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# **Sustainable competitive advantage through servitization: An investigation into servitization strategy in the real estate development sector**

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## **Abstract**

Achieving sustainable competitive advantage, based upon services provision, is often claimed to be viable for businesses. There has, however, been little evidence captured on the application of aspects of servitization within the real estate development. By applying the RVB theory, the research propositions of this study include understanding how superior performance is driven from organization capabilities and how different organizations develop and position those capabilities to gain competitive advantage. This research was conducted using an exploratory research and in-depth case study. The study suggests that more strategic alignment between servitization decisions and operations management is required to create competitive advantage.

**Keywords:** Real estate development, Competitive advantage, Servitization, Resourced Based View

## **Introduction**

Change is the major characteristic of the business environment. Globalization, commoditization and advanced technology intensify business competition (Smith, 2006). Market conditions move to be more complex and more aggressive which reduce organizational competitive advantage and significantly affect how business organization should function to create more value. Developing sustainable competitive advantage is a major concern of business organization worldwide. (Saunders et al. 2008). Nowadays, it is argued that business firms, to survive in the future, maintain customers and sustain competitive advantage have to create more value for their customers by offering product and service systems, by which they are shifting from traditional product transaction to relationship orientation (Baines et al, 2009; Neely et al., 2011 and Gebauer, et al. 2012). This alteration of organization business model is conceptualized as servitization (Vandermerwe & Rada, 1988). Servitization is becoming a worldwide business strategy. Researchers are being interested differently in this operational phenomena occurring in the business world. Both conceptually and empirically scholars significantly contributed to the knowledge and practice of how business organizations deployed servitization. However, previous research on servitization has not paid sufficient attention to examining its suitability for the real estate development industry and how it should be designed, implemented and evaluated in that context. Concentrating on the real estate development sector is important, as the interest toward developing a sustainable real estate development has dramatically increased over the past years (DeLisle et al. 2013). Whereas business firms in the real estate development sector are increasingly compelled to improve their competitiveness to survive this dynamic business environment and outperform competitors (Maennig, 2012). In order to answer these research questions, the study developed case studies from the Jordanian real estate development sector. Such research has potential to provide evidence and support future decision makers related to offering service decision in that context. The remainder of this article is structured as follows: the next section presents the choice of theoretical lens and thereafter, the literature review section that comprehensively presents the servitization strategy. Here, a conceptual framework that captures the process of servitization strategic decisions is presented. This section is followed by a description of research methodology and the data collection process. Section four presents the study findings and discussion. Finally, study conclusion and applications are presented.

## **Theoretical background**

Today, long term competitive advantage is the key critical success factor for every business organization. Traditionally, to gain competitive advantage over competitors, three generic competitive strategies are available based at the business unit strategic decision level (Porter, 1985). However, the dynamism of the environment increases the pressure over business organizations by which gaining long stand competitive advantage is challenging. The competitive advantage decision moved forward from the business unit level becomes a more directional decision that covers the whole organization's strategic scope and refocuses the entire business activities based on firms' strategic orientation (Gatignon, & Xuereb, 1997). Nevertheless, the search for developing more sustainable competitive advantage is enduring. Today, operations management is considered a key determinant of organizational survival (Hayes et al. 2005). The strategic decision shifted back to the operational strategic level. Business organizations have to be more flexible, adaptive, responsive to changes and proactive rather than reactive. Recently, gaining competitive advantage is being studied based on servitization strategy, which an innovation strategy of organizational core competences

and capabilities (Oliva & Kallenberg 2003; Baines, et al. 2009 and Gebaure, et al. 2012). According to the Resource based view theory, organizations are heterogeneous in terms of the strategic resources that they own and control (Wenerfelt, 1984), where different categories of organizations require different operational process (Peteraf, 1993). Studies on the process of servitization strategy within different industrial sectors or operational environments have been rare. Few researchers have studied the phenomenon in a real estate development context. Also, none of the researchers have studied the phenomenon based on the context of the business environment in developing countries. This study argues that there is a need to explore servitization strategy and offering services process based on different industrial and business environmental context. Accordingly, the lens of Resource based View theory was adopted. The goal of this perspective is to understand how the difference of operational system and organizational capabilities among different industries and countries influence the adoption of servitization strategy.

