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Strategic Management Model with Lens of Knowledge Management and Competitive Intelligence: A Review Approach

Abstract

Purpose:

First purpose of this study is to discuss the synergic and separate use of knowledge and intelligence, via knowledge management and competitive intelligence, in each stage of strategic management process. Second purpose is to discuss the implications of each stage of strategic management process for knowledge management and competitive intelligence and vice versa.

Methodology/Design/Approach:

A systematic literature review was performed within timeframe of 2000 to 2016. Extracted information from reviewed studies was synthesized and integrated in strategic management model of Fred David.

Findings:

A strategic management model with lens of knowledge management and competitive intelligence is proposed. Each stage of knowledge management process has implications for knowledge management and competitive intelligence and vice versa. In addition, synergic and separate use of knowledge and intelligence results in effective decision making leading to competitive advantage.

Research Limitations:

Learning curve of knowledge management and competitive intelligence and being limited to use of Fred David model are among key limitations.

Practical Implications:

Experts of knowledge management, competitive intelligence, and strategic management can use this study to gain competitive advantage based on knowledge and information resources. Organizations should have knowledge management function as well as competitive intelligence to support the strategy formulation, implementation and evaluation.

Social Implications:

Readers can take a view that how they can manage their knowledge and information resources from a strategic perspective?

Originality/Value:

This study proposes a strategic management model with lens of knowledge management and competitive intelligence. Model discusses the ways for synergic and separate use of knowledge and intelligence in each stage of strategic management, leading to competitive advantage. In addition it discusses the holistic and integrated implications of knowledge management and competitive intelligence for each stage of strategic management process and vice versa.

Keywords: Strategic management, knowledge management, competitive intelligence, strategic planning, strategy, competitive advantage, corporate strategy, strategic formulation.

Introduction

The dynamic, turbulent, and complex business environment has compelled the present day organizations to use the accurate information and knowledge of their internal and external environments in making strategic, operational, and tactical decisions. Decision made through this way can result in competitive advantage based on information and knowledge resources. This is why 21st Century is called “Knowledge Century” or “Knowledge Era”. In this context of knowledge era, Peter Drucker, the father of management theory, has rightly described that neither capital nor human, not even the natural resources, will be the means of production. Instead it is, and will be the knowledge. In addition, Grant (1996) presented the theory of knowledge based view of firm. This theory contends knowledge is most strategic source of organization for competitive edge because it cannot be imitated easily. It also states that firm that uses their knowledge assets more effectively would outperform those who do not do so.

Thus knowledge is considered to be a source of competitive advantage for an organization. Business is managed, and competitive advantage is gained, through a process, called strategic management. One of models of strategic management process or strategic management is Fred David’s model. According to Fred David’s strategic model, strategic management process is comprised of three stages that include strategy formulation, strategy implementation and strategy evaluation (figure 1). It drives all the activities of an organization. Strategy formulation also familiar as strategic planning involves the steps: development of vision and mission statements, audit of internal and external environment, long term objectives, and generation, evaluation and selection of strategies respectively (David, 2007).

The second stage of strategic management process is commonly known as strategy implementation. In this stage, business strategy is actually implemented. It involves the activities like establishing annual objectives, devising policies for each business function, and allocating resources etc. for achievement of organizational objectives (David, 2007).

The final stage of strategic management process is strategy evaluation. This stage is aimed at changing or taking corrective actions in strategy and measuring and evaluating the performance. To achieve these purposes, it involves updating key internal and external evaluation matrices continuously, formed in strategic planning stage, and identification of other internal and external factors emerged. In addition, it involves comparing actual performance with planned. If key internal and external factors change during the continuous assessment of environments or new factors are identified, and/ or during comparison of standard performance with actual performance, actual performance is found less than the standard performance. Then this calls for corrective actions to be taken in this stage of strategic management process (David, 2007).

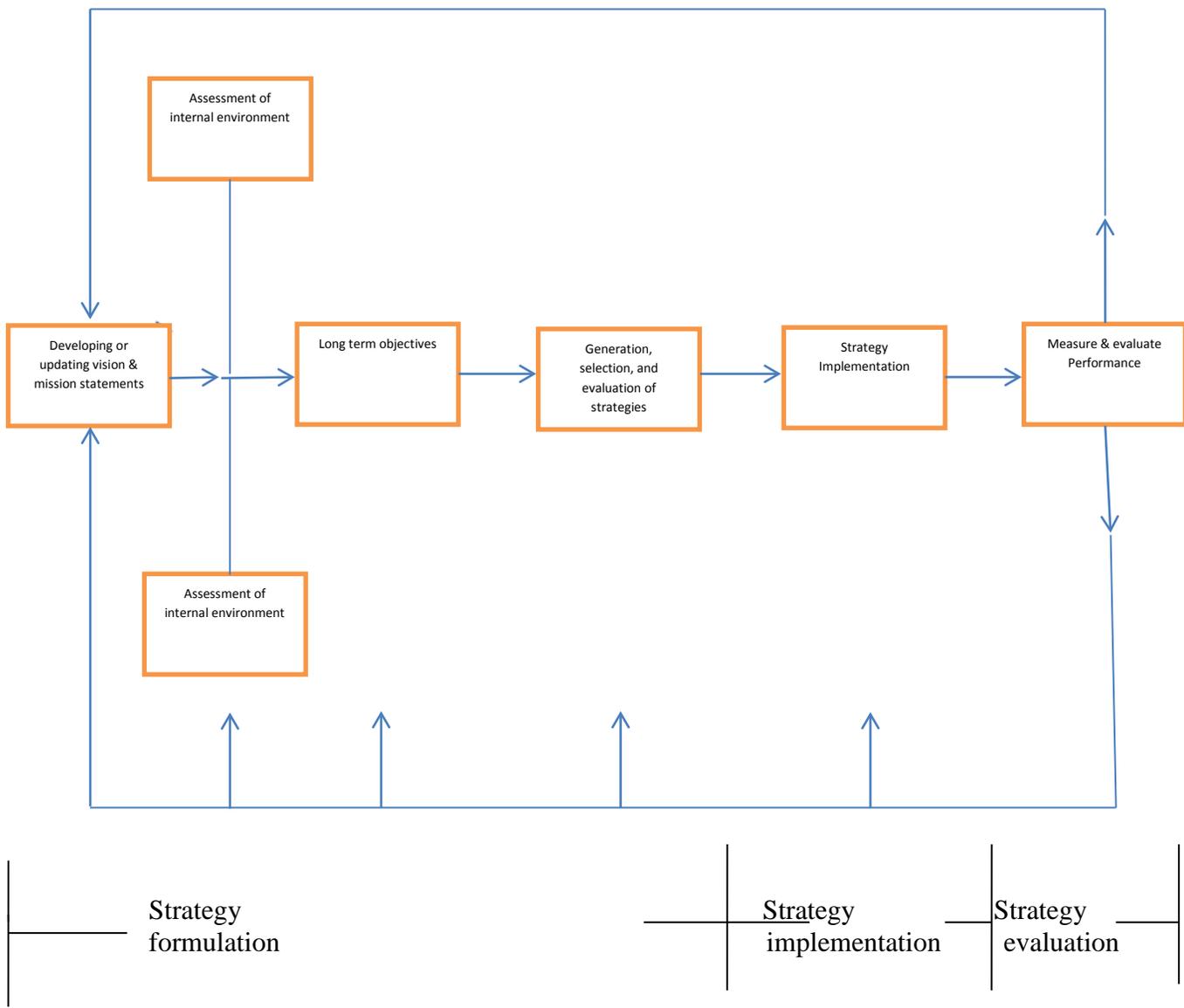


Figure 1: Fred David Strategic Management Model adopted from David, (2007)

As cited above that purpose of strategic management process/ management is to gain competitive advantage, strategic management achieves this purpose by formulation of an effective business strategy. This business strategy, in turn, is dependent on internal and external environments of an organization. Related to concept of external environment of an organization, strategic management literature often discusses a concept, called competitive intelligence. Comprehensively called competitive intelligence is an ethical and systematic process, program and function of gathering, analyzing, and managing information about the external environment (Nasri & Zarai, 2013). This information can be used for making decisions at any level, leading to competitive advantage (Weiss, 2002; Bose, 2008; Nasri, 2012; Nasri & Zarai, 2013). External environment is composed of opportunities and threats (David, 2007). Competitive intelligence manages the information of external environment and is proactive in nature. So it can be used to assess the current and potential external environment as well as threats and opportunities (Bartes, 2015; Tanascovici, & Hagi, 2013; Taib, Yatin, Ahmad, & Mansor, 2008; Nasri, 2012; Momeni, Fathian, & Akhavan, 2012; Ghannay & Zeineb, 2012; Weiss, 2002).

Related to concept of internal environment of an organization, there is a concept referred as knowledge management in literature. Comprehensively knowledge management is a process, cycle, and discipline of knowledge acquisition, knowledge creation, knowledge sharing, and knowledge application. This knowledge via knowledge management can be used to make effective decisions at any level. These effective decisions provide competitive edge based on knowledge (Momeni, Fathian, & Akhavan, 2012; Ghannay & Zeineb, 2012;). It is evident that knowledge management improves the predictability in state of uncertainty (Carneiro, 2000; Muthusamy, 2008). But it is comparatively less proactive than the competitive intelligence and manages and has focus on internal knowledge mainly (Momeni, Fathian, & Akhavan, 2012; Ghannay & Zeineb, 2012; Taib, Yatin, Ahmad, & Mansor, 2008). This argument helps to reach the conclusion that knowledge management can be used to assess current and potential internal environment of an organization. As internal environment is mainly composed of strengths and weaknesses, thus knowledge management like competitive intelligence can also be used to assess current and potential strengths and weaknesses too (David, 2007).

