoretical, practice and methodological contributions this investigation claims, it is now necessary to present the last research contributions, which is the accumulation of the investigation and posit further areas of future research.

6.4 Final Research Contribution and Emergent Research Propositions

Drawing together key research observations with extant literature and LASIS contextual background, a final conceptual model emerges, offering potential tangible practitioner insight., which is presented in 6.4.1 below. Additionally, the overall investigation into the phenomena has identified two research propositions worthy of further investigation that will contribute towards a better understanding of this new body of knowledge.

Research Proposition 1: Positioning project management assets, processes and practices as a strategic source of competitive advantage in Local Authority Social Impact Schemes will contribute towards sustainable *project* and *firm* performance.

Research Proposition 2: The more mature Local Authority Social Impact Schemes become with project management assets, processes and practices as a progressive resource, the greater the societal impact.

Whilst the first proposition is largely the focus of this thesis, the second proposition suggests that once LASIS have initially acknowledge, developed, deployed and exploited their endowment of project management assets and associated processes and practices, they need to dynamically manage their resource endowment to sustain competitive advantage and maximise their performance impact. From a theoretical perspective, proposition two adds to project management maturity literature and looks to address the criticism that RBV is a static theory (Priem & Butler, 2001; Newbert, 2007; Ambrosini & Bowman, 2009) challenging the ability of organisations to sustain long term competitive advantage in dynamic environments (Teece et al., 1997; Newbert, 2007). However, before these two prepositions are discussed in recommendations for further research below, it is now necessary to present the final thesis contribution - LASIS Competitive Advantage Formula and Matrix

6.4.1 The relationship between a deliberate investment, CA and performance

Empirical observations draw out a simple formula and matrix to determine and emphasise the: degree of competitive advantage and project manage performance from LASIS VRIO and performance knowledge investment. First presented in 5.2.5.3 Summary – RQ3 Sub-questions, and figure 5.17 above, the empirical analysis established: i) the degree of deliberate VRIO investment relates to the degree of competitive advantage leveraged from project management assets and associated processes and practices, as emphasised by Barney (1991) and Barney & Wright (1998); and, ii) the degree of project management performance knowledge relates to '*project'* and '*firm'* performance. Additionally, it was established that the degree of '*organisational support'* moderates the valueness, rareness and inimitableness of project management assets, as posit by Jugdev et al (2013) and Mathur et al (2013,2014), and influences

LASIS project management performance knowledge paradigm, which ultimately moderates the degree of competitive advantage and degree of *project* and *firm* level performance.

Extrapolating these empirical observations, the researcher postulates, *"the degree of competitive advantage and performance is moderated by the degree of deliberate VRIO investment and the degree of project management performance paradigm",* which can be expressed as the formula, and visually expressed in figure 6.4 below.

$$[>vrio + >pk = >cap]$$

(The greater the degree of VRIO investment, plus the greater the degree of project management performance knowledge paradigm, equal the greater the degree of competitive advantage and project and firm level performance)

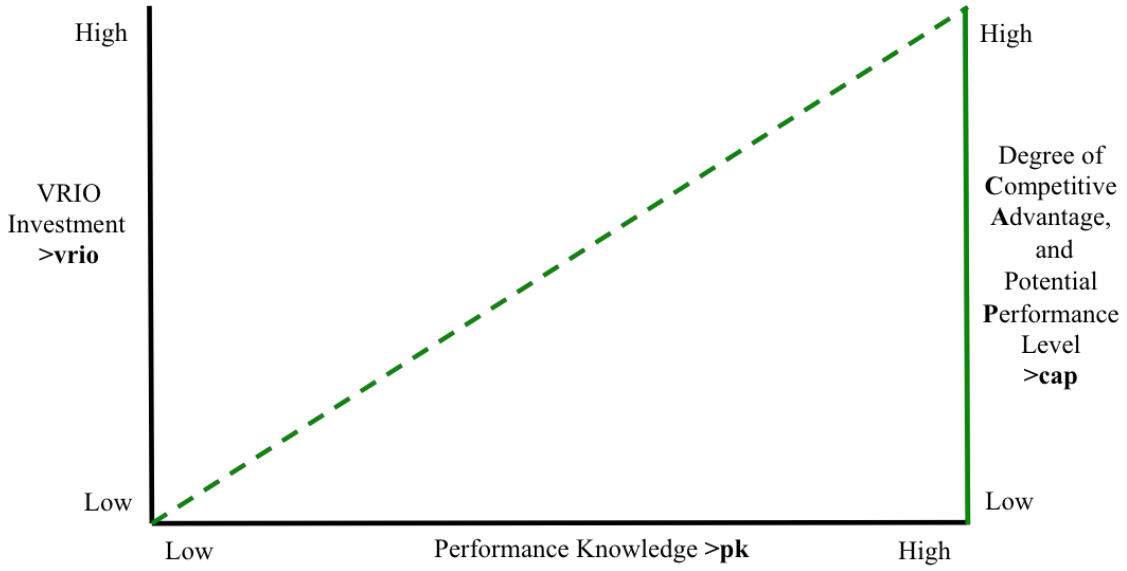

Figure 6.4: VRIO investment, performance knowledge, degree of CA and performance relationship

The rationale for the visual graph is based upon a linear correlation in which there is an assumed relationship between the deliberate VRIO (>vrio) and project management performance knowledge paradigm (>pk) and the degree of competitive advantage and performance (>cap). Applying the graph, first consider the VRIO investment (vrio) followed by the performance knowledge (pk) and map the converging points across onto the degree of competitive advantage and potential performance level (cap). For example, a high degree of vrio investment and a high level of performance knowledge relates to an assumed aggregated high level of competitive advantage and performance. Whereas, a high level of vrio investment with a low level of performance knowledge relates to an assumed aggregated low level of competitive advantage and performance. However, whilst the graph can only aggregate these relationships, the

complementary matrix '*degrees of competitive advantage and levels of performance'* illustrated in figure 6.5 below, operationalise the general formula.

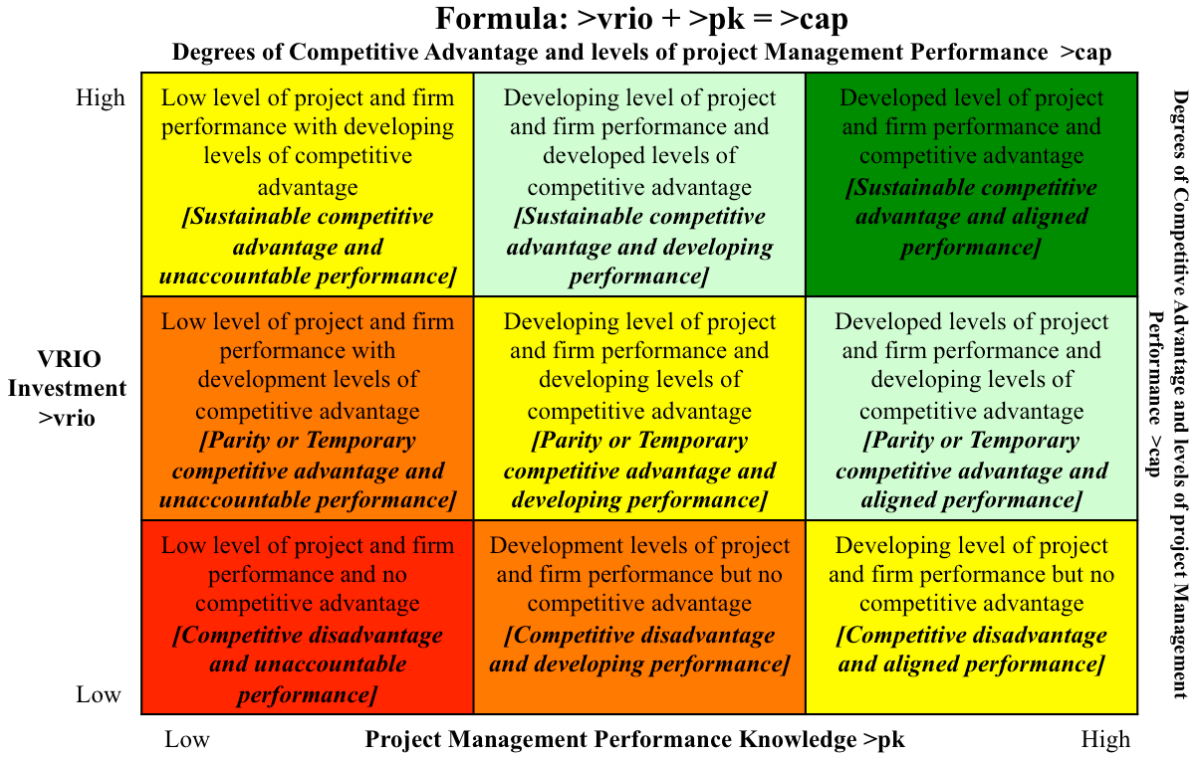

Figure 6.5: Degree of CA and Levels of Performance Matrix

The rationale for the matrix extrapolates the linear relationship of the aggregated formula onto a practitioner matrix, to illustrate the assumed RBV VRIO degree of competitive advantage (competitive disadvantage, parity, temporary, sustainable), stages of maturity (development, developing, developed) and business strategic performance (unaccountable performance and aligned performance). Of particular note is the matrix position of each LASIS organisations, which captures the reality of LASIS project management paradigm and degree of competitive advantage from the deliberate acknowledgement, development, deployment and exploitation of project management assets and associated processes and practices, as figure 6.6 below illustrates.

Mapping individual LASIS organisations onto the matrix highlights the reality and challenges across the collective LASIS. However, direct observations demonstrate the *parent* organisations developing project management paradigm and the positive direction of project management performance knowledge. Similarly, whilst the majority of *partner* organisations (*n=22*) have yet to acknowledge and accept project management as a source of strategic competitive advantage and the relationship of a positive project management performance knowledge paradigm, four organisations standout as being innovative in their approach to project management and performance. Of particular note are the two *partner* organisations that have consciously invested in project management assets and associated processes and practices, and the two organisations

that whilst not deliberately investing in project management assets, they have a reasonable awareness of performance and the relationship with *project* and *firm* level performance.

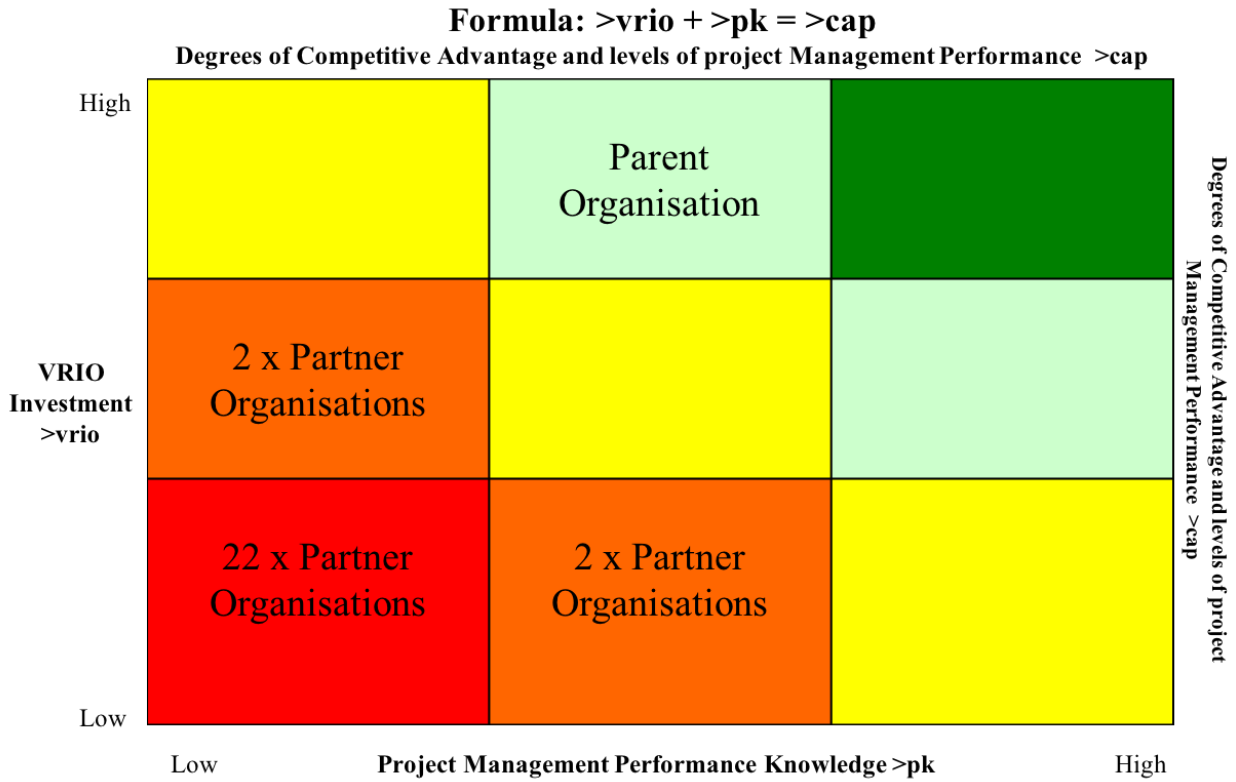

Figure 6.6: Relative position of each LASIS Organisation

However, the intention of the matrix is a strategic tool, which exposes the potential outcomes from a deliberate investment in VRIO assets and project management performance knowledge, when acknowledging, developing, deploying and exploiting project management assets and associated processes and practices, and the investment in a project management performance knowledge paradigm. Where the degree of competitive advantage and strategic performance emerge from RQ1-3, the stages of maturity (development, developing, developed) are currently conceptual as the researcher develops a LASIS Time Development Maturity Model and a LASIS Implementation Framework, which are outside the scope of this thesis research.