### **Literature review**

The new industry revolution, this is how (Mudambi, 2008) describes the shift of value offering from tangible assets to intangible ones. Almost a third of USA large organizations are moved to offer services integrated to their products (Neely, 2008). The strategy of adding service to product becomes a significant element for business organizations. Scholars argue that business organizations have to add services as a dominant aspect to their products and shift from offering traditional products to offer products combined with services (Vandermerwe & Rada, 1988; Baines at el. 2009 and Gebauer, et al 2012). In recent years, there has been an increasing amount of literature on servitization, which indicates the growing interest in servitization strategy. Apparently, (Vandermerwe & Rada, 1988) are the first to use of the term servitization to describe the process of adding value to the company's core business through offering integrated packages of products, and services. The phenomenon has been studied by different disciplines such as marketing, operations management, service management, strategy, and operational research, by which different labels and terms could be found in the literature. However, servitization is comprehensively defined as "the innovation of an organizations capabilities and processes to better create mutual value through a shift from selling product to selling PSS" (Baines at el. 2009, p554).

The transition process from offering pure product to offer product and service systems aim at creating more value and increasing organizational focus on customers and customers' needs. In competitive markets, product quality and price features are become non-significant differentiation factors; offering service is considered the new approach of differentiation (Gebauer, et al 2012). Business firms could offer services that related to the organization's products to enhance product differentiation or to added services related to customer activities looking at improved market position or offering services that related competitors' products to enhance organizational internal competence (Mathieu, 2001). In general, business organizations are motivated to adopt a servitization strategy based on external forces responding to dynamic environment or internal drivers inspired by servitization expected outcomes (Nordin, & Kowalkowski, 2010). Several outcomes are expected from offering services. These benefits are classified within three broad categories; strategic benefits, marketing benefits and financial benefits (Mathieu, 2001). The strategic benefits are gained based on improving organizational competitiveness as the outcome of servitization strategy is difficult to be imitated and the characteristics of integrating product and service is distinguishing the firm's offers from others for a long term period (Martinez et al. 2010). The marketing

benefits develop from maintaining close customer relationships as the integrated product and service enrich the customer value and the added service is perceived by customers as a personal customization which works as another entry barrier for competitors. Servitization strategy enables business organizations to collect more valuable knowledge and enhance their response to the dynamic demand, and being fully acquainted with customers' problems and needs (Vandermerwe, & Rada, 1988 and Baines et al. 2009). Finally, the financial benefits are a result of new revenue streams of selling services (Wise & Baumgartner, 1999).

Although servitization strategy is considered a favourable one, it raises a set of challenges. Organizations likely need to change their strategies, operations system, value chains, technologies, workforce attitudes and organization capabilities (Martinez et al. 2010). These difficulties that associated with the process of operationalization of servitization strategy arise mainly from the combination between two divergent processes (Gebauer, et al. 2004). Unlike product process, service process is vague, wide, complicated and hard to be organized in a standard way (Slack, 2005). Commonly, changing is the main challenge of servitization strategy as organizations have to create a service oriented culture that support this customer focusing approach and managing organizational change resistance (Neely et al. 2011). Also, designing a process of offering performance that usually used to be done by the customer is considered a risky action to undertake and should be handled carefully to meet customers' specifications. In addition, offering service stretches the operation process and enlarges business market domain from which new types of rivals could commence from service expansion. Generally, the main sources of servitization challenges were classified within three board categories: organizational change, organization strategic intention and designing an effective service offering strategy are the main sources of servitization challenges (Baines et al. 2009).

Servitization strategic decision is described as a transformational journey. Several strategic routes of servitization were developed to construct an offering services integrated to product systems. Most of these models are based on an incremental approach from offering pure product to offer bundled packages and solution systems such as the work of (Oliva and Kallenberg 2003 and Arto, et al. 2008). Nevertheless, some other models were developed based on different strategic fit mechanisms such as the work of (Mathieu, 2001). The successful accomplishment of servitization strategy depends on an organization's ability to develop an optimum organizational structure, culture, management practice and conversion process to fit with the service offering requirements (Oliva, & Kallenberg, 2003). Also, servitization strategy requires specific capabilities to develop and deliver services, to support the transformation process from product orientation to services orientation and to facilitate a customer orientation approach as part of servitization strategy (Baines, et al. 2009 and Martinez, et al. 2010). Therefore, the development of servitization strategy involves developing a new strategic view, allocates the required resources, estimates the cost and revenue, selects the optimal combination, evaluates the market entrance route, develops the required capabilities and decide whether to buy or make services (Hanski et al. 2012). Also, the decision should include the numbers and types of product and service to be accompanied, develop the value creation model, identify the required change and install the required processes. (Cohen et al. 2006). Still, these arrangements of services offering should be based on systematic planning decisions and incremental small step

development, rather than suddenly product service packaging decisions (Tonelli et al 2009). Based on the literature review the incremental process of servitization was identified into a conceptual framework that emphasises in strategic deliberate planning and divides offering services process into three strategic management phases (figure -1- below).