Literature review asserts that there is a significant relationship between knowledge management and competitive intelligence. These two are different parts of the same whole, who complement each other. They have greater convergence between each other. Both are meant to use and mainly manage knowledge of internal and external environments of an organization respectively (Ghannay, & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008).

If decision making at any level requires the integration of information of internal and external environment both, synergic use of knowledge and intelligence, gained via knowledge management and Competitive intelligence respectively, can be used for effective decision

making. This can lead to competitive advantage for an organization (Ghannay, & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008). This implies that if a decision making at any level does not require the integration of information of internal and external environment, then either use of knowledge and intelligence can be used for decision making. This would also be source of competitive advantage.

All this helps to arrive at judgment that knowledge management and competitive intelligence are effective tools to assess the current and potential internal and external environments. In addition, synergic and separate use of both can result in competitive advantage. This leads this judgment to another stage that knowledge management and competitive intelligence can be tools for assessing current and potential internal and external environment of an organization in strategic management process. Reason is that the assessment of internal and external environments is a part of strategy formulation stage of strategic management process (David, 2007). This judgment also leads to another stage that knowledge and intelligence, via knowledge management and competitive intelligence respectively, can be used in synergic and separate way for decision making in strategic management process. On the other hand it remains an unanswered question that how both can be used in synergic and separate way in each stage of strategic management process? In this regard the current effort has been made to analyze the strategic management process with respect to synergic and separate use of knowledge and intelligence as inputs to each of strategic management process. This holistic and integrated effort is also focused on the implication, views, and discussions of knowledge management, competitive intelligence functions and strategies for strategic management process and vice versa.

To answer the research questions of this study, a systematic literature review approach is taken. A systematic literature review provides opportunity to identify, interpret, evaluate, synthesize and integrate all the existing substantial evidences pertaining to a research question (Smirnovs, & Jamil, 2015; Afzal, Alone, Glocksien, & Torkar, 2016). In this context decision to conduct systematic literature review on this topic was reinforced due to following reasons.

1. Previous studies reviewed for this study have discussed the synergic use of knowledge and intelligence, via knowledge management and competitive intelligence respectively for effective decision making if there is a need to integrate the information of both internal and external environments like Ghannay, & Zeineb, (2012). But those studies did not discuss the separate use of both in their respective studies.
2. Previous studies have discussed the either use of knowledge management and competitive intelligence in decision making like Calof, & Wright, (2008) and Halawi, Aronson, & McCarthy, (2005) etc. But those studies did not study the synergic use of both.
3. Previous studies reviewed for conduct of this study have discussed strategic topics of knowledge management like knowledge management strategy or knowledge management as a source of competitive advantage etc. till strategic planning stage like Halawi,

McCarthy, & Aronson, (2006). But those studies did not consider all steps of strategic management process, from strategic planning stage to strategy evaluation stage.

4. None of studies reviewed for conduct of this study has paid attention to discuss the strategic topics of knowledge management and competitive intelligence and synergic and separate use of both, in a step by step, and stage by stage strategic management process.

So it was sensed that there should be a study that systematically selects, evaluates, synthesizes and integrates the data from existing relevant literature to answer the research questions of this study and addresses four aforementioned limitations of numbers of studies.

The researchers for the current study selected fifty five non-empirical, qualitative, theoretical, and conceptual studies out of four hundreds forty seven studies. Strategic management model given by Fred David was used. Publication years were ranging from January 01, 2000 to August 05, 2016 from nine leading databases. These fifty five studies were then carefully and thoroughly studied to answer questions in this study.

Turning to originality and significance of this study, it is distinctive from previous studies because of the following reasons.

1. It discusses the knowledge management and competitive intelligence till the strategy evaluation stage while earlier studies reviewed for this study had discussed it till strategy formulation stage only.
2. It discusses both separate and synergic use of knowledge and intelligence, gained by knowledge management and competitive intelligence respectively in all three stages of strategic management process.
3. It provides an overview of knowledge management and competitive intelligence strategy and functions within the strategic management process and vice versa.
4. It also provides a view about identification and filling of strategic knowledge and intelligence gaps in strategic planning and strategy evaluation stages.
5. It provides view about formulation, implementation, and evaluation of knowledge management and competitive strategies and functions within each stage of strategic management process.
6. It further develops the strategic management model given by Fred David with the lens of knowledge management and competitive intelligence and vice versa.

This paper has significance both for researchers as well as for organizations. Organizations can use this analysis and proposed model for their strategic management process in this knowledge era. Research scholars can use this research to get and create knowledge of strategic management, strategic competitive intelligence, and strategic knowledge management.

Methodology

There are two types of systematic literature review. One is traditional narrative based that focuses on the expansion of academic knowledge base. Other one is evidence based systematic literature review. This type synthesizes the qualitative findings from the literature for purpose of informed decision making policies, and practice to professionals, policy makers as well as academician. This study is following the line of second type of systematic literature. Like any systematic literature review, it follows all steps, from definition of research questions to extraction, synthesis and integration of data, necessary to ensure reliability and validity. It synthesizes, key summarized points from qualitative, theoretical, and conceptual studies of knowledge management and competitive intelligence in strategic management model given by Fred David in a holistic and integrated way. This study extracts, categorizes, synthesize and integrate the data like study of (Hashim, Abdllah, & Ibrahim, 2015; Asrar-ul-Haq, & Anwar, 2016) given that nature of research questions of latter studies are same as this one. Methodology of this study is consistent with the other studies (Hashim, Abdllah, & Ibrahim, 2015; Asrar-ul-Haq, & Anwar, 2016; Cerchione, Esposito, & Spadaro, 2016) given that nature of all other studies was same like this one.

Following subsections explains the systematic literature review process that was carried out for completion of this study.

Research Questions Answered in this Study

This study is to answer following two main research questions.

1. How knowledge and intelligence, via knowledge management and competitive intelligence respectively, can be used in synergic and separate ways in each stage of strategic management process?
2. What are the holistic and integrated views and implications for knowledge management and competitive intelligence functions and strategies from each stage of the strategic management process and vice versa?

Model of Strategic Management:

Strategic management model given by Fred David is used.

Sources of Data

Nine leading databases of management sciences (Google Scholar, Science Direct, Taylor and Francis Journals, JSTOR, Springer Link, Emerald, Elsevier, Willey and Sons, and SAGE Journals) are used.

Table 1 describes the names of used databases and their respective web links.

Table 1

Databases used and their respective web links used in this study

Number	Name of database	Website of database
1	Google Scholar	https://scholar.google.com.pk/
2	Science Direct	http://www.sciencedirect.com/
3	Taylor & Francis	http://www.tandfonline.com/page/looking-for-something
4	JSTOR	http://www.jstor.org/
5	Springer Link	http://link.springer.com/
6	Emerald Insight	http://www.emeraldinsight.com/
7	Wiley and Sons	http://eu.wiley.com/WileyCDA/
8	SAGE	http://online.sagepub.com/
9	Elsevier	http://www.elsevier.com/

Search strings used

Initial literature review for this study indicated that words described in Table 2 are interchangeably, used. Keeping in mind this indication, strings described in Table 3 were defined to access the relevant studies. These strings were then searched out in nine databases described earlier in Table 1. This search yielded 447 relevant studies.

Table 2

Interchangeable Words used in literature

Number	Interchangeable words used in literature pertaining to this topic
1	Strategic knowledge management, knowledge management as a source of competitive advantage.
2	Strategic competitive intelligence, competitive intelligence as a source of competitive advantage.
3	Business strategy, strategic management, strategic management process.
4	Business strategy formulation, strategic planning

Table 3

Strings searched in databases

Number	Strings Searched
1	("Knowledge Management" OR "Competitive Intelligence") AND ("Business Strategy" OR "Business Strategy Formulation" OR "strategic Planning" OR "Strategic Management" OR "Strategic Management Process")
2	("Strategic" OR "Competitive Advantage") AND ("Knowledge Management" OR "Competitive Intelligence")

3	("Synergy Between" OR "Synergic use of") AND ("Knowledge Management" AND "Competitive Intelligence")
4	("Knowledge Management") AND ("Competitive Intelligence")

Inclusion Criteria

Criteria for inclusion of studies for final review are as follows:

1. Papers published in English
2. Papers published within the time frame of January 01, 2000 to August 05, 2016
3. Non-empirical, conceptual, theoretical, and qualitative studies of knowledge management and competitive intelligence making strategic claims or research questions posed by this study.

Exclusion process

The following steps are carried out to select the set of studies for final review out of 447 accessed studies.

1. Any duplicates studies are removed out of the 447 research papers
2. Titles of the remaining studies are screened to assess whether they meet the inclusion criteria or not? The papers not meeting the inclusion criteria are not considered for final review.
3. Use of abstracts and keywords to identify the relevant papers to this study out of the remaining research papers.
4. Read the full text of remaining papers to identify the studies meeting inclusion criteria.

In the first step duplicate studies are eliminated. This reduced the total to 438 studies. Exclusion based on titles of papers further reduced the papers to a total of 272. The screening of remaining 272 studies based on abstract resulted in exclusion of 133 studies. This resulted in a remaining total of 139 studies. Screening based on the keywords of the 139 remaining studies eliminated another 45 studies leaving behind 94 studies. Remaining studies were further thoroughly studied to include most comprehensive and related 55 studies.