6.5 Review of the contributions from this thesis

As presented in Chapter 5 Discussion, the researcher identified two significant gaps in the body of knowledge, namely: i) empirical operationalisation of the VRIO framework exploiting project management assets in a public-sector context; and, ii) empirical research in which non-professional project management practitioners in a public-sector context are the primary participants in a specific project management themed investigation. In establishing these knowledge gaps a combination of both the theoretical and practitioner perspective was adopted, as the researcher is of the opinion that in the social science strategic and managerial context, reality

of the lived experience influences real world actuality, as suggested by (Cicmil et al., 2006; Sampaio et al., 2014), and thus to gain a better understanding of the phenomena under investigation more than one theoretical construction can be used on a collection of data, particular in the new and pre-paradigm stage of scientific development (Kuhn, 1996, p.76) as associated with the non-professional practitioner, such as LASIS project management context. Thus, as Dehe (2014) suggests researchers should apply empirical, theoretical and practitioner studies together to make a contribution to knowledge and practice, which harmonises the pragmatists paradigm borrowed for this research, as presented in Chapter 3 Research Methodology.

6.5.1 Contributions to Theory and Knowledge

In order to add to established RBV theory (Barney, 1991), and the more recent project management assets as a source of competitive advantage (Jugdev et al., 2011; Mathur et al., 2013; Almarri & Gardiner, 2014) bodies of knowledge, the key outputs from this investigation, are in response to, calls for more empirical research into RBV application (Newbert, 2007, Lockett et al., 2009). Accordingly, it is hoped that the empirical investigation has contributed towards how the operationalisation of the VRIO framework in a project management specific context can be articulated and understood, and how the relationship between the degree of VRIO and performance knowledge paradigm influences competitive advantage and organisational performance, expressed as >vrio + >pk = >cap (greater the degree of vrio investment, plus, greater the degree of performance knowledge paradigm, equals the greater the degree competitive advantage and organisations al performance).

6.5.2 Contributions to Practice

The investigation outputs have evidenced based which project management assets and associated processes and practices LASIS strategic managers should acknowledge, develop, deploy and exploit to leverage degrees of competitive advantage, particular in the implementation stages of a Local Authority Social Impact Scheme (LASIS). Moreover, the empirical investigation substantiates Jugdev et al., (2011) and Mathur et al., (2014) beliefs and findings that the degree of organisational support moderates the degree of competitive advantage and influences *project* level and *firm* level performance. However, within this non-professional project manager practitioner LASIS context, the mix of tangible and intangible project management asset endowments leveraging sustainable competitive advantage is divergent with Mathur et al., (2014) professional project manager practitioners, who predominately cite tangible assets as providing sustainable competitive advantage.

Furthermore, this empirical investigation has identified how: i) each project management asset provides competitive advantage; ii) the relationship between factors which are *acquire knowledge*

assets and *facilitating process assets* with sustainable competitive advantage; and, iii) the importance of developing a positive project management performance knowledge paradigm when conceiving strategies for competitive advantage and delivering *project* and *firm* performance.

The significance for organisations and schemes with non-professional project manager practitioners, particular LASIS, is the combined knowledge of the investigations outputs, concepts and frameworks, when conceiving strategies and their subsequent operationalisation which utilise a deliberate investment in project management assets and associated processes and practices.

6.6 Reflection upon the Literature

First, a key conclusion drawn from the review of this thesis literature is the critical perspectives of competitive advantage strategy discourse, particular the somewhat derisory attack on RBV as creditable theory practitioners may consider a reason to dismiss RBV as a theory too abstract. Furthermore, the business strategy literature presented in the review assumes competitive advantage is either external or internal driven depending on the philosophies of Porter or Mintzberg. Which in today's epoch of uncertainty, complexity and dynamic conditions may be too much of a parochial approach, suggesting that in reality a convergence of the two bring about improvised strategies, as argued by Moorman & Miner (1998) and Hadida, Tarvainen & Rose (2015). However, whilst operationalising the VRIO framework as yet to become an established academic methodology of empirical analysis, practitioner literature is in abundance, if only practitioners would take to the challenge and apply what the theory suggests.

Second, and in a similarly vein to strategy and RBV, project management literature is firmly embedded within limited arenas i.e. the tangible aspects of process and delivery, with little attention towards how project management provide competitive advantage. Which is characterised by the extensive body of knowledge credited to project failure and the focus on managing the constraints of the so-called project management Iron Triangle. Moreover, little attention is given to the obvious merits of project management as a strategic source of competitive advantage, and the limited studies are confined to the profession and organisations how formalise project management practice.

Finally, finding and gathering relevant context literature proved difficult which was not surprising given the ambivalence of public sector project management practice beyond large scale infrastructure projects, and the fact that in general public-sector at the local level including collaborating schemes do not consider themselves be at risk from competitors, and thus do not engage in competitive advantage strategies.

However, these observations triangulate this specific research and offer the potential to make a significant contribution to the RBV and project management knowledge, and tangible practitioner insight in an under represented but socially important field.

Though the review of literature firmly positions the thesis tripartite research phenomena; and clearly justifies the central research questions and associated sub-questions; the wider research highlights related knowledge gaps beyond the scope of this specific doctoral investigation. Namely, in response to the static nature criticisms (Priem & Butler, 2001; Newbert, 2007; Ambrosini & Bowman, 2009) how can RBV theory and the VRIO framework become progressive and a responsive theory to the uncertainty, complexity and dynamic environmental conditions, following the initial determination of leveraged competitive advantage? Moreover, how do non-professional project management practitioners, particular in a public-sector context, implement a strategy based on a positive project management practice and project performance knowledge paradigm? These two conundrums are explored further in recommendations for further research, presented in 6.9 below.

On a more personal perspective, as for this investigation the review into the literature has been an iterative and occasionally frustrating process of finding and gathering relevant and quality discourse to justify and support the research phenomena narrative presented in this thesis. If truth be said, although the research into this literature has obviously been a necessary process, and one which has both broaden and focused the researcher's knowledge base, it was not the most pleasant experience on this doctoral journey.

6.7 Recommendations

The researcher recommends that the collective LASIS take cognisance of the aggregated findings, particular the overall relationship expressed in the LASIS Competitive Advantage Formula and Matrix. However, the nature of the collective LASIS is transient as each *partner* organisation achieves sustainability and go their own way, with the knowledge of how to develop their business objectives and sustain any advantage through project management practice and performance knowledge. Thus, key recommendations are associated with the implementation of a new LASIS, in which the current local authority *parent* organisation is in the 5th iteration (Wigan Council online, 2018). The foundations for the developing LASIS implementation framework presented in figure 6.7 below, is based on the positive project management practice and knowledge performance paradigm extracted from the thesis main findings and conclusions. Particular: i) acknowledgement of the need to compete and thus develop a competitive edge; ii) a proportional

but deliberate investment in VRI project management assets; iii) a proportional but deliberate investment in the *organisational support* processes and practices; and, iv) develop an awareness of project management success and performance, in which the *parent* organisation will formalise expected performance and how impact will be measured and linked to the reason for LASIS existence. Finally, to coordinate the collective LASIS, as part of *organisational support* element of VRIO the *parent* organisation must take a proactive role in facilitating and reducing barriers of failure, for example provision of project management training and practical support such as standardised *methodologies*, *templates* and access to project management property such as *databases, hardware, software* and *printed materials*. The *parent* organisations *project management office* is in the best position to take on this critical role, leading to a potential competitive edge, through the acknowledgement, development, deployment and exploitation of project management assets and associated processes and practices as a strategic source of competitive advantage (Jugdev et al., 2011; Mathur et al., 2013,2014).

Also, key recommendations are associated with strengthening the body of knowledge associated with this tripartite context, particular: i) conceptually, VRIO a progressive framework extending the resource-based theory RBT; ii) the actuality and lived experience of non-professional project management practitioners in public-sector community-based organisations; and, iii) the relationship between the maturity of schemes such as LASIS and the societal impact from a deliberate investment in VRIO project management assets and their associated processes and practices, and performance knowledge. These key recommendations are further explored in 6.9 below, recommendations for further research.

However, there are a number of limitations linked to this research, particular: i) the static nature of the VRIO finding; ii) the cross-sectional time horizon; iii) generalisation of the research; and, iv) the research undertaken solely within a public-sector context, each which will be explored in the following subsection, leading to recommendations for further research.

6.8 Research Limitations

First, and notably; whilst the research exposed aspects of project actuality and the lived experience (Cicmil et al., 2006; Sampaio et al., 2014) of LASIS non-professional project management nature, the actual investigation was limited to the identification of asset endowments LASIS strategic managers should acknowledge, develop, deploy and exploit for degrees of competitive advantage, and which endowment mix indicate levels of performance. Thus, the primary focus of the research methodology was designed to elicit a moment in time inventory of VRIO assets during the period May - September 2014. Though satisfying the thesis research question criterion, the overall

findings fall short of how LASIS can sustain long term competitive advantage beyond the initial VRIO analysis. However, the extensive review of literature exposed the static nature of the RBV and VRIO framework (Priem & Butler, 2001; Newbert, 2007; Ambrosini & Bowman, 2009), and a small body of knowledge interrelating RBV with complementary meta-competences (Hitt et al., 2016). Thus, this limitation of how LASIS specifically can sustain their VRIO advantage for the long term, and more generally how the VRIO can become a more progressive framework will be subject of further research post this doctoral thesis.

Second, the cross-sectional time frame was the most appropriate method for this empirical research (Bowen & Wiersema 1999, p.626), particular access to participants during phase one and phase two sequential data collection points. Here, it was necessary to maintain the motivation of participants between the initial survey and semi-structured interviews, and to reduce the impact of any acquired project management training or knowledge between the two data points. This was essential to validate comparative analysis of the two data collection phases based on comparable project management practice knowledge and experience. However, similar with the first limitation, a cross-sectional approach limited the research to the static nature of the initial VRIO analysis. Consequently, falling short of how LASIS develop the endowment of project management VRIO assets and associated processes and practices, and thus how LASIS project management practice maturity actually impacts on performance both within the individual *parent* and *partner* organisations, and the wider societal impact LASIS serve. Incidentally, it was not possible to acquire performance data from a specific project or a program of projects across the LASIS or the individual *parent* and *partner* organisations. This was due to neither type of organisation having this information and the embryonic nature of the collective LASIS to produce any such relevant performance information. Thus, benchmarking project performance was not possible and therefore no empirical colorations between the maturity of LASIS investment in VRIO assets and any levels of performance can be made. However, this limitation is partially overcome by the extensive literature review and the conceptual LASIS Competitive Advantage Formula and Matrix presented above, and further explored in 6.9 below, recommendations for further research.

Third, the research and the associated findings from the operationalisation of the VRIO framework is within a single case, the collective LASIS. Case Study is a methodology that many suggest offers better insight into new areas of research (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2003), which LASIS is most definitely a new area of research. The researcher is satisfied with the robustness of data collection and analysis to be confident in the validity and reliability of the research findings. However, to strengthen any claims to the generalisation of the findings it

would be better had the research been undertaken within two or more similar social impacts schemes, which would further collaborate the findings, and enhance the generalisation claims of the findings. This was not possible due to the researchers understanding that there were no other similar social impact scheme(s) providing a simultaneous opportunity, whether local authority, private or third-sector commissioned. However, as literature identified there are now several local authorities pursuing a similar strategy under a diversity of scheme names, thus the generalisation limitation can be further strengthened in future research, incorporating the conceptual LASIS Competitive Advantage Formula and Matrix and a conceptual LASIS implementation development framework, presented in 6.9 below. This will enable the testing and validation of the thesis main empirical models and conceptual frameworks with the aim to generalise the findings and apply in similar local authority social impact schemes.

Finally, as a consequence of the unique nature of the research opportunity i.e. the new public-sector funding paradigm a significant global event, the research was undertaken solely in a public-sector context. However, the actuality and lived experience of project management practitioners (Cicmil et al., 2006; Sampaio et al., 2014) is pertinent across both professional and the non-professional project management organisation and their staff. Thus, whilst this specific research was to address the collective problem associated with developing sustainable strategies in a new funding paradigm, the research subject is relevant to any firm, organisation, entity, group, or a collective scheme developing strategies based on the acknowledgement, development, deployment and exploitation of project management assets and associated processes and practices as a strategy sources of long term competitiveness. Thus, the researcher is developing links with other similar non-professional project management organisations, such as the blue light industry, to explore implementation of similar LASIS inspire implementation, and established project orientated organisations via PMI and APMP channels, to explore long term sustainability of the initial VRIO analysis to advance RBV theory and VRIO as a progressive framework.