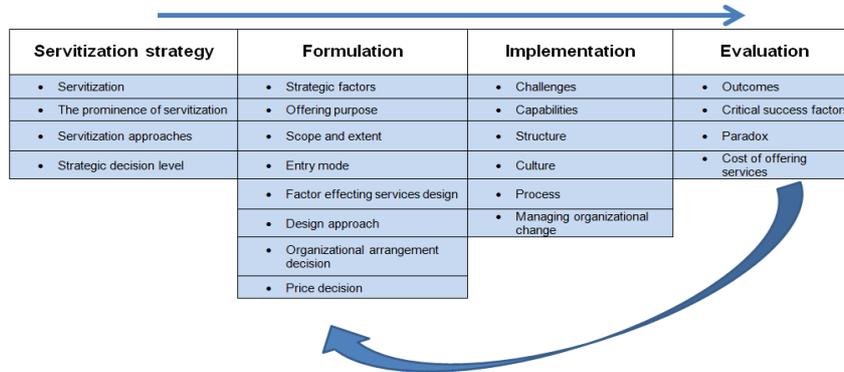


Figure 1- (The process of servitization strategy conceptual framework)

## Research Methodology

Understanding and developing a base of knowledge about servitization strategy in the real estate development sector is the main goal of this research project. The research presented in this paper consists of several complementary research approaches. Basically, the selected research methodology is driven by the exploratory nature and Eisenhardt (1989) iterative process of knowledge acquiring. Realizing the important of the context dimension in this research, a qualitative approach based on case study research strategy was adopted. The case-based research is the appropriate method for operations management exploration research, suitable for dealing with ‘how’ type questions (Voss et al 2002). Still, servitization is a complex research phenomenon and not well identified; studying servitization into new contexts is more sophisticated. In order to cope with this challenge, this research was carried out based on incremental multiple stages based on Zig-zag data collection and analysis approach (Creswell, 2009), in which data gathering and data analysis are considered as collective actions. However, in order to alleviate the grounded theory thoughts that impeded into the Zig-zag technique, the concept of the Delphi technique was integrated into the process to obtain consensus knowledge. The organizations that been investigated are real estate development companies. The selected case covers seven companies that manage various realty projects in Jordan. These companies address different market segments, within different geographical distributions and based on different strategic visions and missions. Their projects varied from residential housing, private resorts, public housing and complex building. The data were collected through incremental multiple stages from the case study between October, 2013 and April, 2014. The multiple stages research involved multiple sources of evidence, multiple methods of data collection and multiple techniques of data analysis as on figure (2).

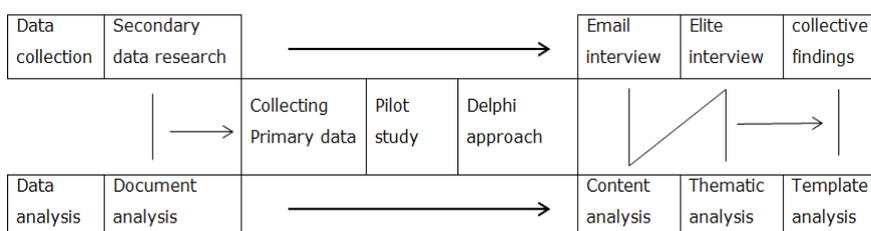


Figure 2: illustrates the incremental multiple stages of data collection and data analysis based on Zig-zag data inquiry adapted from (Creswell, 2009).