To demonstrate how this process of exclusion is carried out, we take example of study of Darroch, (2005). This study was not a duplicate. Title of this study was knowledge management firm and innovation performance. As innovation and firm performance are main concepts of strategic management (David, 2007) so it was found as relevant to this study. But when its abstract was screened, it was found that this study is empirical. So according to exclusion criteria, it was eliminated.

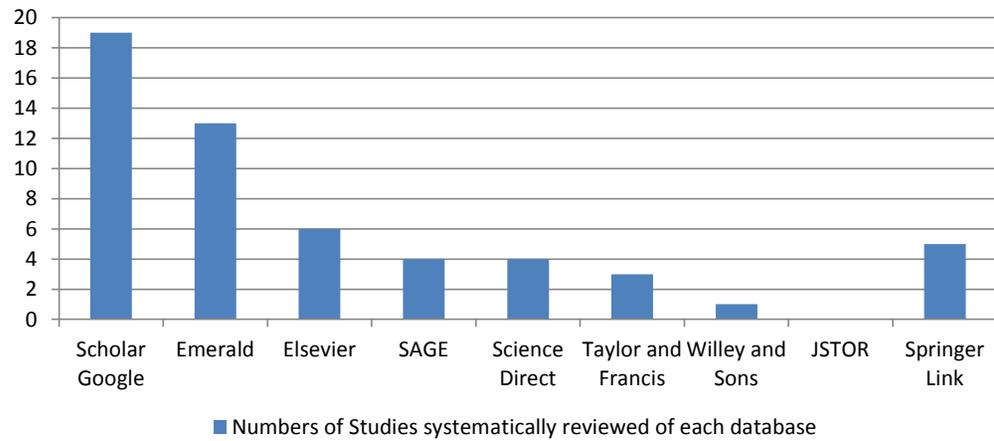
Table 4 describes the process of finding set of 45 studies considered for final review.

Table 4

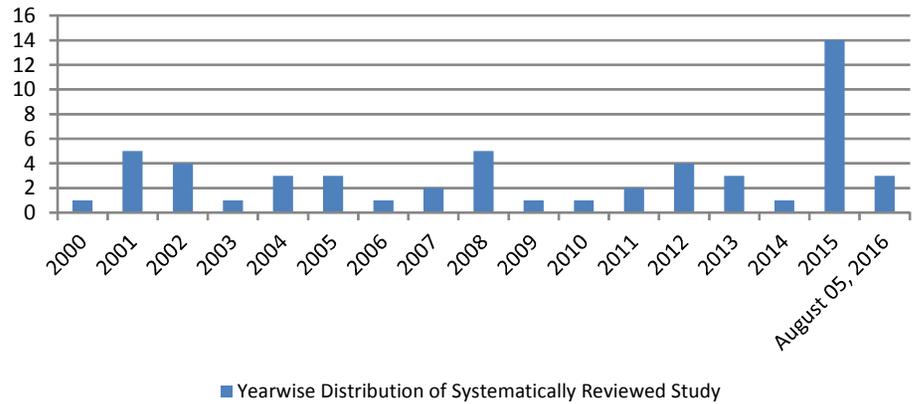
Process of finding papers for selection of studies for systematic review

Total Studies	Serial Number	Name of database	Number of studies accessed	Number of papers excluded based on duplication	Number of papers excluded based on title	Number of papers excluded based on Abstract	Number of papers excluded based on key words	Number of papers excluded based on full text review	Remaining set of papers considered for final review
	1	Google Scholar	115	6	60	18	5	7	19
	2	Science Direct	46	4	12	12	6	8	4
	3	Taylor & Francis Journals	26	0	9	9	2	3	3
	4	JSTOR	21	6	6	0	5	4	0
	5	Springer Link	48	1	11	28	1	2	5
	6	Emerald Insight	107	1	37	44	11	1	13
	7	Wiley and Sons	17	0	6	1	7	2	1
	8	SAGE	39	0	16	15	4	0	4
	9	Elsevier	28	1	9	6	4	2	6
Total			447	19	166	133	45	29	55

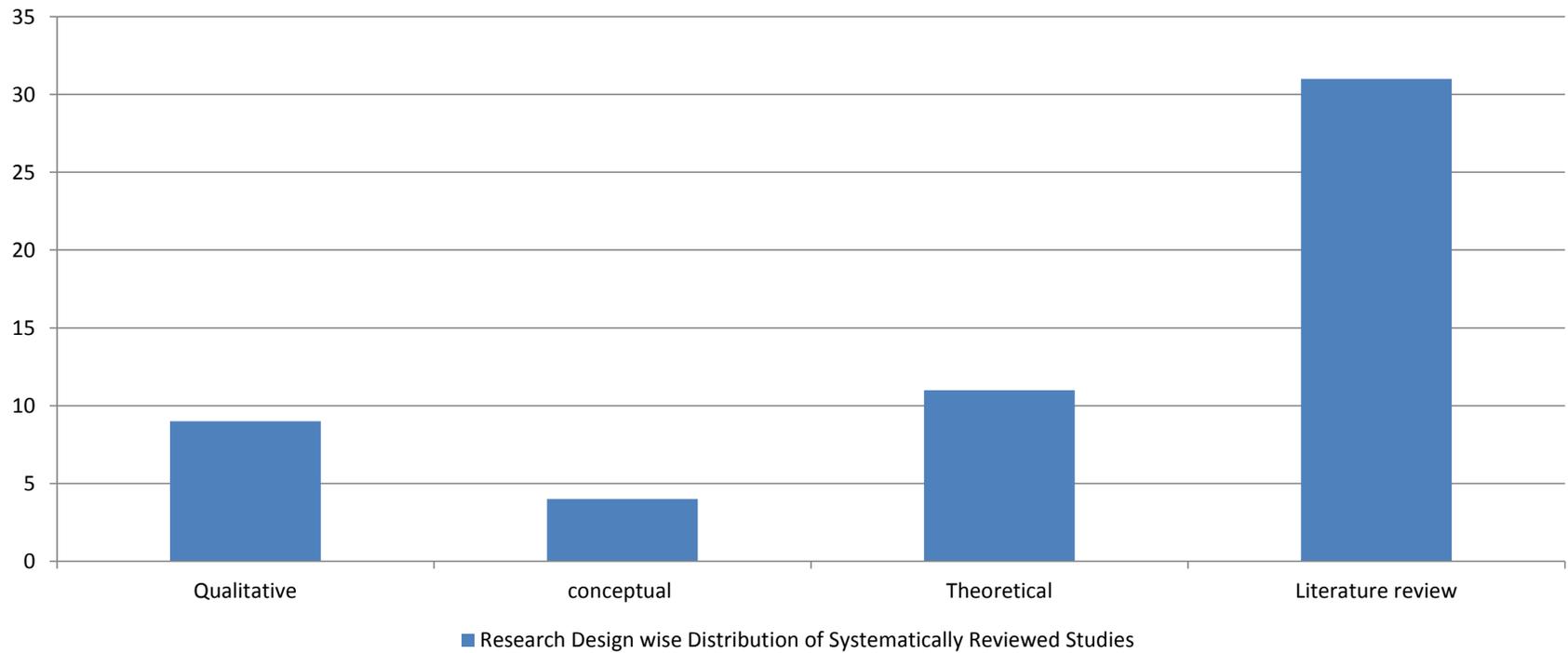
Database wise Distribution of Systematically Reviewed Studies



Yearwise Distribution of Systematically Reviewed Study



Research Design wise Distribution of Systematically Reviewed Studies



Extracted data from finally considered studies for final Review

All finally selected fifty five papers are reviewed. They are thoroughly studied to be able to answer the research questions of this study. Their key summarized points are extracted for synthesis and integration in strategic management model given by Fred David. The method of extracting data relevant to research questions or data extraction form for this study is consistent with the previous studies like Asrar-ul-Haq, & Anwar, (2016). Table 5 shows the key summarized points categorized according to research questions of this study.

Table 5
Information Regarding Selected Papers for Final Review

S . N o .	Author(s) 's Names with Year of Publicatio n	Database	Research Design	Key Summarized Points relevant to RQ 1: Synergic and separate use of knowledge and intelligence, via knowledge management and competitive intelligence respectively.	Key Summarized Points relevant to RQ 2: Holistic and integrated views and implications of knowledge management and competitive intelligence for strategic management and vice versa
1	Carneiro, (2000)	Emerald	Conceptual		<p>Strategic decisions systems and strategic decisions are based on knowledge management and information technology in this highly turbulent era.</p> <p>Knowledge of internal and external environment and information technology are critical success factors for successful strategic management.</p> <p>Considering the strategic objectives, organization can decide how much more knowledge should be gained and used to achieve mission and vision of organization?</p> <p>Knowledge management can strategize alternative strategies, predict the future</p>

					effectively and increases the competitiveness and innovativeness in an organization.
2	Bhatt, (2001)	Emerald	Literature review		<p>Knowledge management is a process of knowledge creation, knowledge validation, knowledge presentation, knowledge Distribution, and knowledge application.</p> <p>Effective interaction between technologies, people and techniques results in effective knowledge management. This in turn, results in sustainable competitive advantage.</p>
3	Earl, (2001)	Taylor and Francis	Qualitative		<p>This paper explains seven schools of thought of knowledge management and their dynamics including strategic school of thought. Suggesting managers to adopt one or more school of thought compatible to their organizations in developing a knowledge management program.</p> <p>If first attempt to build knowledge management program becomes failed then learning by mistakes is the best solution.</p>
4	Liebowitz, (2001)	Elsevier	Theoretical		<p>Artificial intelligence is a key building block for knowledge management.</p> <p>For effective knowledge management, knowledge management should be aligned with the vision and mission of an organization.</p> <p>Future of knowledge management depends on its universality of terms and standards, and showing tangible effective output.</p>
5	Ndlela & Du Toit (2001)	Elsevier	Qualitative	Knowledge management helps in achieving vision and mission of an organization.	A holistic and integrated program of knowledge management, by which an organization can gain sustainable competitive advantage based on