Though these limiting factors are the result of exploring beyond the original scope, to better understand the wider phenomena further research opportunities are identified to strengthen the body of knowledge of this emerging field, which will now be presented in the penultimate subsection.

6.9 Recommendations for Further Research

Whilst the scope of this investigation was to identify specific project management assets LASIS or similar entities, should acknowledge, develop, deploy and exploit in conceiving strategies that leverage degrees of competitive advantage, and contribute organisational performance, the

resulting models and conceptual frameworks provide opportunities for further research, particular the empirical testing of the two propositions which have emerged from this doctoral research and stated in 6.4 above.

Proposition 1: *Positioning project management assets, processes and practices as a strategic source of competitive advantage in Local Authority Social Enterprise Schemes will contribute towards sustainable project and firm performance.* Two specific research practice opportunities:

a) Operationalise a conceptual LASIS Implementation Framework the researcher is currently developing, utilising the endowment of project management assets in the LASIS VRIO Conceptual Framework, as figure 6.7 below illustrates, and the relationship between factors which are Acquire Knowledge Assets, and factors which are Facilitating Assets, and competitive advantage, first presented in 5.2.4.1 SRQ2a and figure 5.6 above.

b) Empirical testing the formula **>vrio + >pk = >cap** i.e. *'the greater the degree of VRIO investment, plus the greater the degree of project management performance knowledge paradigm, equal the greater the degree of competitive advantage and project and firm level performance'*

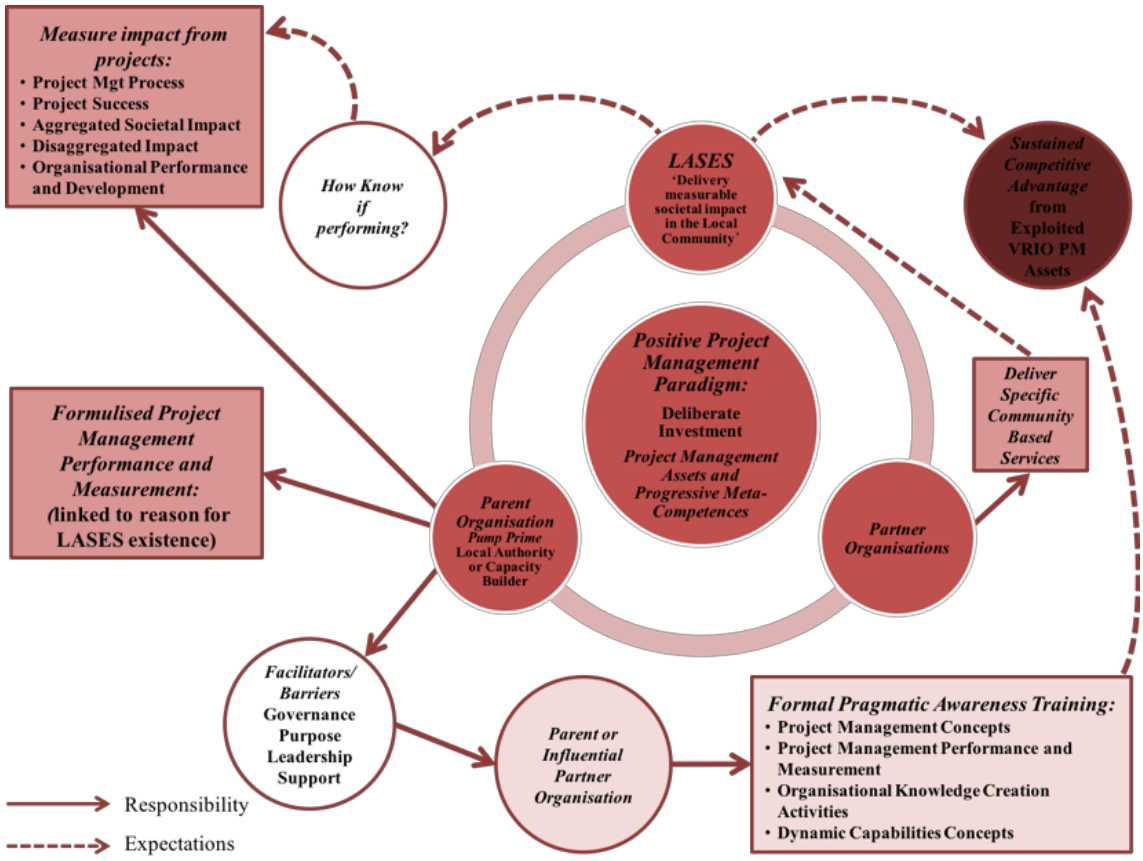

Figure 6.7: LASIS Developing Conceptual Implementation Framework

Proposition 2: *The more mature Local Authority Social Enterprise Schemes become with project management assets, processes and practices as a progressive resource, the greater the societal impact.* A suite of theory and practice research opportunities is offered here:

Emerging from the review of literature is an understanding that whilst acknowledging developing, deploying and exploiting project management asset endowments may leverage organisations with certain degrees of competitive advantage, the static nature of the VRIO framework challenges whether competitive advantage can be sustained in today's dynamic environment. RBV theory needs to be agile to enable managers to timely react and respond to changing circumstances, which may challenge the suitability of existing project management asset endowments, and the need to refresh, renew, or indeed harvest obsolete assets.

Addressing the RBV and VRIO criticism that of a static theory (Priem & Butler, 2001; Newbert, 2007; Ambrosini & Bowman, 2009), and responding to Hitt et al., (2016) assertions that there is little research extending RBV as a progressive theory of sustainable competitive advantage; the key outputs from this doctoral investigation offers an opportunity to further the RBV body of knowledge. Initially at a conceptual level, followed by empirical testing, the researcher postulates that by interrelating the key outputs from this doctoral research with the meta-competences i) knowledge-based view (KBV) and ii) dynamic capabilities (DC), the RBV VRIO has the potential of being a progressive framework, as illustrated in figure 6.8 below, extending this doctoral conceptual model first presented in the literature inspired conceptual model in figure 2.10 above.

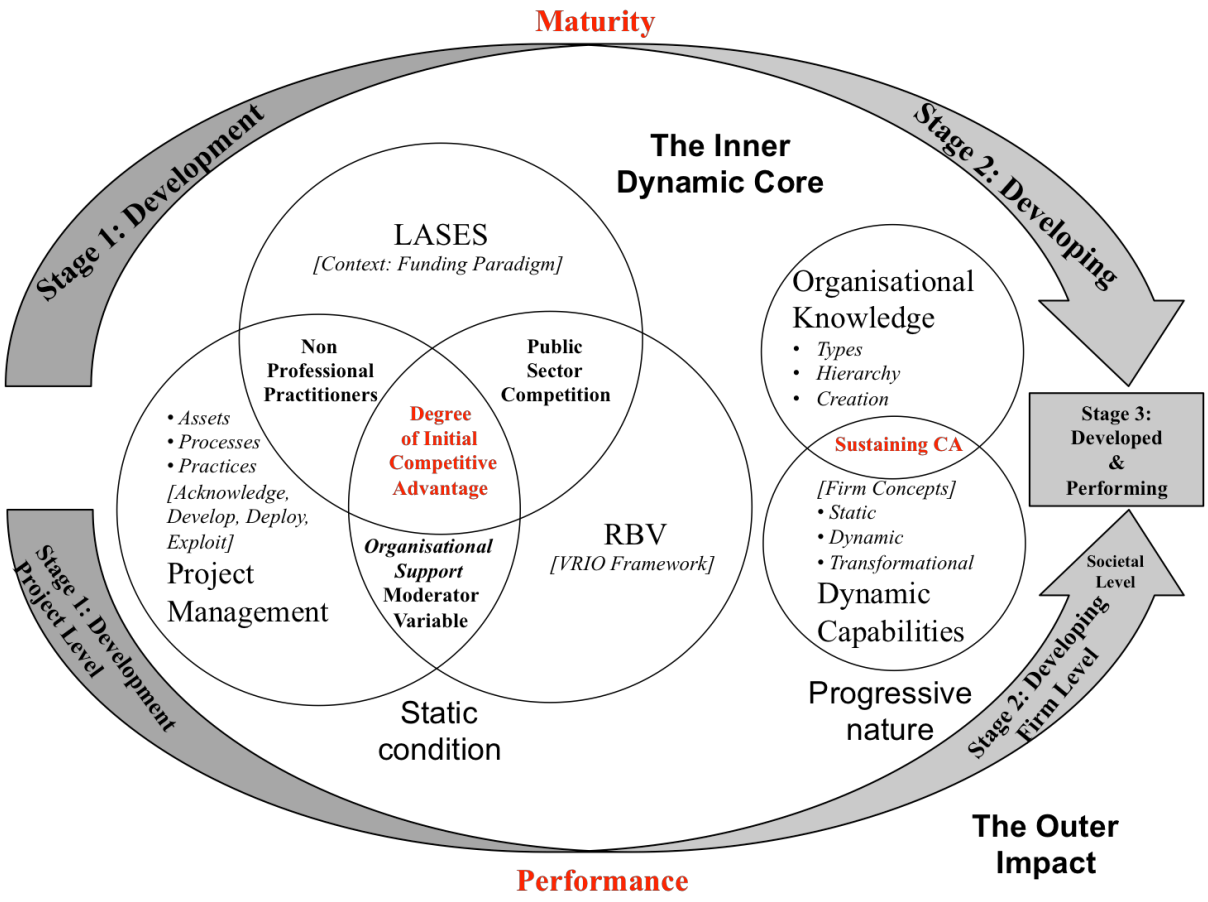

Figure 6.8: Developing Conceptual Model – LASIS Model of Sustained CA and Performance

c) Investigate how complementary meta-competences of Dynamic Capabilities and Organisational Knowledge-based theories can interrelate with RBV and extend RBV as a progressive theory of competitive advantage, as figure 6.10 below illustrates the work the researcher is currently developing.

d) Operationalise the conceptual interrelationships between RBV VRIO and the meta-competences presented in figure 6.11 below, followed by empirical testing for correlation with the formula **>vrio + >pk = >cap**

e) Empirical testing of a conceptual LASIS Time Development Maturity Model, as figure 6.9 below illustrates the work the researcher is currently developing.

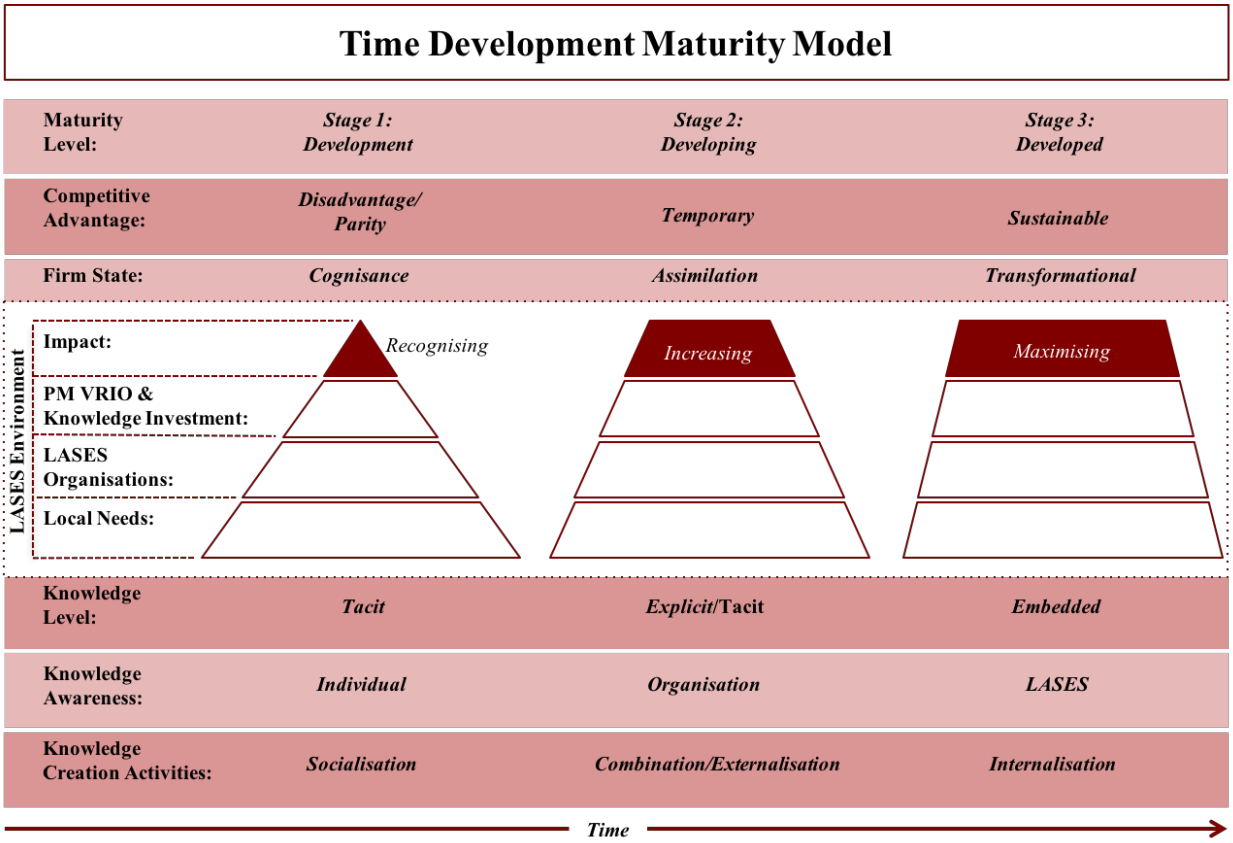

Figure 6.9: Developing Conceptual Model: LASIS Time Development Maturity Model

The model combines the key observations from this thesis with other areas the researchers is currently undertaking to advance the limited body of knowledge identified in 2.6.3 Body of Knowledge Gap 3: Future, above. The premise for the model is based on the assumption that LASIS deliberately interrelate dynamic capabilities and organisational knowledge theories with RBV to sustain their competitive advantage and maximise the impact from their resource endowments.