After completing the case study's secondary data collection and analysis which included company documentation, minutes of meetings, internal correspondence and company website, the primary data were collected using a series of open ended questions that developed and delivered incrementally based on two rounds of data collection relying on the Delphi concept. The first round was exploratory and the second round was a more in depth stage. In the first round generic and broad data were collected via forty two email-interviews and analysed based on content analysis. Exploratory function, general understanding and common knowledge producing are the main objectives of this round. Guided by the outcome of the first round, the questions of the second round were designed to generate individual discussion, looking for more in-depth data. In this round 23 online elite interviews were conducted and the data were analysed using thematic analysis. Finally, the collective findings from different stages were restructured to develop a servitization strategy roadmap based on template analysis.

### **Findings**

The study investigates servitization strategy prospects and challenges for real estate development. Whereas 21 themes were identified that reflect the impact of servitization strategy on the realty sector and how servitization strategy functions on term of organizational structure, culture, operational process and different requirements. The study was able to empirically identify the process of servitization decision within the three strategic processes (strategic formulation, implementation and evaluation).

Data indicates that services were considered a complementary element. The development of offering service strategy was oriented toward problem solving. Service offering decision took place on a case-by-case basis. The case study companies introduced their services strategy through conceptualizing their project around offering general, basic and standard services. At the beginning, these services were functioned as an add-on element. Still, the decision was introduced as a directional decision. Different types of services were offered through different phases of the project life cycle. These services varied from basic services, advanced services and system solutions. They were designed and offered based on internal and external arrangements and offered based on different pricing policies. Attracting customers was the main driver for offering different types of services and customer needs were the important factor influencing the design of the offered service. The case study's companies faced several challenges when they offered services. Managing services offered was the main challenge, whereas the company have to plan, design, organize and execute an optimal level of service offering that creates more value for customers, reduces operational process variety and meets the divergence of different customers' needs and preferences. Remarkably, the nature of the project operational process requires developing a different set of capabilities in advance to cope with servitization challenges such as planning and designing capability, coordination capability and customer anticipation. In term of organizational structure, culture and operational process, data showed that a balanced design that focuses on both service orientation and project management orientation is more applicable in a realty project. Organizational change was apparent based on incremental development to create a customer-centric atmosphere and preserving the values related to project efficient and effective operational management as both of which are essential for project success. Finally, data revealed that servitization strategy positively enhanced the organization performance and this could be better still with more careful strategic planning and flexible service designing that lead to offer more general and manageable services by which the organizational risk and customers' orientation approach will be more balanced. Consequently, these different themes which

emerged from analysing secondary and primary data were restructured to develop a strategic roadmap guiding the mobilization of servitization strategy into the real estate development sector.

Project life cycle	initiation phase	Execution phase	After project Delivery Phase
<b>Strategic purpose</b>	Gaining Customers	Differentiation advantage	Selling long-life services
<b>services type</b>	Offering basic service related to customers' needs	Offering more advanced service that satisfied large proportion of the customer segment	Offering technological and non-technological solutions
<b>Design approach</b>	The cognition of the surrounding environmental factors	Co-design, Benchmarking and imitation strategy	Collaboration
<b>Relevant strategic factors</b>	Clear planning	Balancing customer orientation and project orientation	Strategic Fit
<b>Organizational arrangement</b>	In-house production	Outsourcing approach	Strategic alliance
<b>Strategic assessment</b>	Customer attraction	Sales Growing	Financial indicators

Figure 3: Servitization strategy roadmap

This roadmap explains how business organizations achieve their desired objective of servitization through simultaneously balancing business orientation toward the customer and a project management approach.

## Discussion

Adopting servitization strategy is a compulsory survival strategy. Still, the development of services offering strategy should be based on systematic planning decisions. Business organizations have to carefully plan for offering service strategy based on what they are going to do, what is to be expected and what changes need to take place (Neely et al. 2011 and Gebauer, et al. 2012).

For undertaking such a challenge, the study forwards an overview of key steps in the servitization process, addressing several strategic factors to make an informed decision. A three stage framework is presented. This framework is developed based on the traditional strategic management process model which consists of strategic formulation, implementation and evaluation. The framework is in alignment with the incremental notion of servitization and the different strategic levels and approaches of offering services. According to (Oliva, & Kallenberg, 2003), there are various strategic levels and forms of servitization, these levels are ranged from offering products with services as an add-on, to product as a platform to deliver services and system solutions. The move between these different strategic levels is considered an incremental process (Oliva, & Kallenberg, 2003). The framework places a high value on both servitization that achieves long term results and project management which delivers relatively short term results. Also, the framework focuses on the different stages of project life cycle and the vital significance of these stages for offering different types of services in order to become a solutions provider and extend the project life cycle. This was influenced by the work of (Artto et al 2008).