					knowledge, is suggested.
6	Sveiby, (2001).	Emerald	Qualitative	Knowledge and knowledge management improves the ability of the organizations to respond to its dynamic internal and external environments.	A resource based view of knowledge is suggested using autopoietic epistemology approach, for strategy formulation.
7	Al-Hawamde h (2002)	Scholar Google	Literature review		Information management is subset of knowledge management. Because information management focuses on explicit knowledge only while knowledge management focuses both on explicit and tacit knowledge. Move towards knowledge based economy has highlighted the importance of tacit knowledge and need to manage knowledge assets. Key drivers for knowledge management and knowledge based economy are organizational efficiency, maximizing organization's potential, competitive edge, building a learning organization and managing intellectual capital.
8	Jaworski, Macinnis & Kohli, (2002)	Springer	Literature review	There are three interdependent phase of competitive intelligence generation process. They are organizing for competitive intelligence, searching for competitive intelligence, and sense making respectively. Competitive intelligence network, business environment, information environment and competitive intelligence analyst affects the efficacy of various competitive intelligence generation process.	

9	Lee & Hong, (2002)	Emerald	Literature review	<p>Knowledge management, business process re-engineering, and organizational learning are different concepts. But organizational learning and business process re-engineering are major part of knowledge management. All these three concepts improve the performance of an organization.</p> <p>Information technology supports the basic four steps of knowledge management. These four steps include knowledge capture, knowledge development, knowledge sharing, and knowledge utilization.</p>	Future of knowledge management is highly dependent on information technology.
10	Weiss, (2002)	SAGE	Literature review	Competitive intelligence is a system and ethical program for gathering, analyzing and managing external information of a business.	When a company does not focus on changes in its external business environment, it loses its business quickly.
11	Akhter, (2003)	Elsevier	Literature review	Past knowledge and certain future predictions are the only things by which an organization can get success in today's hyper competitive environment.	<p>Knowledge management is a driver or source, as well as outcome of strategic planning.</p> <p>Knowledge management approach focusing on future and present knowledge of internal and external environments of an organization gives good results.</p>
12	Malhotra,(2004)	Springer Link	Literature review	Knowledge management systems increase the performance, which in turn increases the profits of an organization. These systems can help in routine and non-routine decision making.	The enablers and constraints of knowledge management system are economic returns, organization structure, managing command and control, knowledge representation, information sharing culture, organizational control, and business & technology strategy.

1 3	Shin, (2004)	Science Direct	Literature review	Effective implementation of knowledge management results in organizational effectiveness, efficiency, and competitiveness.	Interrelationships among relations between companies and their employees, resource production and benefits, and costs of knowledge sharing, determine the knowledge flow in an organization and economics of knowledge management system.
1 4	Snyman & Kruger, (2004)	Emerald	Theoretical		Knowledge is the only strategic corporate resource for sustainable competitive advantage in the 21 st century. This paper develops a generic model incorporating knowledge management strategy within business strategy. The essence of this generic model is that knowledge management and business strategy both drives each other.
1 5	Halawi, Aronson, & McCarthy, (2005)	Scholar Google	Theoretical	Effective knowledge management infrastructure and knowledge quality determines the effectiveness of knowledge management systems. This in turn, creates the sustainable competitive advantage from resource based view of firm.	
1 6	Herschel & Jones, (2005)	Emerald	Literature review	Knowledge via knowledge management can be used to create the strategies and policies for current and potential decision making.	Business intelligence is subset of knowledge management. Because difference between business intelligence and knowledge management is that business intelligence deals only with explicit knowledge while knowledge management encompasses both tacit and explicit knowledge. Knowledge management can be used to create contingencies and current strategies.

17	Sumanjeet , (2005)	SAGE	Literature review	Bright future of today organizations lies only in use of the knowledge management.	Organizational culture and information technology are the key barriers in effective implementation of knowledge management systems.
18	Halawi, McCarthy, & Aronson, (2006)	Emerald	Literature review		Knowledge management strategy and business strategy formulation both drive each other. This requires alignment of knowledge management with the mission of an organization. Strategic knowledge gaps must be filled for achievement of mission and strategic objectives.
19	Canongia, (2007)	Elsevier	Theoretical	Synergy between technological foresight, competitive intelligence, and knowledge management can be used as strategic model of prospecting. This strategic model of prospecting is used for three types of innovation. These three types of innovations include technological, social and economic innovations.	
20	Casselma n & Samson, (2007)	Taylor and Francis	Literature review	Knowledge management process involves steps: knowledge acquisition, knowledge conversion, knowledge application, and knowledge protection respectively.	Knowledge capabilities and knowledge strategy are aligned with each other. Knowledge capabilities are further dependent on knowledge management infrastructure, and knowledge management process.
21	Taib, Yatin,, Ahmad, & Mansor,	Scholar Google	Literature review	Knowledge management and competitive intelligence are same in some aspects. But they also have differences too. Main similarity is that	

	(2008)			<p>both manage information and knowledge resources. While main difference is that knowledge management deals with management of internal knowledge while competitive intelligence deals with that of external information.</p> <p>Synergic use of the both can result in competitive advantage for organizations in this era of knowledge economies.</p>	
2 2	Pugna, Albescu, & Paraschiv, (2008)	Scholar Google	Theoretical	<p>Success of modern day organizations lies in their ability to respond in the form of adjusting strategies and policies to the dynamic internal and external environment.</p> <p>Most critical success factor of today's organization is to take advantage of information of its internal and external environment.</p> <p>Making sense of information about, gaining value, and competitive advantage are the real challenges. Integration of information technology solutions of business intelligence and knowledge management can serve these challenges.</p>	The difference between business intelligence and knowledge management is that business intelligence deals with structured data management while knowledge management deals with the unstructured data management mainly.
2 3	Bose, (2008)	Emerald	Literature review	Competitive intelligence is the process of gathering, analyzing and applying intelligence of outside environment in all business decisions.	There is no universal tool and method of competitive intelligence which is effective and efficient in all conditions. So managers should select tool(s) and technique(s) compatible to their organizations.

2 4	Calof & Wright, (2008)	Emerald	Qualitative	Competitive intelligence influences a very wide range of decision making areas including strategic ones.	Competitive intelligence influences a very wide range of decision making areas. It is most important for strategists, academia. Strategists use it as a vital component for strategic management process.
2 5	Muthusamy, (2008)	Wiley and Sons	Theoretical	Cultivating a culture of learning and socio-cognitive techniques result in creation and leverage of knowledge.	Creation and leverage of knowledge results in formation of best business strategies and increase in employees' commitment.
2 6	Kongpichayanond (2009)	SAGE	Theoretical		If an organization acquires another organization or merges with another then internal and external environment of business becomes changed. This can imply the change in knowledge management strategy. Formulation of an effective strategy can result in competitive edge.
2 7	Desouza, (2010)	SAGE	Conceptual		Knowledge management would only be theoretical subject to its no practical implementation. Successful business cases provide opportunities and motivations to practically implement the knowledge management.
2 8	Oztemel, Arslankaya, & Korkusuz Polat, (2011)	Science Direct	Theoretical		A model for integration of strategic enterprise resource management and strategic enterprise knowledge management is developed. In this model both variables are aligned with each other.

29	Colakoglu, (2011)	Science Direct	Literature review	Consistent development of competitive intelligence is important to stay and grow in this high turbulent environment. For this consistent development, leadership and knowledge, skills, and abilities of managers are highly crucial.	
30	Erickson,& Rothberg, (2012)	Scholar Google	Theoretical	There should be balance between knowledge management and competitive intelligence activities within an organization.	
31	Ghannay & Zeineb, (2012)	Scholar Google	Literature review	If a decision involves the integration of information of external and internal events then synergic use of knowledge and intelligence, via knowledge management and competitive intelligence can be used for strategic, operational and tactical decisions. This can be a source of competitive advantage in knowledge economy, and dynamic environment.	Knowledge management and competitive intelligence can be used to assess the internal and external environments. Knowledge management deals with the internal information while competitive intelligence deals with the external information of an organization.
32	Momeni, Fathian, & Akhavan, (2012)	Scholar Google	Literature review	Knowledge management and competitive intelligence are the same parts of a whole, which have greater convergence between each other. Knowledge management is broader while competitive intelligence is more specific. Some processes of knowledge management are same as of competitive intelligence. But organizations should not use the	