Finally, Other areas of research within a LASIS type entity may include:

f) Correlation between different participant characteristics and degree of project management and project management performance knowledge paradigm i.e. gender, education, experience.

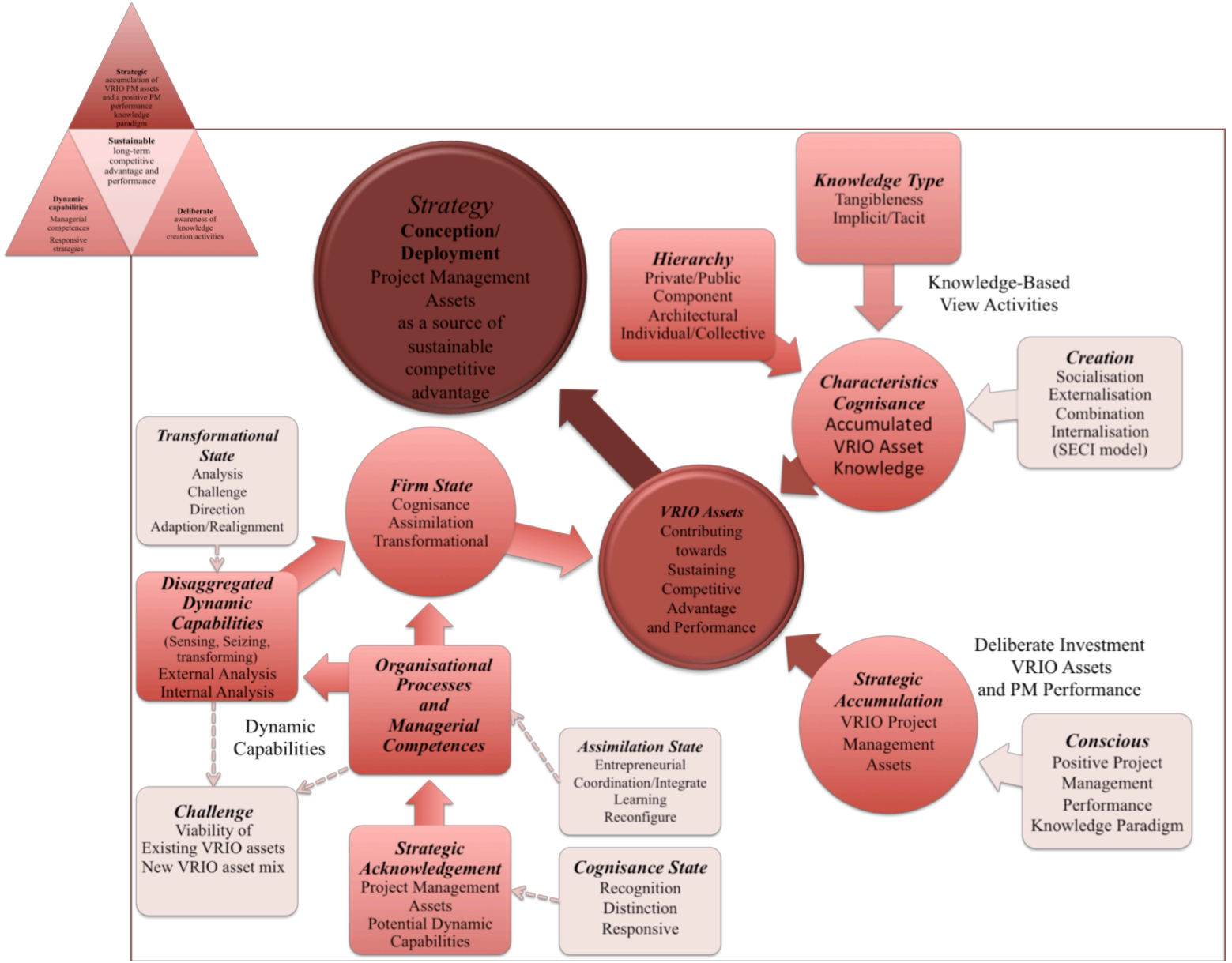

Figure 6.10: Developing Conceptual Model: LASIS Progressive Model for Sustaining CA

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Appendices:

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Appendix 1: Questionnaire Participants Cover Letter

Sustainable Social Enterprise Schemes

Project Management as a Source of Competitive Advantage

University of HUDDERSFIELD
Inspiring tomorrow's professionals

May/June 2014

Dear participant

The recent financial climate has radically redefined the distribution of social welfare in the UK with many Local Authorities having to make some difficult funding decisions. In the wake of this new financial paradigm new business models are essential if local Third-Sector / Social Enterprises are to grow and sustain funds and support to deliver their local services.

This questionnaire is part of a doctoral research programme investigating the link between certain aspects of project management and competitive advantage in Local Authority Social Enterprise Schemes. Your participation will help to test and validate a new social model to help Third-Sector / Social Enterprise organizations deliver sustainable local social projects for greater social impact.

The questionnaire is the first of three and should take approximately thirty minutes to complete. Two follow-up questionnaires, which I hope you will complete, will be conducted approximately six and twelve months after this initial questionnaire. If you are willing to participate, please answer the twenty-five questions by ticking the most appropriate option. Please note that some questions (1,2,3,5,6,7,8 & 9) have a number of sub-questions in which you are asked to consider statements and then decide how strongly you agree or disagree with each statement. All other questions have two or more options but only one option should be selected. The last question is a free text box for you to add anything you feel appropriate to the research.

The information you provide will be treated in the strictest confidence with all responses stored in secured conditions at the University of Huddersfield. Anonymity is guaranteed if you opt to provide your name and organization you represent (refer to questions 23 and 24 and the attached Consent Form). The responses from your questionnaire and other questionnaire respondents will be used as a main data set for my doctoral research. Please refer to Participant Information Sheet for further information regards anonymity, confidentiality and security of data.

I hope that you will find completing this questionnaire a useful exercise and food for thought. Please return the completed questionnaire in the provide envelope attached to either Andrew Sharrock (Wigan MBC) or Gareth Davies (Trust-in-Leigh) by June 11th 2014. If you have any questions or would like further information, please contact me by email: u0874088@hud.ac.uk or telephone number: 07557670228.

Thank you for your assistance

PAArmitage

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Participant Information Sheet

1. Introduction:

Aim of the Research: The aim of this research is to investigate how the **Intangibles of Project Management** can be positioned as a source of **Sustained Competitive Advantage** in **Local Authority Social Enterprise Schemes** and the development of a new social model.

Two propositions underpin the research, the first suggests that positioning project management intangibles as a source of competitive advantage in Third-Sector / Social Enterprise Schemes will provide sustainable growth and sustainability in attracting finance and support to fund and deliver local social projects. This initial and two follow-up questionnaires will measure the degree of Competitive Advantage through the **Resource-Based View Lens**.

The second proposition builds on the philosophy that the more mature and sophisticated Third-Sector / Social Enterprise Schemes become with the intangibles of project management the greater the social impact. This second proposition underpins the foundations for the new social model suggesting a Time Development Maturity Model.

Sustained Competitive Advantage: Achieving a degree of advantage over business competitors is a strategy, which many for-profit organisations seek. What makes one organization different from its competitors often yields a better than average return? However, this can be short lived if that same organization stagnates or takes the eye off the environment often proceeded by a rapid decline in fortunes. The same can now by said for Third-Sector organisations including Social Enterprises in the broadest definition. These types of organisations need to find a way of excelling if they are to grow and be sustainable particularly in the face of the new Local Authority financial paradigm and predatory for-profit organizations. This research suggests that developing the intangibles of project management will provide a degree of sustained competitive advantage in attracting finance and support to fund and deliver social projects and achieve greater social impact in the local community.

Resource-Base View Lens: The Resource-Based View is a strategy philosophy supported by the VRIO Framework to measure the degree of competitive advantage provided by a specific resource in an organization. The **VRIO** Framework measures the degree of economic **value** of the resource (project management intangibles); the degree of **rareness**/uniqueness with other organizations, how difficult is it for competitors to **imitate** or copy and the amount of **organizational** support provided to the resource (project management intangibles). Collectively this assessment determines the level of competitive advantage, ranging from 'no competitive advantage', 'competitive parity', 'temporary competitive advantage' to 'sustainable competitive advantage'.

Intangibles of Project Management: More often project management is associated with a bundle of systems, processes, procedures, methodologies, frameworks and tools & techniques collectively known as the 'hard' elements or the 'explicit know what' of project management. These recognizable elements are easy to measure but they don't themselves guarantee high project performance. Often, it's the overlooked 'softer' elements (intangibles) of project management that integrate the harder elements into a cohesive management mechanism delivering necessary change. The 'softer' or more accurately defined 'implicit tacit know how' underpins the abovementioned propositions, with specific reference to leadership, organisational behaviour, knowledge transfer, relational interface and project performance management.

Local Authority Social Enterprise Schemes: Within the context of this research Wigan MBC is the Local Authority with responsibility for pump priming local Third-Sector / Social Enterprise organizations in their Community Investment Fund Programme (CIF). For the purpose of this research the CIF programme and the participating Third-Sector / Social Enterprise organizations are the collective Local Authority Social Enterprise Scheme.

2. Survey questionnaire information:

Title of Research: The Intangibles of Project Management as a Source of Competitive Advantage in Third-Sector / Social Enterprise Schemes.

I would like to invite you to take part in this research project. This page provides more information about the research topic and questionnaire. I advise you to read it carefully before deciding whether to take part or not. Please ask me if anything is not clear using the contact detail in the cover letter.

What is the purpose of this doctoral research questionnaire? My name is Paul Andrew Armitage. I am a doctoral candidate in the School of Business at the University of Huddersfield. I am conducting this research as part of the strict requirements of my Doctor of Philosophy Degree in the discipline of Operations Management.

Why have I been chosen as a potential participant? As you are a member of the Local Authority Social Enterprise Scheme, either in the capacity of paid staff, Trustee or volunteer, and you are familiar with how your organization applies project management to achieve organizational objective, I would like to invite you to participate in the research.

Do I have to participate in the research? No. Your participation is completely voluntary. You do not have to take part in this study if you do not want to. If you choose to participate and then change your mind, you may leave the study at any time for any reason by letting me know. If you withdraw, any information contributed until the time of withdrawal will be included in the study, including my thesis report and any subsequent journal articles, but no more information will be collected from you from that point on.

What will happen if I decide to participate in the research? If you decide to participate, you will be given this information sheet to keep and be asked to agree to a consent form. You are asked to complete this initial questionnaire and up to two follow-up questionnaires. Each questionnaire will take about 30 minutes to complete. You will be asked questions about different aspects of your organization's project management assets and some related demographics. This initial survey will be a self-administered postal survey; however, the two follow-up questionnaires will be online. If you decide to participate in the two follow-up questionnaires a link will be sent to your preferred email address.

What are the possible benefits of participating in the research? I hope that the findings from this research will validate a new social model for Third-Sector / Social Enterprise organizations to adopt as a strategic objective for sustainable growth and sustainable funding. If your organization has competitors (direct or indirect), it might be useful for you to know about how placing the intangibles of project management as a source of sustained competitive advantage impacts on the organization's project performance and the subsequent delivery of greater local social impact. Although no compensatory incentives will be offered, a copy of the research report will be held in the University Repository and will be accessible to participating organizations or individual research participants.

What are the possible disadvantages and risks of participating in the research? There are no major anticipated risks or disadvantages resulting from participation in this study. It is possible that you may feel uneasy in answering some of the questions. You do not have to answer any questions you do not wish to.

Will my information be kept confidential? All information obtained during this study will be treated in the strictest confidence. Any information collected during this study will be seen only by my doctoral supervisory team, Professor David Bamford and Janet Handley and me

What if something goes wrong? If you have any concerns about this study and wish to make a complaint, please contact me at. Information will be stored and analysed in secure conditions in my office and those of the supervisory team at the University of Huddersfield. Your name or the name of your organisation, the telephone number or email address provided in the cover letter will not appear in any publication resulting from this study. If you remain dissatisfied and wish to make a more formal complaint, please contact the supervisory team (contact details are provided in cover letter).