The developed framework is circular, which means business organizations need to go through these stages continuously for moving forward within different levels of servitization based on offering different types of services. They need to reflect upon the previous level and review the outcome of the process in order to learn how to improve their service offering strategy. Accordingly, the servitization strategy process is concerned with determining the nature, domain and scope of servitization activities. These steps include the selection of an appropriate level of servitization strategy and selecting the suitable strategic level, identifying the resolution of offering services, choosing from amongst the alternative entry modes, selecting the scope and extent of offering services strategy, identifying the strategic factors that need to be considered for offering services, choosing the optimal design approach, setting the price decision and finally, arranging the operational process location. Then, secondly, the implementation process where the selected design is translated into action. Here, required changes in term of organizational structure, culture, operational process and different requirements are realized and applied. At the final stage comes the strategic evaluation process, which is an attempt to look to the facts regarding the health of formulation and implementation processes. Also at this point one would consider appraising the strategic outcomes and looking for developments and improvements that govern the success of servitization strategy. Strategic fit is the main theme of the process, whereas the organization matches its resources, capabilities, culture, structure, operational process, and quality system with the selected strategic choice. Consequently, the suggested servitization roadmap supports the circulatory notion of this conceptual framework. The servitization process developed is incremental and based on several sub- strategies of servitization. Thus, the adopting process requires a series of steps that build upon one another to be performed in order to reach the strategic decision alignment.

The study shows a mutual relationship between servitization and organizational learning. Offering servitization has gains for both sides because different types of services influence the type of knowledge and expertise that an organization will gain and subsequently, this gives the organization better insight into future strategic choices gained from a greater market knowledge and experience. Thus, organizational competitive advantage is increased figure (4) below.



*Figure 4: the relationship between different level of servitization, organizational learning curve and organizational competitive advantage.*

Servitization strategy is an invention process of organization resources, knowledge, ability and competencies (Baines et al 2009). The scheme of product co-development is imperative for maintaining organizational competitive advantage through enabling knowledge reciprocity processes, and service design becomes based on offering what customers' want.

**Framework reconfiguration**

The empirical evidences of this study have identified other aspects that needed to be considered when adopting servitization strategy. Thus, the conceptual framework that presented as a result of the literature review is redevelop based on these aspects.

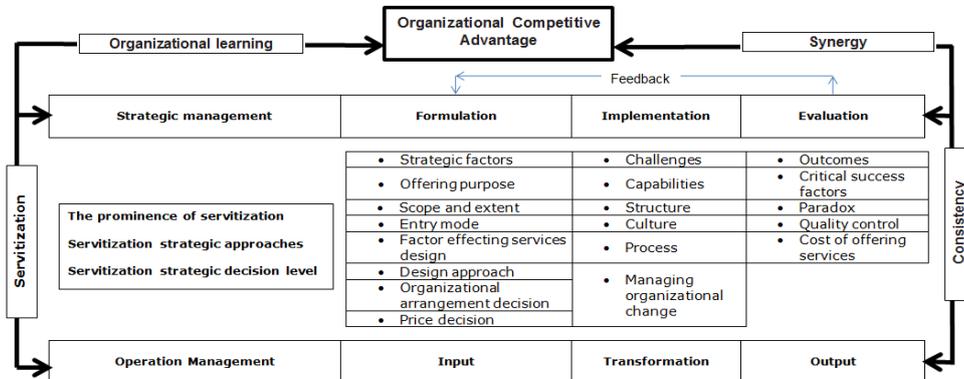


Figure 5: Servitization Strategic Process Conceptual Framework

The study proposes that a firm which systematically analyses and adjusts its business model elements based on line up both strategic management and operations management, is better positioned to succeed with servitization. There are two reasons for this. A coherent business model has a higher potential to create long-term competitive advantage. Second, successful servitization implies that firms address all elements of their business model and understand how they are connected. According to (Hayes et al. 2005), effective operations activities need to be consistent with long-term strategic intentions to make a contribution to organizational competitive advantage. In order to mobilize this consistency, the basic operation system model which consists of three processes input, transformation and output was added.