				<p>knowledge management as competitive intelligence and vice versa because these both have a lot of differences too. Knowledge management deals mainly with the internal environment information while competitive intelligence deals only with the external environment information. If a decision requires the integration of internal and external environment information both then synergic use of knowledge management and competitive intelligence is source of competitive advantage for decision making.</p>	
3 3	Nasri, (2012)	Scholar Google	Literature review	<p>Phases of competitive intelligence process are planning and focus, collection, analysis, and communication.</p>	<p>Strategic benefits of competitive intelligence are innovation, marketing differentiation, low cost, win market share, anticipating new markets and increase in revenues.</p>
3 4	Nasri, & Zarai, (2013)	Scholar Google	Literature review	<p>Competitive intelligence process involves the steps: planning and focus, collection, analysis, and communication and feedback respectively.</p> <p>Critical success factors for initiating a competitive intelligence program in an organization are management support and understanding, focus and competitive intelligence efforts, location of competitive intelligence function, competitive intelligence products, and competitive intelligence</p>	

				personnel.	
3 5	Tanascovi & Hagiu, (2013)	Scholar Google	Theoretical	<p>Competitive intelligence is beneficial to an organization subject to its focus on the critical issues of external business environment and survival. These critical issues must be known to organization.</p> <p>Competitive intelligence can only gain the trust of management if it shows the actionable or tangible results in the form of organizational performance.</p> <p>Modern day organizations have to build the systems like competitive intelligence to forecast the potential problems in this highly competitive environment.</p>	Results of applying the competitive intelligence in an organization are the identification of potential threats and opportunities, benchmarking, better responses, best tactical decisions and help in strategic planning.
3 6	Venkitach ala,& Willmott, (2013)	Scholar Google	Qualitative		Knowledge management strategies are dependent on the interplay of leadership, organizational politics and culture, competition, and technology etc.
3 7	AL-Hakim & Hassan, (2014)	Scholar Google	Theoretical		Middle managers are the actual personnel who implement knowledge management strategies. This implementation in turn improves the organizational performance in terms of financial and non-financial performance and innovation.
3 8	Terzieva, (2014)	Science Direct	Qualitative		<p>Knowledge is a source of competitive advantage from the resource based view of firm.</p> <p>During completion of a project, new issues are faced. Solutions are formed to solve these issues.</p> <p>This new knowledge of issues and solutions</p>

					should be captured, developed, stored, and utilized for future use.
39	Alyoubi, (2015)	Elsevier	Literature review	Decision support system is a famous tool that helps in organizational decision making. This system has been used in synergic way with knowledge management systems to aid in decision making.	Business strategy is the plan of an organization to gain competitive advantage. Knowledge management can help to formulate this plan effectively for organization.
40	Bartes, (2015)	Scholar Google	Literature review	When an entity uses its information effectively, it gains competitive edge over its rivals. Use of information from competitive intelligence provides many opportunities to organizations in this highly competitive environment, But it cannot be considered as a viable part of an organization without effective management of its security and analysis.	
41	Bartes, (2015)	Scholar Google	Literature review	Competitive intelligence ensures reliable and valid intelligence that predicts potential changes in external environment.	Information and intelligence are the only sources of competitive advantage for contemporary organizations. Main purpose of competitive intelligence is to contribute in strategic planning.
42	Bratianu, & Bolisani, (2015)	Scholar Google	Literature Review	Knowledge reduces the uncertainty. Therefore an organization should pursue a strategy that focuses on the creation of knowledge.	Some authors distinguish knowledge management strategy from knowledge strategy while others do not. According to those authors who distinguish between these two strategies, knowledge strategy is the generic view or plan about knowledge resources and capabilities of an organization. E.g. what is the most important type of knowledge for an organization? While knowledge management

				<p>strategy is specific plan about the management of explicit knowledge of an organization. E.g. detailed specific method to create specific type of knowledge.</p> <p>There are two types of generic knowledge strategies. First two are called knowledge exploitation and knowledge acquisition. These both strategies represent the explicit organizational knowledge. The remaining two strategies are the knowledge sharing and knowledge creation. These two strategies have focus on tacit as well as explicit organizational knowledge. A leader can select one or combinations of these strategies contingent upon organizational contextual variables. Contextual variables for selection of knowledge strategy(ies) include strategic objectives of knowledge management, type of knowledge needed, methods and tools of knowledge management to be employed, assets to be used in knowledge management programs, and view of knowledge in company.</p> <p>If an organization can predict its internal and external environment, then rational approach to knowledge strategy planning can be used. Otherwise emergent approach can be used. There is also third possibility of integrated approach which combines elements of rational approach as well as emergent approach.</p>
4 3	Bolisani, & Scarso, (2015)	Emerald	Literature Review	<p>There are two dimensions that combine with each other to form the four strategic planning approaches to knowledge management function</p>

					of an organization. These two dimensions are nature of strategic planning, and factors on which this planning is based upon. Nature of strategic planning divided into two types: rational approach and emergent approach. Rational approach is fit for certain, predictable, and reasonably controlled internal and external environment and vice versa. Second dimension is factors on which strategic planning is based upon. These factors are distinguished between resource based view of the knowledge and external competitive environment. Based on combination of two aforementioned dimensions four strategic planning approaches to knowledge management are developed. These are rational planning based on competitive environment, rational planning based on internal knowledge resources, emergent planning based on competitive environment, and emergent planning based on internal knowledge resources.
4 4	Ghannay & Mamlouk, (2015)	Scholar Google	Conceptual	This paper proposes a conceptual framework that states that organizational knowledge sharing culture plays a critical role in successful implementation and use of competitive intelligence.	Decision makers should determine which type of intelligence is required for organization and how to find that intelligence?
4 5	Grèzes, (2015)	Scholar Google	Literature review		There are two types of strategic competitive intelligence needs: microeconomic and macroeconomic competitive intelligence needs. Microeconomic competitive intelligence needs are further categorized into partnership,

					marketing, new entrants, technological, competitors, and substitute competitive intelligence needs. While macroeconomic competitive intelligence needs are further categorized into laws, policies, economy, and social issues competitive intelligence needs.
4 6	Pietrzak, Jalousinski, Paliszki, & Brzozowski, (2015)	Taylor and Francis	Qualitative	Strategic group map is a tool of knowledge management that can be used to make decisions regarding growth strategies and competitive strategies. Knowledge gained by knowledge management can be used as input to strategic group map.	
4 7	Sun & Wang, (2015)	Springer	Literature review		Organization must assess and filter the valuable competitive intelligence that they need in future, based on enterprise strategic factors. This will decrease its cost of storing and analyzing competitive intelligence, and improving the effectiveness and efficiency of competitive intelligence program. Unstructured information can also be represented by multi-attribute fusion method as knowledge element model.
4 8	Calof, Richards, & Smith, (2015)	Scholar Google	Literature review	An industrial policy has always highest level of uncertainty due to its heavy reliance on the external environment of organization. Foresight, competitive intelligence, and business analytics together are very helpful in reducing this uncertainty and forecasting the potential external business	

				environment.	
49	Self, Matuszek, Self, & Schraeder, (2015)	Emerald	Literature review	Knowledge management is focused on past, present and future and can impact strategic thinking. This strategic thinking, in turn, can be used to create fit between business strategies, policies, processes, procedures, and rules.	Knowledge management practices emphasize and impact the knowledge sharing, embracing elements of balance scorecard and adopting the principles from total quality management. This in turn can result in a proactive work environment, productivity, and effectiveness.
50	Singh & Rao, (2015)	Springer	Literature review		Strategic human resource management enhances the knowledge management.
51	Sun, (2015)	Scholar Google	Conceptual	<p>This study uses a competitive intelligence analytics method for SWOT analysis. Strength of this method is to help in strategic decision making as well as mining of implicit intelligence and knowledge. This method initiates with competitive intelligence's acquisition mechanism for an organization. This mechanism is based on SWOT analysis.</p> <p>Before identification of required competitive intelligence managers should initiate SWOT analysis. Purpose is to evaluate the present context of the business external environment in general and competitors in particular. This initial SWOT analysis would provide important internal and external business factors as well their</p>	

				<p>quantitative value and/or qualitative descriptions.</p> <p>After initial SWOT analysis, SWOT analysis oriented and non-SWOT analysis oriented competitive intelligence should be monitored, identified, and presented.</p> <p>After this step, SWOT analysis should be reinitiate based on new competitive intelligence collected.</p>	
5 2	Liebl, (2015)	Springer	Literature review	.	<p>Worlds of customers, competencies and resources, and general business environments are the main factors or areas of strategic knowledge management. Interrelationships among these three areas are particular important to support the strategy formulation.</p> <p>Detection and filling of knowledge gaps in areas or factors of strategic knowledge management are highly crucial for effective knowledge management.</p>
5 3	Corfield, & Paton, (2016)	Emerald	Qualitative	<p>Knowledge management can be used to change the organizational culture to another desired culture. This change should be based on rational decision making. Changing culture requires persistency, wide approaches as well as tools.</p>	
5 4	Razak, Pangil, Zin, Yunus, &	Elsevier	Literature review	<p>Knowledge workers of an organization help in decision making, strategizing directions, creating fit between organization and its environment, and</p>	

	Asnawi, (2016)			gaining competitive advantage.	
5 5	Venkitach alam, & Willmott, (2016)	Emerald	Qualitative		There are two types of knowledge management strategies that make use of organizational knowledge. These strategies are codification strategy and personalization strategy. These are used to make the optimal use of organizational knowledge. Strategic shifts between these both strategies in an organization depend on the organizational structure, information technology, organizational size, and competitive environment.

Synthesis:

Key summarized points from each study are synthesized and integrated in this step of methodology in strategic management model given by Fred David in a holistic way to answer the research questions.

Results and Discussion

A step by step, systematic and objective strategic management process is one in which a business strategy is not selected and carried out intuitively. But a step by step, rational, and systematic strategic management process is adopted based on facts, figures, and information of current and potential internal and external environments. This systematic strategic management process includes three main steps; strategic planning, strategy implementation, and strategy evaluation respectively. Strategic planning further includes steps developing or updating vision and mission statements, assessment of internal and external environments, long terms objectives, and generation, evaluation and selection of strategy respectively (David, 2007).