What will happen to the information I have provided? The information collected during this research will be kept for 5 years in secure conditions at the University of Huddersfield and, then, destroyed. The information collected may be used in anonymized form for additional research.

What will happen to the results of the research? The results of the research may be published in my doctoral thesis and in academic journal articles and may be presented at academic conferences, seminars, and research forums etc. Further, a copy of the thesis will be held in the University Repository and may be consulted by other researchers in the field.

Has the research programme received ethical approval? This questionnaire has been reviewed and has received ethical approval from the University of Huddersfield Business School Research Ethics Committee (BSEC).

3. Follow-up survey questionnaires:

Collecting research data consists of three defined phases. Phase 1 will be conducted during June 2014 and will baseline the degree of Competitive Advantage project management intangibles yields in the Local Authority Social Enterprise Scheme. Phase 2 will be conducted approximately nine months after the June 2014 Trust-in-Leigh Project Management Awareness training programme and will be used to monitor performance following the Project Management Awareness training. Phase 3 will follow a second programme of Project Management Awareness Training (April/May 2015) with the questionnaire to be conducted in Oct/Nov 2015.

In addition, selected respondents across the entire range of Local Authority Social Enterprise Scheme organizations will be invited to participate in semi-structured interviews. The selected sample frame will be calculated to provide an equitable representation of the whole Local Authority Social Enterprise Scheme population. If you wish to be considered for this aspect of the research, please indicate on the consent form.

4. Summary

Thank you for taking the time to read this participant information sheet? If you would like additional information to assist you in reaching a decision about participation, please contact me on Telephone Number: 07557670228 or email address: u0874088@hud.ac.uk

You have the option for your responses to this questionnaire to be completely anonymous. If you chose this option please do not answer questions 23 and 24 in the questionnaire, and do not provide contact details on the attached Consent Form. It will not be possible to identify any individual from the responses because of the large sample size, consisting of a number of individuals sampled from each of the 50+ organizations in the Local Authority Social Enterprise Scheme. The participating organizations (Wigan MBC and partner Social Enterprises) will never have access to the responses.

However, if you decide to participate in the two follow-up questionnaires or wish to be considered for the semi-structured interviews please answer questions 23 and 24 and provide your contact details on the attached Consent Form. If you agree to provide your details the only people to have access to your responses will be the research supervisory team and myself. The participating

organisations (parent and partner organisations) will never have access to the responses.

However, if you decide to participate in the two follow-up questionnaires or wish to be considered for the semi-structured interviews please answer questions 23 and 24 and provide your contact details on the attached Consent Form. If you agree to provide your details the only people to have access to your responses will be the research supervisory team and myself. The participating organisations (parent and partner organisations) will never have access to the responses.

I hope that you will agree to take part in this research including the two follow-up questionnaires.

May I take this opportunity to thank you in advance for your assistance in this research?

5. Consent Form Information

After reading and digesting the information please complete and sign the Consent Form included in this Participation Information Sheet pack and return with completed questionnaire in the provided enclosed envelope to either ********** (Parent Organisation) or ********* (Partner organisation).

Please remember that your participation is completely voluntary. If you choose to participate and then change your mind, you may leave the study at any time for any reason by letting me know. If you withdraw, any information contributed until the time of withdrawal will be included in the Ph.D study, including my thesis report and any subsequent journal articles, but no more information will be collected from you from that point on.

Sustainable Social Enterprise Schemes

Project Management as a Source of Competitive Advantage

University of HUDDERSFIELD
Inspiring tomorrow's professionals

CONSENT FORM

Name and position of researcher:
Paul Andrew Armitage, Ph.D Candidate, Business School, University of Huddersfield.

Please tick the relevant options for each of the nine consent questions.

1	I confirm that I have read and understood the information contain within the Participation Information Sheet and have had the opportunity to ask questions.	☐ YES	☐ NO
2	I understand that my participation is entirely voluntary and that I am free to withdraw at any time without giving a reason and without me being affected in any way. If I withdraw, any information provided up to withdrawal will be included in the Ph.d research, including theses report and subsequent journal articles.	☐ YES	☐ NO
3	I agree to partake in the research.	☐ YES	☐ NO
4	I would like to participate in the two follow-up questionnaires at intervals appropriate to the researchers' progress. However, this is estimated to be March 2015 and October/Nov 2015.	☐ YES	☐ NO
5	If selected I would like to partake in the semi-structured interviews at a point in the research yet to be decided by the researcher.	☐ YES	☐ NO
6	I agree to anonymised quotes in publications including my thesis report and any subsequent journal articles etc.	☐ YES	☐ NO
7	I understand that the data collected will be securely kept for a period of five years at the University of Huddersfield and thereafter all data will be destroyed.	☐ YES	☐ NO
8	I understand that only the supervisory team and the researcher will have access to the data.	☐ YES	☐ NO
9	I understand that my identity will be protected by the use of pseudonyms and that no information that could lead to my identification will be included in any report resulting from this research.	☐ YES	☐ NO

If you agree to participate in the follow-up questionnaires and/or semi-structured interviews, please complete the additional information

Preferred email address for future correspondence:	
Preferred telephone number for future correspondence (optional):	
Participant Name (Optional) but desirable:	
Participants Organisations Name (Optional) but desirable:	

Signature: Date:

Appendix 2: Questionnaire

SURVEY QUESTIONNAIRE

Phase 1: Baseline VRIO Assessment

(Degree of Competitive Advantage provided by the intangibles of project management resource)

Section 1: You and the organisation.

Question 1: relates to the type of organisation.
Selecting one option only, your organisation can be described as:

***** Council (go to question 5)	☐ 1
Third-Sector Voluntary Organisation	☐ 2
Social Enterprise Organisation with trading arm	☐ 3
Social Enterprise Organisation with charitable objects	☐ 4
Community Organisation	☐ 5
Please describe your organisation:	☐ 6

Question 2: relates to the size of the organisation.
Including Trustees, Board Members and paid staff (but not volunteers), the size of your organisation is:

Less than 10	☐ 1
Between 10 -19	☐ 2
Between 20 – 49	☐ 3
Between 50 – 99	☐ 4
Between 100 – 249	☐ 5
Between 250 - 499	☐ 6
Over 500	☐ 7

Question 3: relates to volunteers in the organisations.
Roughly, how many volunteers are attached to your organisations?

	1

Question 4: relates to the age of the organisation.
Roughly, how old is your organisations? (in years)

	1

Question 5: relates to *** Council Community Investment Fund (CIF) Opportunities.**
Selecting one option only, your organisation can be described as delivering community services and/or products within the following category:

***** Council participants please select this option only.	☐ 1
Opportunity 1: Supporting the roll out of modernized adult social care services – as we disinvest in the old day centre model of provision and look for new models of community support to combat isolation and the growing pressures of an aging population.	☐ 2
Opportunity 2: Significantly increasing levels of physical activity and improving the wider health and well-being of our population – particularly our more deprived communities.	☐ 3
Opportunity 3: Supporting families and communities to cope with multiple difficulties, (e.g. domestic abuse, worklessness, youth offending) and providing opportunities for young people to participate in a range of positive activities – strengthening their ability to withstand and rebound from disruptive life challenges, in order to increase resilience of the individual, family and community.	☐ 4
Opportunity 4: Encouraging community responsibility for keeping our neighborhoods' and streets clean.	☐ 5
Opportunity 5: Providing coordinated capacity building to allow our local community and voluntary sector to deliver on these priority opportunities cohesively and effectively.	☐ 6

Question 6: relates to the specific social sector of your organisation:
Selecting one option only, your organisation can be described as a:

***** Council participants please select this option only	☐ 1
Sports organisations	☐ 2
Leisure organisation	☐ 3
Health, Well-Being and Social organisation	☐ 4
Creative organisation	☐ 5
Heritage and History organisation	☐ 6
Environment and Open Spaces organisation	☐ 7
Other type of social sector, please provide a description	☐ 8

Question 7: relates to annual funding required to deliver your organisations services and/or products.
Selecting one option only, what is the approximate annual expenditure your organisation needs to deliver its service and/or products? (Please note that there are 10 options)

***** Council participants please select this option only	☐ 1
Less that £5,000	☐ 2
Between £5,000 – £7,499	☐ 3
Between £7,500 - £10,000	☐ 4
Between £10,001 - £15,000	☐ 5
Between £15001 - £20,000	☐ 6

Between £20,001 - £30,000	☐ 7
Between £30,001 - £50,000	☐ 8
Between £50,001 - £100,000	☐ 9
Over £100,000	☐ 10

Question 8: relates to the level of project management knowledge and experience.
Your current project management role in your organisation is:

Senior-level project executive	☐ 1
Project manager	☐ 2
Project team member	☐ 3
Other, (please specify)	☐ 4

Question 9 relates to formal project mamagement qualifications.
I hold a formal project management qualification, for example, PRINCE2, Aossociation Project Management Profressional (APMP), Management of Risk (MoR), Diploma in Project Management, MSc Project Management, other formal qualitfication:

Yes (please specify the qualification[s])	☐ 1
No	☐ 2

Question 10: relates to informal project management training.
I have attended informal project management training:

Yes (please specify informal project management training)	☐	1
No	☐	2

Question 11: relates to your level of education
My highest level of education is:

High school	☐	1
College diploma/certificate	☐	2
Undergraduate degree (e.g., BA, BSc)	☐	3
Master's degree (e.g., MA, MBA, MSc, MEng)	☐	4
Doctoral degree	☐	5

Question 12: relates to your gender:
I am:

Male	☐	1
Female	☐	2

Question 13: relates to your age.
How old are you? (in years)

	1

Question 14: relates to your position in the organisation.
Please describe the position you hold in the organisation:

	1

Question 15: relates to the identify of your organisation.

The name of my organisation is:

	1

Section 2: Project Management Resources in your Organisation.

Please answer the questions in the context of projects you have worked on within the past year in your organisation and your understanding of how your organisation applies project management.

Question 16: relates to the degree of economic value project management resources produce in the organisation. Project management resources improve the organisations sustainable financial position and are sources of strength?

If your organisation doesn't have the specific project management resource please select the N/A option.

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree	N/A
Q16.1 Printed project management materials are a valuable resource (source of strength) at my organisation (e.g. manuals, books, professional journals).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8
Q16.2 Databases are valuable resources (sources of strength) at my organisation (e.g. project databases, knowledge management databases, risk management simulation such as Monte Carlo analysis).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8
Q16.3 Computer hardware used for project management is a valuable resource (source of strength) at my organisation.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8

Q16.4 Software used for project management is a valuable resource (source of strength) at my organisation (e.g. Microsoft Office, Microsoft Projects, or bespoke project management software).	1	2	3	4	5	6	7	8
Q16.5 Project management methodologies are valuable resources (source of strength) at my organisation (e.g. how projects are designed, implemented and reviewed).	1	2	3	4	5	6	7	8
Q16.6 Project job shadowing is a valuable resource (source of strength) at my organisation.	1	2	3	4	5	6	7	8
Q16.7 Project management templates are valuable resources (source of strength) at my organisation (e.g. checklists or forms for project business cases, project initiation documents, lessons learnt logs, risk logs, change requests).	1	2	3	4	5	6	7	8
Q16.8 Project personal contacts – the network of relationships a person has with others within or outside the organisation, is a valuable resource (source of strength) at my organisation (i.e. with ***** Council, other partner organisations, other CIF organisations).	1	2	3	4	5	6	7	8
Q16.9 Project management communities (whereby people within the organisation regularly share and learn explicit project practices) are valuable resources (sources of strength) at my organisation (e.g. formal or informal sessions showing others what to do).	1	2	3	4	5	6	7	8
Q16.10 The project management office is a valuable resource (source of strength) at my organisatioin (e.g. the dedicated team that provides support to organisational projects and project teams).	1	2	3	4	5	6	7	8
Q16.11 Implicit project management knowledge is a valuable resource (source of strength) at my organisation (e.g. personal and experiential practical knowledge is shared by showing others how things are done).	1	2	3	4	5	6	7	8
Q16.12 Project management Mentoring is a valuable resource (source of strength) at my organisation.	1	2	3	4	5	6	7	8

Question 17: relates to the degree of rareness project management resources are within the organisation.
Project management resources in your organisations are unique and few other organisations have them paticular your competitors?

If your organisation doesn't have the specific project management resource please select the N/A option.