A good strategic management process is one in which both analysis and intuition is integrated in decision making. Literature review supports the statement that organization based on knowledge management and competitive intelligence can integrate analysis and intuition in its strategic management process. As due to effective knowledge management and competitive intelligence systems, an organization has full access to knowledge and intelligence of internal and external environment respectively. This knowledge and intelligence can be used to analyse and make a decision in difficult situations (Sveiby, 2001; Akhter, 2003; Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008). While due to past saved experiences and knowledge, organizations can make a decision based on intuition (Muthusamy, 2008). In this way integration of intuition and analysis or good combination of both in strategic management process can be achieved. Consequently this can result in successful strategic management process.

Knowledge management and competitive intelligence have crucial roles in strategic management process. Because knowledge management can help an organizations in strategizing its current strategies, alternative strategies, potential problems and their solutions (Carneiro, 2000; Ndlela & Du Toit, 2001; Sveiby, 2001; Al-Hawamdeh, 2002; Snyman & Kruger, 2004; Herschel & Jones, 2005; Muthusamy, 2008). While competitive intelligence can forecast potential problems in external environment and provide their solutions. It also offers helps in the strategic planning (Tanascovici, & Hagi, 2013; Bartes, 2015; Calof, Richards, & Smith, 2015). So these both evidences combined together imply that knowledge management and competitive intelligence offers strategies, alternative strategies, potential problems and their solutions both in separate and synergic way in strategic management process.

Synergic and separate use of knowledge and intelligence, via knowledge management and competitive intelligence respectively, and holistic and integrated views and implications of knowledge management and competitive intelligence within strategic management process and vice versa are discussed below. Line of discussion/writing in each step of each stage of strategic management model is as follows. In first paragraph of each step or stage of strategic model, overview of strategic management perspective is presented. Then this perspective is followed by holistic and integrated views and implications of knowledge management and competitive intelligence for each step or stage and vice versa. Then synergic and separate use of knowledge in corresponding step or stage is discussed.

Strategic Planning/Strategy Formulation:

i) Developing or updating mission Statements:

The first step of strategy formulation stage is development of vision statement and mission statement. Components of a mission statement are customers, products and services, markets, technology, concern for survival, growth and profits, philosophy, self-concept, concern for public image, and concern for employees of an organization (David, 2007).

Knowledge management and competitive intelligence have crucial implications and impact on mission of the organization and vice versa. An organization aligns its knowledge management function and strategy with its vision and mission. Thus in this way both drive each other (Liebowitz, 2001; Akhter, 2003; Snyman & Kruger, 2004; Halawi, McCarthy, & Aronson, 2006; Oztemel, Arslankaya, & Korkusuz Polat, 2011). This is also referred in case of competitive intelligence which drives mission of the organization and vice versa. Because competitive intelligence focus, analysis, and communication is dependent on mission and vice versa (Bose, 2008; Calof & Wright, 2008; Nasri, 2012; Tanascovici, & Hagi, 2013; Sun & Wang, 2015).

Coming towards the synergic and separate use of knowledge and intelligence, gained by knowledge management and competitive intelligence respectively, it can help in updating or developing mission statements. For example, right combination of knowledge management and competitive intelligence can help an organization to decide on its customers (a component of mission statement) it can serve for the time period for which strategic management process is being carried out. As through the competitive intelligence organization can anticipate new markets and customers as its opportunities (Weiss, 2002; Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Nasri, 2012; Tanascovici, & Hagi, 2013; Bartes, 2015; Sun & Wang, 2015), while through knowledge management, organization can determine its ability to serve current and newly anticipated customers and markets. Reason is effective knowledge management function has full access to knowledge of internal environment of an organization (Sveiby, 2001; Akhter, 2003; Herschel & Jones, 2005; Halawi, McCarthy, & Aronson, 2006; Taib, Yatin, Ahmad, & Mansor, 2008; Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Lieb, 2015).

ii) Assessment of internal and external environment:

Second step of strategic planning stage is the audit of current and potential internal and external environment respectively. Internal environment is composed of strength and weaknesses. External environment is composed of opportunities and threats. In second step of strategic planning, SWOT (strengths, weaknesses, opportunities and threats) analysis is carried out and important internal and external factors are identified. These important factors (both internal and external factors) are used in matrices like internal factor evaluation matrix, external factor evaluation matrix, and competitive profile matrix, to assess environments of organization and consequently for the selection of business strategy. Strength and weaknesses, important internal factors, and internal environments are used interchangeably in strategic management literature. This is also true in case where opportunities and threats, important external factors and important external factors are used interchangeably (David, 2007).

Knowledge management and competitive intelligence have integrated implications for this step and vice versa. Knowledge management and competitive intelligence manage the internal and external information respectively. These both can be used to assess the current and potential

internal and external environment of an organization respectively (Carneiro, 2000; Sveiby, 2001; Weiss, 2002; Akhter, 2003; Taib, Yatin, Ahmad, & Mansor, 2008; Bose, 2008; Calof & Wright, 2008; Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Tanascovici, & Hagi, 2013; Bartes, 2015). Strengths and weaknesses or internal factors can be assessed by knowledge management, while opportunities and threats or external environment by competitive intelligence (Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008). As effective knowledge management and competitive intelligence improves the predictability and forecasting so that organization can make a reliable current and potential SWOT analysis in this step of strategic planning (Carneiro, 2000; Tanascovici, & Hagi, 2013; Bartes, 2015).

Literature review confirms that synergic and separate use of knowledge and intelligence can help in this step of strategic planning stage like previous one. For example, if an organization wants to determine its strengths and weaknesses with respect to competitors (David, 2007), then synergic use of knowledge management and competitive intelligence can serve this task. As it is Knowledge management that can be used to assess the strengths and weaknesses of an organization while competitive intelligence can be used to access information of external environment of organization including that of competitors of an organization (Bartes, 2015; Tanascovici, & Hagi, 2013; Taib, Yatin, Ahmad, & Mansor, 2008; Nasri, 2012; Momeni, Fathian, & Akhavan, 2012; Ghannay & Zeineb, 2012; Weiss, 2002). This implies that competitive intelligence can help here to provide intelligence about strengths and weaknesses of competitors to assist organization to analyse its strengths and weaknesses with respect to those of its competitors.

iii) Long term objectives

Keeping in mind the concern for growth and profit in mission statement and audit of internal and external environment, in this step an organization becomes able to set its long term objectives. There are two types of long term objectives: long term financial objectives and long term growth related objectives (David, 2007).

Likewise previous step of strategic planning stage, this step has implications for knowledge management and competitive intelligence. Literature review identifies an implication that knowledge management determines organizational performance and financial performance is determined by organizational non-financial performance (Malhotra, 2004; Momeni, Fathian, & Akhavan, 2012; AL-Hakim & Hassan, 2014). This implies that organization has to convert its desired financial performance into organizational performance to know how much there is strategic knowledge and intelligence needed? Difference between strategic knowledge and intelligence needed and available is called strategic knowledge and intelligence gap. Literature review contends that strategic intelligence gaps are of two types; macroeconomic and microeconomic (Grèzes, 2015). While strategic knowledge gaps can be in areas of strategic knowledge management like world of customers, resources and competencies (Liebl, 2015). Identified strategic gaps in this step of strategic planning stage must be filled out to achieve the long term financial objectives and long term strategic growth related objectives? (Halawi,

McCarthy, & Aronson, 2006; Lieb, 2015). Determinacy and filling out of strategic knowledge and intelligence gaps can result in timely availability of synergic and separate use of knowledge and intelligence for rest of strategic management process.

iv) Generation, Selection, and Evaluation of Strategies

In this step of strategic planning stage, organization generates, selects, and evaluates the strategies to pursue best one (David, 2007). There is a greater impact of knowledge management and competitive intelligence on this step of strategic planning stage. Literature review refers that knowledge management can help an organizations in strategizing its current strategies, alternative strategies, potential problems and their solutions (Carneiro, 2000; Sveiby, 2001; Snyman & Kruger, 2004; Herschel & Jones, 2005; Muthusamy, 2008; Alyoubi, 2015; Razak, Pangil, Zin, Yunus, & Asnawi, 2016). In addition, it also refers that competitive intelligence can forecast potential problems in external environment and their solutions, and offers helps in the strategic planning (Tanascovici, & Hagi, 2013; Bartes, 2015; Calof, Richards, & Smith, 2015). So all this implies that both knowledge management and competitive intelligence can help by formulating alternative strategies and identifying important strategies to be included in this step of strategic planning stage. If organization decides mergers or acquisition as growth strategy or brings a change in competitive strategy in this step then it should be aware that this can result in change in its internal and external environment. Subsequently this change can lead it further to revisit functions and strategies of knowledge management and competitive intelligence (Kongpichayanond, 2009; Sun & Wang, 2015).

If an organization uses quantitative and qualitative method for strategy formulation in this stage then synergic and separate use of knowledge and intelligence in right amount, right form, to right person, and at right time, can help in following ways.

1. The right composition of knowledge and intelligence, gained by effective and efficient knowledge management and competitive intelligence respectively, can contribute key internal and external evaluation factors (Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012). These factors can be helpful in development of matrices like internal factor evaluation matrix and external factor evaluation matrix etc.
2. Accurate score and weights can be allotted in development of matrices (Sun, 2015). Because due to effective knowledge management and competitive intelligence functions, an organization can fully access to knowledge and intelligence of its current and potential internal and external environment (Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008; Sun, 2015). This can help organization to gain real picture of its environment. This in turn then can lead to objective and accurate allotment of accurate scores and weights.
3. Quantitative strategic planning matrix (QSPM) is the last matrix in the last step of strategic planning stage (David, 2007). Development of this matrix involves steps like formation of alternative strategies and inclusion of most important strategies to select

and pursue best one. Knowledge management and competitive intelligence can help in providing alternative strategies and identification of important strategies to be included in QSPM for the selection of final strategy (Carneiro, 2000; Herschel & Jones, 2005; Muthusamy, 2008).