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree	N/A
Q17.1 Printed project management materials are a rare resource that my organisation has (e.g. manuals, books, professional journals).	1	2	3	4	5	6	7	8

Q17.2 Databases are rare resources that my organisation has (e.g. project databases, knowledge management databases, risk management simulation such as Monte Carlo analysis).	1	2	3	4	5	6	7	8
Q17.3 Computer hardware used for project management is a rare resource that my organisations has.	1	2	3	4	5	6	7	8
Q17.4 Software used for project management is a rare resource that my organisation has (e.g. Microsoft Office, Microsoft Projects, or bespoke project management software).	1	2	3	4	5	6	7	8
Q17.5 Project management methodologies are rare resources that my organisation has (e.g. how projects are designed, implemented and reviewed).	1	2	3	4	5	6	7	8
Q17.6 Project job shadowing is a rare resource that my organisation has.	1	2	3	4	5	6	7	8
Q17.7 Project management templates are rare resources that my organisation has (e.g. checklists or forms for project business cases, project initiation documents, lessons learnt logs, risk logs, change requests).	1	2	3	4	5	6	7	8
Q17.8 Project personal contacts – the network of relationships a person has with others within or outside the organisation, is a rare resource that my organisation has (i.e. with ***** Council, other partner organisations, other CIF organisations).	1	2	3	4	5	6	7	8
Q17.9 Project management communities (whereby people within the organisation regularly share and learn explicit project practices) are rare resources that my organisation has (e.g. formal or informal sessions showing others what to do).	1	2	3	4	5	6	7	8
Q17.10 The project management office is a rare resource that my organisation has (e.g. the dedicated team that provides support to organisational projects and project teams).	1	2	3	4	5	6	7	8
Q17.11 Implicit project management knowledge is a rare resource that my organisation has (e.g. personal and experiential practical knowledge is shared by showing others how things are done).	1	2	3	4	5	6	7	8
Q17.12 Project management Mentoring is a rare resource that my organisation has.	1	2	3	4	5	6	7	8

Question 18: relates to how difficult it is for other organisations to imitate your organisations project management resources. Project management resources in your organisations are very difficult for competitors to copy. Inimitable resources have no equals, your organisation has a bundle of project management resources which are difficult to copy.

If your organisation doesn't have the specific project management resource pleae select the N/A option.

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree	N/A
Q18.1 My organisations printed project management materials are resources that are very difficult for competitors to copy (e.g. manuals, books, professional journals).	1	2	3	4	5	6	7	8
Q18.2 My organisations databases are resources that are difficult for competitors to copy (e.g. project databases, knowledge management databases, risk management simulation such as Monte Carlo analysis).	1	2	3	4	5	6	7	8
Q18.3 My organisations computer hardware used for project management is a resource that is very difficult for competitors to copy.	1	2	3	4	5	6	7	8
Q18.4 My organisations software used for project management is a resource that is very difficult for competitors to copy (e.g. Microsoft Office, Microsoft Projects, or bespoke project management software).	1	2	3	4	5	6	7	8
Q18.5 My organisations project management methodologies are resources that are very difficult for competitors to copy (e.g. how projects are designed, implemented and reviewed).	1	2	3	4	5	6	7	8
Q18.6 My organisations project job shadowing is a resource that is very difficult for competitors to copy.	1	2	3	4	5	6	7	8
Q18.7 My organisations project management templates are resources that are very difficult for competitors to copy (e.g. checklists or forms for project business cases, project initiation documents, lessons learnt logs, risk logs, change requests).	1	2	3	4	5	6	7	8
Q18.8 My organisations project personal contacts – the network of relationships a person has with others within or outside the organisation, is a resource that is very difficult for competitors to copy (i.e. with ***** Council, other partner organisations, other CIF organisations).	1	2	3	4	5	6	7	8
Q18.9 My organisations project management communities (whereby people within the organisation regularly share and learn explicit project practices) are resources that are very difficult for competitors to copy (e.g. formal or informal sessions showing others what to do).	1	2	3	4	5	6	7	8
Q18.10 The project management office is a rare resource that my organisation has (e.g. the dedicated team that provides support to organisational projects and project teams).	1	2	3	4	5	6	7	8
Q18.11 My organisations implicit project management knowledge is a resource that is very difficult for competitors to copy (e.g. personal and experiential practical knowledge is shared by showing others how things are done).	1	2	3	4	5	6	7	8

Q18.12 My organisations project management Mentoring is a resource that is very difficult for competitors to copy.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8

Question 19: refers to the level of project management maturity within your organisation.
Selecting one option only, which single level best describes your organisation's overall level of project management maturity; that is, how evolved and sophisticated are the practices? Each level builds on the previous level(s).

Initial Level:	Your project management practices are mainly ad hoc and chaotic, which rely on the project management competences of some individuals.	☐ 1
Repeatable Level:	Your project management practices include a project management system and project plans, which are based on previous experience.	☐ 2
Defined Level:	Your project management practices are commonly used in the organisations and have an organisational-wide understanding of project management activities, roles and responsibilities.	☐ 3
Managed Level:	Your project management practices are stable and measure project performance against organisational goals, with variations identified and addressed.	☐ 4
Optimising Level:	Your project management practices are organisational wide and the entire organisation is focused on continuous improvement.	☐ 5

Question 20: relates to the organisations alignment of project management practices with the organisations mission, services and products on offer.

The quality of my organisation's project management practices is important to the delivery of…

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree
Q20.1 The organisations' mission (the business it is in).	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q20.2 The organisations' services.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q20.3 The organisations' products.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Question 21: relates to project management communication, the degree to which the organisations staff have the freedom of timely and effective communications.

In my organisation, I can…

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree
Q21.1 Communicate upwards in the project hierarchy.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q21.2 Communicate upwards in the organisations hierarchy.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Q21.3 Communicate openly on the project.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Question 22: relates to the degree of project management intergration in the organisation.

In my organisation when working on projects…

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree
Q22.1 upper management (including Senior Mgt, Trustees, Board Members etc) supports me, even in critical phases.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q22.2 people trust each other.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q22.3 people work well together.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q22.4 the environment encourages learning.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q22.5 the environment encourages sharing knowledge and information.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q22.6 the leadership is supportive and encourages effective working relationships.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Question 23: relates to the degree of project performance in terms of 'cost', 'quality' and 'time' and the social impact of delivered projects.

My organisations's project management processes generally allow us to…

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree
Q23.1 meet project quality expectation.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q23.2 meet customer expectations (customers can be internal or external to the organisations)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q23.3 meet project scope requirements.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q23.4 meet project schedules.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q23.5 meet project costs.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Q23.6 to measure the social impact individual projects deliver.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Question 24: relates to the degree of project performance in terms of innovation, improvement and satisfaction.

My organisation's project management resources and capability allow us to achieve…

	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree	Very Strongly Agree
Q24.1 sustainable funding.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q24.2 sustainable customers.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q24.3 customer satisfaction.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q24.4 continuous improvement.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q24.5 continuous innovation.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Q24.6 develop sustainable communities.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Question 25: provides the opportunity to express other information you feel appropriate. This may include for example, how your organisations measures project performance or what project management development programmes are available to you in your organisations, including taught training, shadowing, coaching and mentoring.

Thank you for completing this questionnaire.

Appendix 3: VRIO 'Rare' characteristic theme, codebook

Table App1 - VRIO: Rare theme and asset levels

Level 1	Level 2	Level 3	Level 4	Level 5
Theme Rareness (R)	Rare negative (R1)	Not rare amongst competitors and no temporary CA	Explicit/codified	Tangible/intangible
	Rare neutral (R2)	Rare amongst a few competitors, temporary CA short-term	Codified/explicit Embedded/tacit	Tangible/intangible
	Rare positive (R3)	Rare amongst competitors and potential for long-term temporary CA	Tacit/embedded	Tangible/intangible

Table App2 - Rare Characteristic 'good' code elements Boyatzis (1998)

Label	Rareness
Definition	Project mgt asset(s) are rare amongst competitors and have the potential for some duration of temporary competitive advantage
Description how occurs	Explicit acknowledgement of asset(s) and conscious recognition of the degree of rareness to organisation
Description of qualifications and exclusions to the identification of the theme	Qualification: Explicit acknowledgement of one or more priori of Mathur et al project management assets and/or other type of project management asset whether tangible or intangible i.e. specific tool & technique, or project management training. Exclusion: acknowledgement of generic wider organisational assets utilised to support project management practices.
Positive example	PMO asset applied to deliver stated project objectives are uniquely designed and deployed by organisation.
Negative example	Mathur et al priori of project management asset(s) or generic assets applied to support project management practices whilst contributing value to stated project objectives are not particular rare amongst competitors i.e. proprietary or branded methodology frameworks (PRINCE2 etc)

Appendix 4: VRIO 'Imitable characteristic theme, codebook

Table App3 - VRIO: Imitable theme and asset levels

Level 1	Level 2	Level 3	Level 4	Level 5
Theme Inimitableness (I)	Inimitableness negative (I1)	Easily copied by all competitors and therefore does not provide sustained CA	Explicit/codified	Tangible/intangible
	Inimitableness neutral (I2)	Easily copied by a very few competitors and therefore impacts on the degree of sustained CA	Codified/explicit Embedded/tacit	Tangible/intangible
	Inimitableness positive (I3)	Cannot be copied by competitors and therefore potential for sustained CA	Tacit/embedded	Tangible/intangible

Table App4 - Imitable Characteristic 'good' code elements Boyatzis (1998)

Label	Inimitableness
Definition	Project mgt asset(s) are not easy to copy amongst competitors and have the potential for sustained competitive advantage
Description how occurs	Explicit acknowledgement of asset(s) and conscious recognition of the degree of sustained CA for the organisation
Description of qualifications and exclusions to the identification of the theme	Qualification: Explicit acknowledgement of one or more priori of Mathur et al project management assets and/or other type of project management asset whether tangible or intangible i.e. specific tool & technique, or project management training. Exclusion: acknowledgement of generic wider organisational assets utilised to support project management practices.
Positive example	Implicit project management knowledge or shadowing facilities are assets, which are extremely difficult to copy by competitors.
Negative example	Mathur et al priori of project management asset(s) or generic assets applied to support project management practices whilst contributing value to stated project objectives and whilst rare amongst competitors can be easily copied i.e. project management templates such as checklist, risk logs, change requests etc

Appendix 5: VRIO 'Organisational Support' characteristic theme, codebook

Table App5 - VRIO: Organisational Support theme and asset levels

Level 1	Level 2	Level 3	Level 4	Level 5
Theme Organisational Support (OS)	OS negative (OS1)	Asset(s) do not have organisational support and therefore severely moderate the degree of valueness, rareness and inimitability of asset(s)	Explicit/codified Embedded/tacit	Tangible/intangible
	OS neutral (OS2)	Asset(s) are only partially organisational supported and therefore act to neutralising the degree of valueness, rareness and inimitability of asset(s)	Codified/explicit Embedded/tacit	Tangible/intangible
	OS positive (OS3)	Asset(s) are have organisational support and therefore have a positive moderating effect on the degree of valueness, rareness and inimitability of asset(s)	Tacit/embedded	Tangible/intangible

Table App6 - Imitable Characteristic 'good' code elements Boyatzis (1998)

Label	Organisational Support
Definition	Project mgt asset(s) are organisationally supported
Description how occurs	Explicit acknowledgement of asset(s) and conscious recognition of the degree of organisational support
Description of qualifications and exclusions to the identification of the theme	Qualification: Explicit acknowledgement of one or more priori of Mathur et al project management assets and/or other type of project management asset whether tangible or intangible i.e. specific tool & technique, or project management training. Exclusion: acknowledgement of generic wider organisational assets utilised to support project management practices
Positive example	The networks of personal project contacts or mentoring processes are organisationally supported.
Negative example	Mathur et al priori of project management asset(s) or generic assets applied to support project management practices whilst contributing value to stated project objectives and whilst rare amongst competitors and difficult to copy do not receive organisational support i.e. branded tools and techniques

Table App7 - Priori of words and phrases applied across VIRO characteristics

• Blissfully unconscious	• History	• Reputation
• Bundle of resources	• Implicit knowledge	• Resource accumulation
• Casual ambiguity	• Importance of PM assets	• Resource heterogeneity
• Codified and tangible assets	• Intangible assets	• Resources imitability
• Consciously competent	• Invisible assets	• Resource immobility
• Culture	• Knowledge capture	• Resource non-substitution
• Customised templates	• Know how	• Resource rareness
• Critical resources	• Know what	• Resource value
• Collect, capture and disseminate	• Knowledge based assets	• Sharing assets
• Conscious, deliberate	• Mathur et al 12 assets	• Sharing facilitation
• Customized to provide CA	• Maturity models	• Sharing PM knowledge
• Dedicated	• Methodologies	• Social complexity
• Dedicated Team	• Neutralize threats	• Social relationships
• Deep routed in org history	• Organised, haphazard	• Software, hardware, databases
• Degree of embedding PM intangibles in ways of working	• Organisational support	• Tangible assets
	• PM bodies of knowledge	• Tangible, intangible
• Design, implement, manage, review	• PM literature, books, articles	• Tacit knowledge
• Embedded tacit assets	• PMO	• Templates
• Embedded ways of working		• To do the job, tools of the trade

• Equivalent resource mix • Exploit opportunities • Formal, informal	• PMO coordinate use of PM assets • Protocols	• Tools & techniques • Trust

Appendix 6: VRIO 'Project Level Performance' theme, codebook

Table App8 – Project Level Performance theme and asset levels

Level 1: Theme	Level 2: Sub-theme	Level 3:
Project level Performance (PLP)	Project objectives and constraints (PLP1)	N/A
	Project management process (PLP2)	N/A
	Project success (PLP3)	

Table App9 – Project Level Performance 'good' code elements Boyatzis (1998)

Label	Project level performance
Definition	Within the stated project constraints of time, cost, quality and availability of resources the degree projects achieve the defined preordained objectives and demonstrate continuous improvement and innovation at project management process level and project success level
Description how occurs	Explicit or implied acknowledgement of a project level performance event (whether, project management process level or project success level) and recognition of wider organisational learning from event.
Description of qualifications and exclusions to the identification of the theme	Qualifications: Explicit or implied acknowledgement of project level performance achievement (project objectives, continuous improvement or continuous innovation) event specifically in relation to project management assets at either 'project management process level' or project 'success level'. Exclusions: explicit or implied acknowledgement of generic events used in the normal day to day working practices, which do not necessarily contribute to specific project level performance.
Positive example	1) The project was delivered on time, within budget to the quality specifications agreed by stakeholders. 2) The key learning points from the project management process has been embedded into future processes. 3) Appreciation of diverse and potential conflicting stakeholder objectives enabled project success contributing to the development of sustainable communities.
Negative example	1) Resource availability prohibits the successful delivery of project to stated preordained objectives. 2) Project team performance was a factor in the project failure. 3) The project management process was a success, however a failure to acknowledge and understand service users the (community) objectives resulted in poor customer satisfaction.