4. Knowledge intake via knowledge management can be used in strategic group map tool for decisions regarding generation selection and evaluation of competitive and growth strategies (Pietrzak, Jalosinski, Paliszkiwicz, & Brzozowski, 2015).

After the completion of strategic planning process, an organization becomes able to identify the additional needed knowledge and intelligence to implement the finally selected business strategy. These gaps referred as “Strategic knowledge gap” and “strategic intelligence gap” and must be filled to achieve the mission of organization. So now it should plan and act to fill these additional needed knowledge and additional intelligence gaps by revisiting and formulating its knowledge management and competitive intelligence programs and strategies (Carneiro, 2000; Bhatt, 2001; Halawi, McCarthy, & Aronson, 2006; Ghannay & Mamlouk, 2015; Sun & Wang, 2015; Lieb, 2015). These competitive intelligence and knowledge management strategies can ensure the availability of required knowledge and intelligence in strategy implementation and strategy execution stages in synergic and separate ways (Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008).

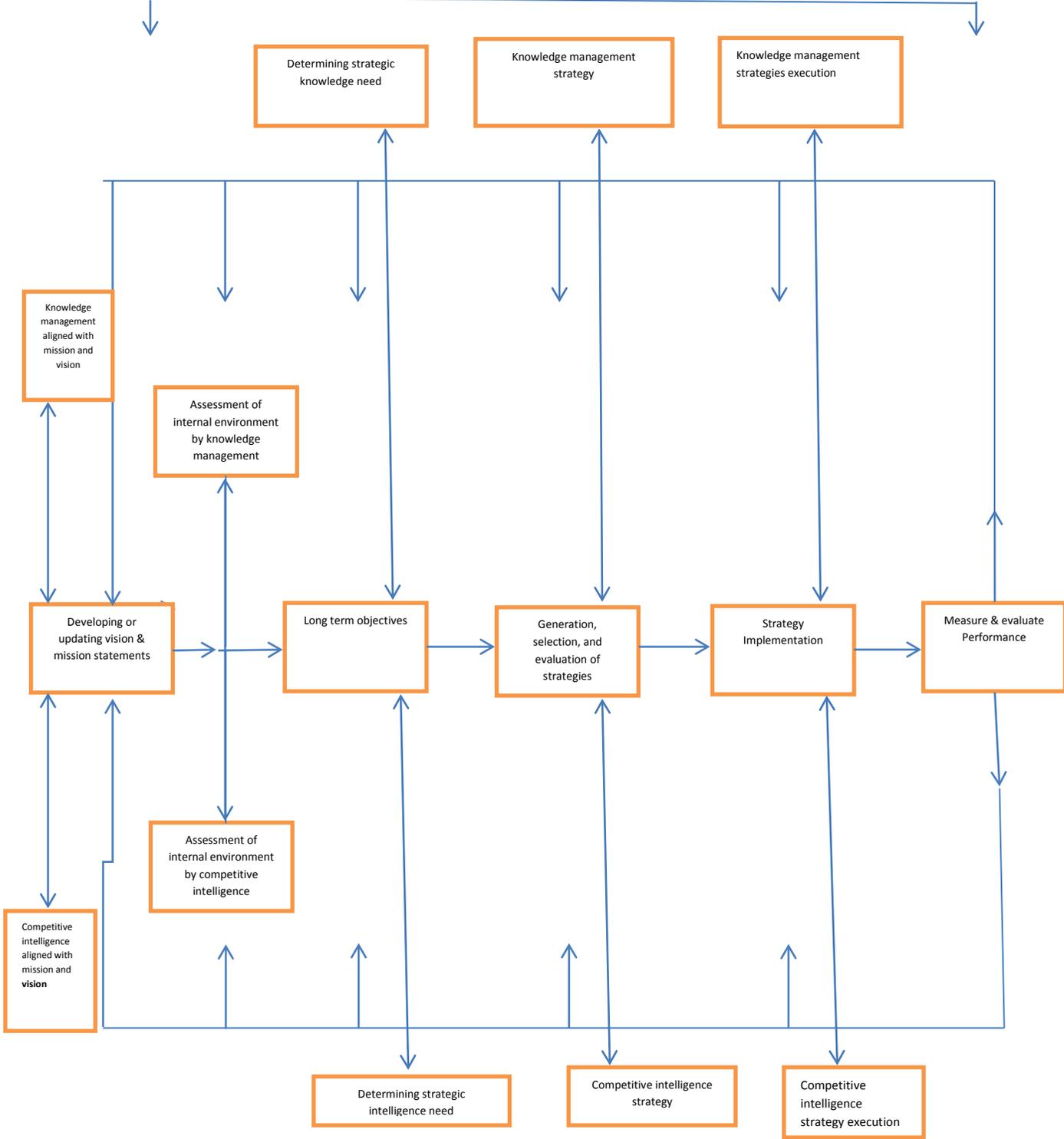
For formation of knowledge management strategy there are four approaches of strategic planning approaches to knowledge management identified by Bolisani, & Scarso, (2015). These four approaches are based on two dimensions. These two dimensions are rational/emergent and internal resource/competitive environment focus of an organization. As strategic management model of Fred David being used, is rational and logical mainly and knowledge management and competitive intelligence have internal and external focus respectively. So this study proposes combination and integration of two approaches of strategic planning to knowledge management (Venkitachala, & Willmott, 2013; Bolisani, & Scarso, 2015). These two approaches are rational planning based on internal knowledge resources and rational planning based on competitive environment.

Literature review identified a number of knowledge management strategies and knowledge strategies. Knowledge management strategies include codification and personification while knowledge strategies include personalized knowledge sharing, knowledge acquisition, knowledge creation, and knowledge exploitation. Some authors do argue that knowledge strategy is different from knowledge management strategy while others do not agree to this stance (Venkitachalam, & Willmott, (2016); Bolisani, & Scarso, (2015)). Organization has to select one or a combination of knowledge and/or knowledge management strategies, for purpose of filling out of strategic intelligence gaps, based on organizational contextual variables. Contextual variables may include view of knowledge and knowledge management, predictability of external environment, and strength of internal resources etc. (Venkitachalam, & Willmott, 2016); Bolisani, & Scarso, (2015)). As this study answers its research questions in an holistic and integrated way, so for more detailed discussions and clarity on differences, similarities, and implications of knowledge management and knowledge strategies studies like Venkitachalam, & Willmott, (2016) and Bolisani, & Scarso, (2015) should be studied and researched.

Coming towards the strategic intelligence gap to be filled by competitive intelligence function and strategy, these gaps can be divided into strategic macroeconomic and microeconomic intelligence need gaps. Microeconomic intelligence gaps are categorized into partnership, marketing, new entrants, technological and competitors gaps. Macroeconomic intelligence gaps are categorized further into laws, politics, economy, and social issues gaps (Grèzes, 2015). Competitive intelligence strategy should address and fill these gaps particularly. .Organization should select a competitive intelligence strategy compatible to its organizational variables. Organizational variables may include type of strategic intelligence gaps, nature of competitive environment, and available technologies (Colakoglu, 2011; Grèzes, 2015; Sun, 2015).

Figure 2 summarizes the research findings of this study.

Continuous assessment of internal and external environment by knowledge management and competitive intelligence



Synergic and separate use of knowledge management and competitive intelligence



Figure 2: Proposed Strategic Management Model based on lens of knowledge management and competitive intelligence

Strategy Implementation

In this step of strategic management process, strategy is executed. During the process of strategy implementation, an organization can face issues related to its functions like management, finance, and human resource. For example issues related to management can include allocation of resources, setting of annual objectives, and organizational structure and culture supportive to strategy etc. All issue faced in this stage must be solved for effective implementation of strategy. Other activities of this stage are business process engineering, organizational culture, and change in organizational culture etc. (David, 2007).

Like previous stage of strategic planning, this stage has implications for knowledge management and competitive intelligence and vice versa. During the implementation of strategy, new knowledge and experience is gained due to solving of new and novel challenges. This new knowledge and experience must be captured and stored before it can be lost. In this way it can be developed further, shared and applied in future (Weiss, 2002; Sumanjeet, 2005; Terzieva, 2014). Knowledge management can offer help in tasks or activities of this stage like business process reengineering, change in organizational culture and effective allocation of resources etc. to support strategy implementation in this stage of strategic management process (Lee & Hong, 2002; Corfield, & Paton, 2016). In the same way, competitive intelligence can forecast potential problems in external environment (Tanascovici, & Hagi, 2013; Bartes, 2015; Calof, Richards, & Smith, 2015).

In this stage of strategic management process, an organization should ensure that the right amount and form of knowledge and intelligence in synergic and separate way is provided to right person(s) at right time, at right place, and, in right amount. This ensuring is only possible by effective implementation of knowledge management and competitive intelligence strategies, planned in strategic planning stage (Bartes, 2015; Bratianu, & Bolisani, 2015)

Synergic and separate use of knowledge and intelligence in right form, right amount, at right time, and by right person can help even in this stage to solve issues of each function during the strategy implementation. For example, knowledge gained by knowledge management can help in formulating policies (policies are rules, regulation and knowledge to execute the strategy of each function) and strategies for operational, strategic and tactical level of each function. (Carneiro, 2000; Sveiby, 2001; Snyman & Kruger, 2004; Herschel & Jones, 2005; Muthusamy, 2008; Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008).