Table App10 - Priori of words and phrases applied across Project Level Performance

• Conflicting objectives • Continuous improvement • Continuous innovation • Customer expectations • Develop sustainable communities • Happiness of project team • Iron triangle • Managing project outcomes • Management supportive and committed for project management success • Management support and committed project teams • Management strategic vision and direction • Measurement mix suitable for project • Objectives of project • Organisational support use of tools and techniques for project management success • Organisational support project success factor • Overall project objectives • Perception of multiple stakeholders	• Project success • Performance measurement of project teams • Preordained objectives • Project balance between TCQ • Project management process • Project management softer elements • Project success criteria • Project triangle constraints • Quality expectations • Satisfy multiple stakeholders • Stakeholders • Stakeholder difference in project performance objectives • Successful projects • Sustainable funding • Team capabilities • Team competence • Team performance

• Planning, coordinating, controlling, monitoring • Project management process	• Time, cost and quality objectives

Appendix 7: VRIO 'Firm Level Performance' theme, codebook

Table App11 – Firm Level Performance theme and asset levels

Level 1: Theme	Level 2: Sub-theme	Level 3:
Firm level (FLP)	Organisational Performance (FLP1)	N/A
	Societal Performance (FLP2)	Aggregated social impact (FLP2-1)
		Social change process (FPL2-2)

Table App12 – Firm Level Performance 'good' code elements Boyatzis (1998)

Label	Firm level performance
Definition	The degree projects contribute to firm performance in achieving strategic vision, aims & objectives, and the degree firm project performance delivers societal improvements measured in terms of aggregated social impact and social change process outcomes.
Description how occurs	Explicit or implied acknowledgement of a firm level performance event (whether, organisational performance level or societal performance level) and recognition of wider organisational learning from event.
Description of qualifications and exclusions to the identification of the theme	Qualifications: Explicit or implied acknowledgement of firm level performance achievement (project objectives, continuous improvement or continuous innovation, customer satisfaction, sustainable funding, sustainable communities etc) event specifically in relation to the use and application of project management assets at either 'organisational performance level' or 'societal performance level'. Exclusions: explicit or implied acknowledgement of generic events used in the normal day to day working practices, which do not necessarily contribute to specific firm performance.
Positive example	1) The planning, coordinating, controlling and monitoring processes adopted by project teams have a positive impact on the delivery of successful projects measured by contribution to organisational strategic aims and objectives. 2) The aggregated impact of firm performance from projects is related to the level of wellbeing of individuals and the community. 3) Deliberate organisational intervention projects have resulted in a positive change in the norms, values, beliefs and behaviour of end-users.
Negative example	1) Project management practices particular the project management assets are not supported by management, thus severely impacting on delivering strategic aims and objectives and contributing to wider organisational improvement and innovation. 2) There is little to link how firm performance from projects makes a difference to end-users whether individuals or communities. 3) The net impact of firm performance from projects on individuals or community cannot be determined.

Table App13 - Priori of words and phrases applied across Firm Level Performance

• Aggregated impact • Aggregated measures • Complexities and ambiguity of measuring project success • Change in norms, values, beliefs and behaviour • Community impacts • Contribute to strategic aims • Deliberate interventions national, regional and local level • Difference project makes • Dynamic internal and external operating environment • Happiness of project end-user • Human impact • Individual empowerment • Impact assessment	• Measuring wider social impacts • Multi stakeholder perspective • Net impact of project on individual or community • Non-financial impacts • Outcome measurement • People impact • Perception of multiple stakeholders • Project interventions • Project success criteria • Using project outcomes • Stakeholder community satisfaction • Stakeholder satisfaction and expectations • Subjective success criteria • Success measured by wider stakeholder community • Social capital of communities

• Innovative learning • Job creation • Measuring project success i.e. holistic measures • Measurable outcomes	• Social change process • Social impact variables i.e. Burdge 1994 • Social return on investment • Social value • Wellbeing of individuals and community

Note, many of the words and phrases applied across 'project level performance' were also used.

Appendix 8: VRIO 'Project Measurement' theme, codebook

Table App14 – VRIO Project Measurement theme and asset levels

Level 1: Theme	Level 2: Sub-theme	Level 3:
Measurement (M)	Quantitative (M1)	Measurement (M)
	Qualitative (M2)	

Table App15 - Measurement 'good' code elements Boyatzis (1998)

Label	Measurement
Definition	How the collective endeavours of projects are measured against preordained project objectives and the wider non-financial project success objectives.
Description how occurs	Explicit or implied acknowledgement of project measurement event (whether, quantitative level or qualitative level) and recognition of wider organisational learning from event.
Description of qualifications and exclusions to the identification of the theme	Qualifications: Explicit or implied acknowledgement of project measurement (whether quantitative or qualitative) event specifically in relation to the use and application of project management assets at either 'project management process level' or 'project successes level'. Exclusions: explicit or implied acknowledgement of generic events used in the normal day to day working practices, which do not necessarily contribute to specific project measurement.
Positive example	1) The traditional tangible objectives of time, cost and quality measures. 2) Defined project success criteria and the quantitative measures. 3) The complexities and ambiguity of measuring project success, however clearly defined mix of appropriate measures are communicated and applied. 4) Subjective and qualitative intangible measures of project success to measure societal impact, customer satisfaction or the aggregated impact on the wider community.
Negative example	1) Measuring project performance is ad-hoc with no clear link to performance (whether, project level, firm level, end-user level or societal level). 2) Poorly defined or inappropriate use of traditional project management tangible measures of performance i.e. outputs to measure qualitative project success of societal impact. 3) No or inappropriate performance measurement system. 4) Performance measurement system designed solely on project management process criteria.

Table App16 - Priori of words and phrases applied across project measurement

• Continuous improvement • Continuous innovation • Community impacts • Customer satisfaction • Complexities and ambiguity of measuring project success • Defined project success factors • Degree of success • Different criteria for measuring project success • Dynamic internal and external operating environment • Happiness of project end-user • Define performance • Iron triangle • Intangible qualitative measures • Measure progress • Measuring project success i.e. holistic measures • Measurement mix suitable for project • Multi stakeholder perspective	• Preordained objectives • Project balance TCQ • Project control • Project life cycles • Project management process • Project metrics • Project performance • Project objectives • Project success criteria • Project triangle constraints • Quantitative measures • Qualitative measures • Subjective measures • Stakeholder community satisfaction • Stakeholder difference in project performance objectives • Stakeholder satisfaction and expectations • Sustainable funding

• Objectives of project • Outcome measurement • Overall project objectives • Measurable outcomes • Performance measures • Perception of multiple stakeholders • Planning, coordinating, controlling, monitoring	• Sustainable communities • Sustainable supply of customers • Subjective and qualitative measures of project success • Success measured by wider stakeholder community • Subjective success criteria

Appendix 9: Interviews Participants Cover Letter and Information

Sustainable Social Enterprise Schemes

Project Management as a Source of Competitive Advantage

University of HUDDERSFIELD
Inspiring tomorrow's professionals

INTERVIEW PARTICIPANT INFORMATION

Name and position of researcher:
Paul Andrew Armitage, Ph.D Candidate, Business School, University of Huddersfield.

Dear Participant

Please carefully read the following points before the interview. If you have any questions please discuss with the interviewer. Before the interview starts you will be asked to sign a consent form to acknowledge that you have read the information and agree to partake.

1. Thank you for accepting the request for access and agreeing to partake in the interview.
2. I would like to electronically record the interview so that I can transcribe the narrative and later conduct a thematic analysis; I hope you agree to this request.
3. Following the analysis of the questionnaire the purpose of the interview is to gain a deeper understanding of how your organisation views and values project management as a source of competitive advantage. Please use the Project Management Assets Information Matrix to help with framing your responses.
4. At any point during the interview you have the right not to answer also you have the right to stop the interview immediately.
5. The outputs from the interview will be analysed with other interviews to extract themes. These themes and analysis from other data sources (questionnaire, observations and secondary data) will be analysed to baseline the degree of competitive advantage project management leverage for Social Enterprise schemes (Wigan Council and Partner Social Enterprise Schemes).
6. Following the publication of my Ph.D Thesis you are welcome to request a summary of these baseline findings.
7. The information you provide will be treated in the strictest confidence with all responses stored in secured conditions at the University of Huddersfield. Anonymity is guaranteed if you opt to provide your name and organisation you represent. The responses you provide during the interview will be used as a main data set for the doctoral research. For further information regards anonymity, confidentiality and security of data please refer to the Participant Information Sheet I provided when you completed the questionnaire.
8. Interview theme and questions: the overall theme is the degree of competitive advantage project management assets leverage in your organisations. There are fourteen questions across six sub-themes. You will be asked to briefly discuss certain aspects of project management in your organisations.

Theme	Number of Questions
How valuable are project management assets?	2
How rare or unique are project management assets?	2
How easy is it for competitors (other similar organisations) to imitate or copy project management assets?	2
The degree of organisational support for project management.	4
Project Performance.	3
Project Management knowledge and experience.	1

Name: Signature: Date:

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Appendix 10: Interview Questions with Interviewer Prompts

Structured Interviews – August 2014

Units of Analysis: Individual (Personal) and Organisational Level
Participant Groups: Parent Local Authority and Partner Organisations

Overall Theme

The interview questions all relate to the degree of competitive advantage project management assets and practices leverage for your organisation. Please use the attached Project Management Assets Matrix to help frame your responses.

Theme 1: VRIO analysis of competitive advantage- Value

The first two questions relate to how valuable project management assets are to your organisation. In other words, what project management assets provide economic value, which exploit opportunities and neutralise threats in the environment.

Question 1a: Briefly discuss what aspects (assets) of project management in your organisations provide economic value?

Assets include the twelve stated and anything else you may wish to include.

Question 1b: You have mentioned XYZ. Therefore, briefly discuss how your organisation facilitates the sharing of project management knowledge by adopting or applying XYZ?

How capture knowledge? Structures (formal or informal) Processes for capturing knowledge Explicit knowledge Tacit knowledge Dissemination – hard or soft Hardware, software	Tangibles Intangibles

Theme 2: VRIO analysis of competitive advantage - Rare

The next two questions relate to how rare or unique project management assets in your organisations are to your competitors. In other words, how common are your organisations project management assets in other similar organisations (Local Authorities or competing social enterprises)? The less common an asset is the more rare or unique.

Project management assets, which are customised for your specific organisation, are likely to be a rare or unique asset.

Question 2a: Briefly discuss what aspects (assets) of project management in your organisations are rare or unique?

Question 2b: You have mentioned XYZ. Therefore, briefly discuss the processes, tools & techniques, which make the project management assets rare or unique in your organisations?

How project management knowledge is shared in organisations?	
Individual/personal level Organisational level Informal processes Formal processes Structured processes Organisations specific customisation	Tangibles Intangibles

Theme 3: VRIO analysis of competitive advantage – Imitable

The next two questions relate to how easy is it for competitors to imitate your organisations project management assets. In other words how easy is it for other similar organisations (Local Authorities or competing social enterprises) to copy your tangible project management assets and your organisations embedded intangible project management assets?

Question 3a: Briefly discuss the tangible project management assets in your organisations and why other similar organisations will find difficult to copy?

Question 3b: Briefly discuss the embedded intangible assets in your organisation and why other similar organisations will find difficult to copy?

Tangible assets	Intangible assets – embedded organisation specific routines and relationships
Printed materials Databases Hardware Software Methods Templates PM Office Explicit knowledge – codified knowledge Shadowing associated - codified knowledge Mentoring associated - codified knowledge	Shadowing Social Capital Explicit knowledge Tacit knowledge Mentoring PM Office – informal routines and relationships

Theme 4: VRIO analysis of competitive advantage - Organisational Support

The next four questions relate to the degree of support your organisation provides to project management. In other words how serious does your organisation view project management (its assets and practices) in the delivery of organisational goals?

Question 4a: Briefly discuss your understanding of the role project management plays in the delivery of your organisations' mission, aim and objectives?

Question 4b: Briefly discuss how project management in your organisation delivers its products and services?

Question 4c: Briefly discuss the degree of freedom project team members have when communicating on project matters?