In the implementation stage, whenever a decision requires the knowledge of internal environment mainly, knowledge management can help to provide the required knowledge. Whenever a decision requires the information or intelligence of external environment then this can be provided by competitive intelligence. Combining both uses, whenever a decision requires the integration of information of internal and external environment, synergic use of knowledge and intelligence, gained by knowledge management and competitive intelligence respectively, can help to make effective and efficient decisions. (Momeni, Fathian, & Akhavan, 2012; Ghannay & Zeineb, 2012; Taib, Yatin, Ahmad, & Mansor, 2008).

Strategy evaluation

Corrective actions or formulating and pursuing a new strategy are possible if key internal and external important factors are changed or actual performance is found less than the standard performance. Generally corrective actions in presently pursued strategies are taken instead of formulating and pursuing a new strategy (David, 2007).

In strategy evaluation stage of strategic management process, organization continuously updates its information of internal and external environment respectively. The purpose is to assess the significance change(s) occurred in internal and external environments, changing the internal factor evaluation matrix and external factor evaluation matrix. If the factors included in internal factor evaluation matrix and external factor evaluation matrix becomes changed then organization takes corrective actions in pursued strategy or adopts the new strategy. In this step, organization also assesses its actual organizational performance and compares it with the standard performance (decided according to objectives). If the actual performance is found less than the desired standard performance then organization takes the corrective actions. In this step, organization also evaluates all of its functions (David, 2007).

In this stage of strategic management, organization continuously updates its internal and external environment by knowledge management and competitive intelligence functions respectively (Colakoglu, 2011; Sun, 2015). During updating, it pays special attention to updating information of internal and external factors identified in strategic planning stage as well identifies any new important internal and external factor(s) (new strengths, opportunities, weakness, and threats) through its knowledge management and competitive intelligence functions respectively (Sun, 2015). Reason is knowledge management and competitive intelligence can be used to identify important internal and external factors (Ghannay & Zeineb, 2012; Momeni, Fathian, & Akhavan, 2012; Taib, Yatin, Ahmad, & Mansor, 2008). Organization also compares its actual performance with that of standard performance. If key internal and external factors become changed or actual performance is found less than the standard performance, then this calls for corrective actions or change in business strategy.

Change in strategy or taking corrective actions can also lead to change in strategic knowledge and intelligence needed to execute corrective actions or newly pursued business strategy. Now organization should again assess how much there are strategic knowledge and intelligence gaps. These gaps must be filled out in order to execute new business strategy or corrective actions. Filling out o these gaps can lead to a change in functions and strategies of knowledge management and competitive intelligence (Earl, 2001). Mechanism to formulate these new strategies would be same as discussed in strategic planning stage.

In this stage, an organization should evaluate all of its functions including knowledge management and competitive intelligence functions. This can make it enable to identify the changes necessary to improve the performance of functions including these two for next strategic management process (Oztemel, Arslankaya, & KorkusuzPolat, 2011)

Conclusion

Knowledge and information are only strategic resources to gain competitive advantage for organizations in 21st century of information and knowledge. These are only resources through which they can gain competitive advantage over their competitors. In the current arena if organizations want to survive then they have to be organizations based on knowledge management and competitive intelligence.

There are significant implications of each stage strategic management process on knowledge management and competitive intelligence and vice versa. In strategic planning stage, implications are as follows. Mission and vision of an organization should be aligned with knowledge management and competitive intelligence and vice versa. Knowledge management and competitive intelligence can be used to assess internal and external environments of an organization. From long term objective step, strategic knowledge and intelligence needed and gaps can be determined. Both knowledge management and competitive intelligence are helpful in strategy generation, selection, and evaluation.

After selection of a business strategy in strategic planning stage, an organization becomes able to accurately determine the strategic knowledge and intelligence gaps. Filling out of these gaps are crucial for successful strategy implementation. These gaps can be filled out by knowledge management and competitive intelligence strategies. While these strategies have a number of types, an organization can select one or combination of two or more based on organizational contextual variables.

Implications of knowledge management and competitive intelligence for strategy implementation stage are as follows. In this stage, strategies of knowledge management and competitive intelligence are executed. These executed strategies provide support to business strategy execution in tasks like change in organizational culture. Strategies executed should provide right amount of knowledge and intelligence, in right form, to right person to use in all levels of decision making. Knowledge management function should capture the new knowledge created from solving issues in executing business strategy. In strategy evaluation stage, implications are as follows. Organization should continuously update and its internal and external environments by knowledge management and competitive intelligence respectively. Any change in important internal and external factors or identification of new ones can lead to change in business strategy. This change in business strategy may result a change in strategic knowledge and intelligence needed. This need in turn can trigger to pursue new knowledge management and competitive strategies. In this stage, knowledge management and competitive intelligence functions are evaluated with others for potential improvement in future.

Knowledge and intelligence via knowledge management and competitive intelligence can be used in synergic and separate way in each stage of strategic management process for decision making of strategic operational and tactical levels. If a decision making in strategic management process requires the integration of information of external and internal environments, then knowledge, gained by knowledge management can be used with intelligence, gained by competitive intelligence, in synergic way. This implies two points. One is if a decision making does not require the information of external environment or intelligence in strategic management process, then knowledge by knowledge management can be used for decision making. Second point is if a decision does not require the internal environment knowledge in strategic management process then intelligence, gained by competitive intelligence, can be used for

decision making. In any of three above mentioned conditions, organization can gain competitive advantage due to effective decisions making.

Contributions

Distinctive contributions of this study are the followings.

1. It further develops the strategic management model of Fred David by focusing on knowledge management and competitive intelligence.
2. This study discusses synergic and separate use of knowledge and intelligence, gained by knowledge management and competitive intelligence respectively, in strategic management process.
3. It discusses the knowledge management and competitive intelligence as tools to assess the current and potential internal and external environments in strategic management process.
4. It also provides an integrated and holistic view of knowledge management and competitive intelligence strategies and functions within each stage of strategic management process and vice versa.
5. This study discusses knowledge management and competitive intelligence strategies and functions, and their synergic use in a step by step strategic management process.
6. It provides the extracted information related to synergic and use of knowledge management and intelligence from 55 relevant studies of knowledge management and competitive intelligence.

Limitations

This study is not free from a number of limitations. Among the limitations first one is use of strategic management model of Fred David. Research questions of this study answered are within the boundaries of this model. While there are other numbers of strategic management models available in the strategic management literature like model of Thompson and Strickland which can be used to answer.

Second limitation is experience time of an organization with knowledge management and competitive intelligence or learning curve can affect the effectiveness and efficiency of proposed strategic management process. As if an organization has long term experience of effective and efficient knowledge management and competitive intelligence functions, it will use its information and knowledge resources, via knowledge management and competitive intelligence respectively, in synergic and separate way more effectively.

Third limitation are low numbers of finally reviewed studies discussion synergic use of knowledge management and competitive intelligence While Most of the papers finally reviewed in this study discuss the separate use of knowledge management and competitive intelligence.

But this study is focused on synergic and separate use of knowledge management and competitive intelligence. This can affect the reliability of analysis.

Another limitation is literature review based research design of the study. As the proposed model in figure 2 is mainly based on and limited to synthesis and integration of extracted data of finally reviewed studies. There might be some relevant studies that were ignored. Therefore research of this paper could be carried more accurately with questionnaires or in-depth-interviews from experienced researchers and practitioners of competitive intelligence and knowledge

The proposed strategic management in this study is mainly related to a multifunctional organization. It does not stand for multidivisional organization. Multidivisional organization has the autonomous strategic business units or divisions. While multifunctional organization has two or more functions/ specialized departments, for example finance and HRM department.

Recommendations for Future research

There are a number of research recommendations. Future research should address the research question of this study with the use of other strategic management models like Thompson and Strickland model. Papers studied during this study indicated the use of knowledge management as a tool to assess internal environment. But there is a need to further investigate the dynamics of this usage with reference to strategic planning. There is also further need to investigate the dynamics of synergic use of knowledge and intelligence, gained by knowledge management and competitive intelligence, in strategic management process particularly in strategy implementation and strategy evaluation stages.

It was observed during the conduct of this study that most of the knowledge management and competitive intelligence literature reviewed discusses the dynamics of knowledge management and competitive intelligence functions and strategies till the strategic planning stage only. But these dynamics are ignored in strategy implementation and evaluation stages. These ignored dynamics must be investigated.

The proposed strategic management process in this paper is mainly related to a multifunctional organization not to a multidivisional organization. So research questions of this study for multidivisional organization should also be studied. Literature review for conduct of this study indicated that there is almost no research on dynamics of knowledge management and competitive intelligence programs, strategies, and functions with special reference to multidivisional organizations. These areas must also be investigated.

It is proved from the one of the finally reviewed study of this systematic literature review that information management is subset of knowledge management. Reason presented was that Knowledge management encompasses both explicit and tacit knowledge while information management encompasses explicit knowledge only. While strategic management literature

reviewed during conduct of this study focuses still on information management instead of knowledge management. This replacement and its implications for knowledge management and strategic management should be considered by respective scholars and practitioners.

Furthermore these constructs can be used for conducting a quantitative study by assuming a sample of management practitioners to know whether they employ these concepts in practice and what are their outcomes?

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