Question 4d: Briefly discuss leadership supporting effective project team working relationships?

Q4a	Formal strategic discipline, Informal practice, formal quals and training, time, cost, quality objectives	Tangibles and Intangibles
Q4b	Formal process and structure, informal practice, reviews, lessons learnt, time, cost, quality objectives	Tangibles and Intangibles
Q4c	Open access, timely & effective, vertical and horizontal, formal procedure, informal channels	Tangibles and Intangibles
Q4d	Senior mgt in critical phases, trust, work well together, environment for learning and sharing of project knowledge and information.	Tangibles and Intangibles

Theme 5: Project Performance

The following three questions relates to project performance and the degree of societal impact from your organisations project management resources and capabilities (assets and practices). In other words, how successful are individual projects measured in terms of project objects (time, costs, quality & scope) and do individual projects deliver sustained organisational level performance.

Question 5a: Briefly discuss how do you know if specific individual projects deliver what the project sets out to achieve?

Question 5b: Briefly discuss how individual project performance impacts on organisational level performance? You may wish to consider sustainable funding, customer satisfaction, improvement (including systems, processes and staff) and innovation.

Question 5c: Briefly discuss how you know the level of societal impact from project level and organisational level project performance?

Q5a	Formal - time, costs, quality & scope objectives Templates, customer expectations (internal/external) Tools & techniques Project reviews	Tangibles and Intangibles
Q5b	Formal project reviews, lessons learnt, staff development, evidence of sustainable funding, embedded project mgt and continual improvement culture, customer end-user feedback, social enterprise balanced-score card application	Tangibles and Intangibles
Q5c	Formal metrics measures, case studies, economic value evidence, social return on investment (IV relationship with DV)	Tangibles and Intangibles

Theme 6: Project management knowledge and experience

Theme 6: This final question relates to the importance your organisation places on professional education for project staff. In other words does your organisation value the time and expense required to educate staff in project management.

Question 6a: Briefly discuss in your opinion how formal project management qualifications and project management training helps or hinders project performance?

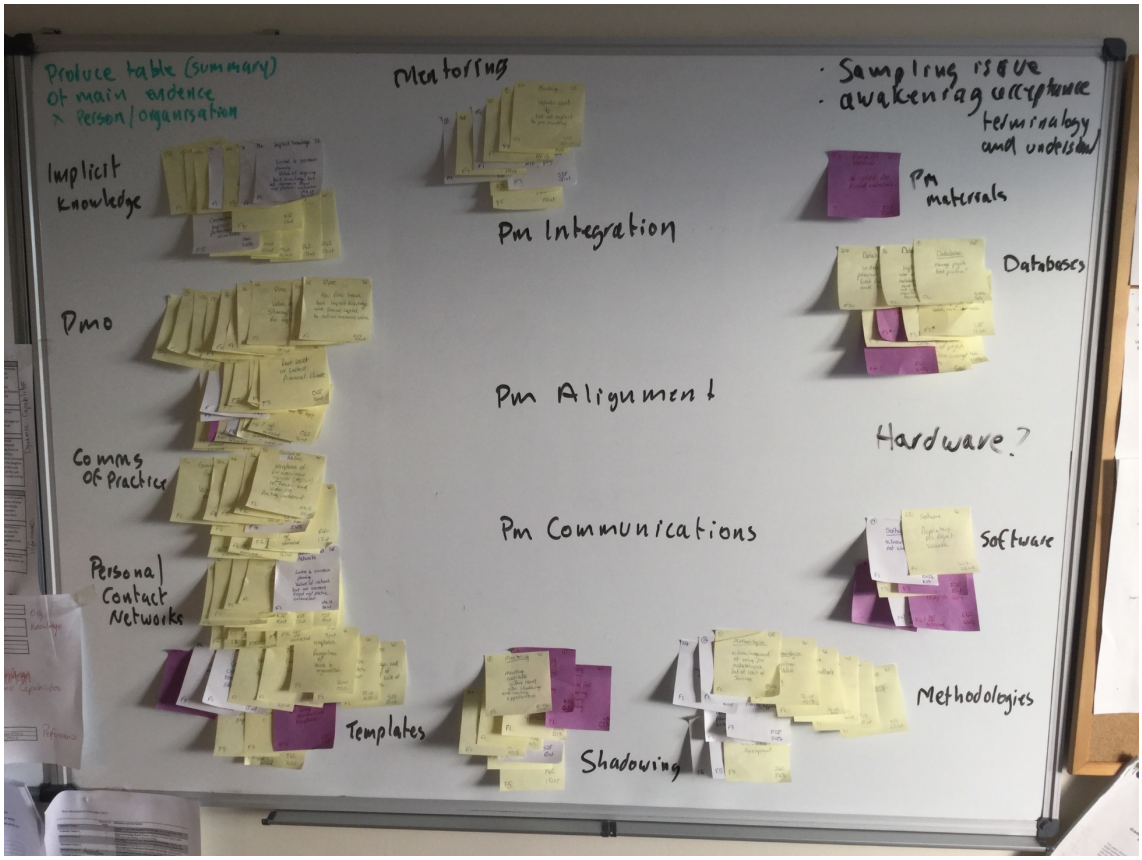
	Tangibles and Intangibles

Appendix 11: Interview Participants PM Assets Information Matrix

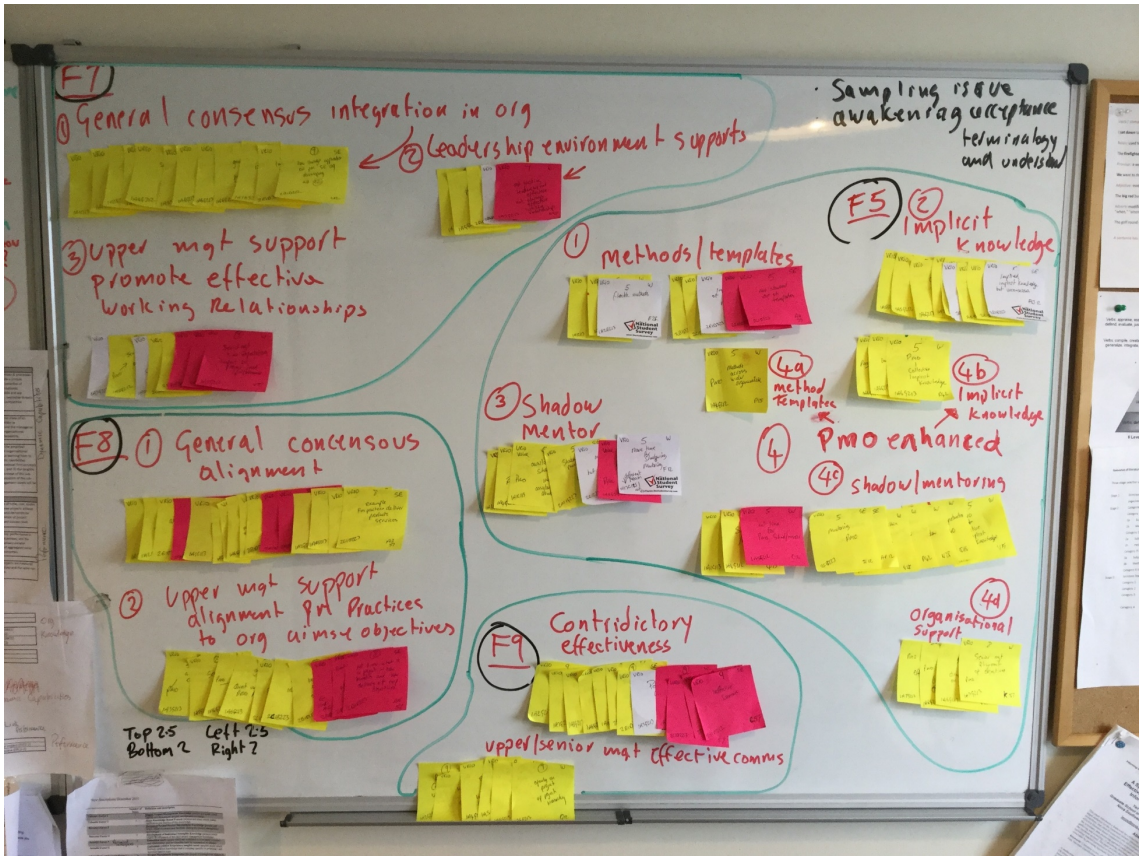
Project Management Assets Information Matrix:

Project Management Asset	Descriptor	Type of Asset	How discernible in organisation
1. Printed Project Management Materials	Organisation project management policies & procedures and project mgt literature including published books, manuals, articles and presentations.	Tangible	• Codified knowledge that is organisation-specific or proprietary.
2. Databases	Proprietary and customised databases used for knowledge management, data warehousing, risk analysis and project specific data analysis.	Tangible	• Codified knowledge that is organisation-specific or proprietary.
3. Computer Hardware	Dedicated hardware or shared hardware used for the facilitation of project management.	Tangible	• Codified knowledge that is organisation-specific or proprietary.
4. Computer Software	Proprietary or customised software used for the management of projects.	Tangible	• Codified knowledge that is organisation-specific or proprietary.
5. Methodologies	The methods used in the organisations to design, implement, manage and review projects.	Tangible	• Codified knowledge that is organisation-specific or proprietary.
6. Shadowing	Policies, systems, protocols used in the organisation to facilitate knowledge transfer through formal or informal shadowing.	Intangible	• Embedded in organisations routines and relationships. • Codified knowledge that is organisation-specific or proprietary.
7. Templates	Formal checklists or forms for project business cases, project initiation documents, lessons learnt logs, risk logs, change requests etc.	Tangible	• Codified knowledge that is organisation-specific or proprietary.
8. Social Capital	Project personal contacts – the network of relationships a person has with others within or outside the organisation.	Intangible	• Embedded in organisations routines and relationships.
9. Explicit Knowledge	Project management communities whereby people within the organisation regularly share and learn explicit project practices e.g. formal or informal sessions showing others what to do. This is the 'know what'.	Intangible	• Embedded in organisations routines and relationships. • Codified knowledge that is organisation-specific or proprietary.
10. Project Management Office	The dedicated team that provides support to organisational projects and project teams.	Tangible	• Codified knowledge that is organisation-specific or proprietary. • Embedded in organisations routines and relationships.
11. Tacit Knowledge	Implicit project management knowledge e.g. personal and experiential practical knowledge is shared by showing others how things are done. This is the 'know how'.	Intangible	• Embedded in organisations routines and relationships.
12. Mentoring	Policies, systems, protocols used in the organisation to facilitate knowledge transfer through formal or informal mentoring.	Intangible	• Embedded in organisations routines and relationships. • Codified knowledge that is organisation-specific or proprietary.

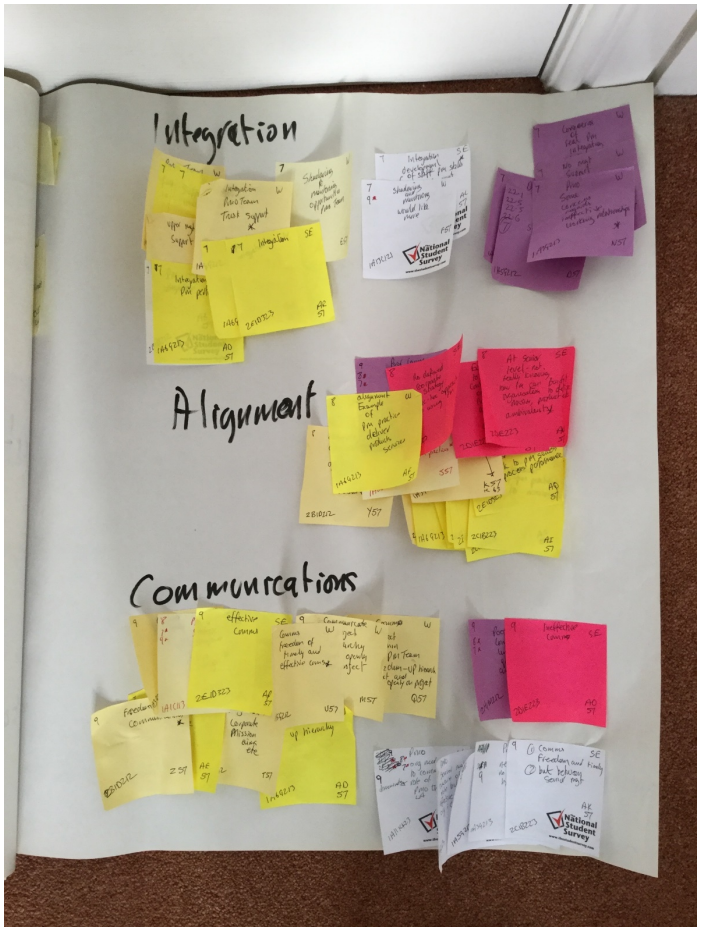
Appendix 12: Post-it-note constructions 'project management assets' frequency counts



Appendix 13: Post-it-note constructions 'factors likely to predict performance'



Appendix 14: Post-it-note constructions 'organisational support' frequency counts



Appendix 15: Post-it-note construction 'project' and 'firm' performance frequency counts