**Conclusion**

Servitization is one of the strategic decisions realty firms could consider for long-term competitive advantage. Offering service becomes an increasingly important element of project value proposition; whereas the marketplace of the real estate development sector has changed and now tends to be around project concept rather than project deliverables. Strategic alignment is the main theme of servitization process in realty projects whereas both servitization and strategic consistency contribute to creating a more sustainable competitive advantage. The study provided a comprehensive review of servitization strategy in the realty sector and a platform base on which more in-depth research into more focused topics of the servitization phenomenon could be carried out. From a managerial perspective, the study demonstrated how servitization strategy needs to be applied in the real estate development sector.

**References**

Artto, K., Wikström, K., Hellström, M., & Kujala, J. (2008). Impact of services on project business. *International Journal of Project Management*, 26(5), 497-508.

Baines, T. S., H. W. Lightfoot, et al. (2009). "The servitization of manufacturing: A review of literature and reflection on future challenges." *Journal of Manufacturing Technology Management* 20(5): 547-567.

Cohen, M. A., Agrawal, N., & Agrawal, V. (2006). *Winning in the Aftermarket*. Harvard Business Review, 84(5), 129-138

Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications, Incorporated.

DeLisle, J., Grissom, T., Högberg, L., (2013), "Sustainable real estate", *Journal of Property Investment &*

Finance, Vol. 31 Iss 1 pp. 10 - 40

- Eisenhardt, K.M. (1989). Building theories from case study research. *Academy of Management Review*, 14, pp. 532– 550.
- Gatignon, H., & Xuereb, J. M. (1997). Strategic orientation of the firm and new product performance. *Journal of marketing research*, 77-90.
- Gebauer, H., Beckenbauer, B. Fleisch E. (2004). Proceedings of QUIS 9 Service Excellence in Management: Interdisciplinary Contributions Conference, Karlstad, Sweden, 15-18 June p. 397-40
- Gebauer, H., Paiola, M., & Edvardsson, B. (2012). A capability perspective on service business development in small and medium-sized suppliers. *Scandinavian Journal of Management*, 28(4), 321-339.
- Hanski, J., Kunttu, S., Rääkkönen, M., & Reunanen, M. (2012). Development of knowledge-intensive product-service systems. Outcomes from the MaintenanceKIBS project. VTT, Espoo. VTT Technology, 21
- Hayes, R., Pisano, G., Upton, D. and Wheelwright, S. (2005). *Operations, Strategy and Technology: Pursuing the Competitive Edge*, New York: John Wiley.
- Maennig, W. (2012). Size and impact of real estate sector and its role for business cycles and growth. In *Understanding German Real Estate Markets*(pp. 19-25). Springer Berlin Heidelberg.
- Martinez, V. , Bastl, M. , Kingston, J. Evans, S. (2010) "Challenges in transforming manufacturing organisations into product-service providers", *Journal of Manufacturing Technology Management*, Vol. 21 Iss: 4, pp.449 - 469
- Mathieu, V. (2001) "Service strategies within the manufacturing sector: benefits, costs and partnership", *International Journal of Service Industry Management*, Vol. 12 Iss: 5, pp.451 – 475
- Mudambi, R. 2008. "Location, control and innovation in knowledge-intensive industries," *Journal of Economic Geography*, Oxford University Press, vol. 8(5), pages 699-725
- Neely, A. (2008). "Exploring the financial consequences of the servitization of manufacturing." *Operations Management Research* 1(2): 103-118.
- Neely, A.D., Benedettini, O. and Visnjic, I. (2011) The servitization of manufacturing: Further evidence', Academic presented at the 18th European Operations , Management Association Conference, Cambridge, July 2011
- Nordin F. & Kowalkowski, C. (2010) "Solutions offerings: a critical review and reconceptualisation", *Journal of Service Management*, Vol. 21 Iss: 4, pp.441 - 459
- Oliva, R. and Kallenberg, R. (2003), "Managing the transition from products to services" *International Journal of Service Industry Management*, Vol. 14 No. 2, pp. 1-1
- Peteraf, M. A. (1993). The cornerstones of competitive advantage: a resource-based view. *Strategic management journal*, 14(3), 179-191.
- Porter, M. E., (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press
- Saunders, M., Mann, R., & Smith, R. (2008). Implementing Strategic initiatives: A framework of leading practices. *International Journal of Operations & Production Management*, 28(11), 1095-1123.
- Slack, N. (2005). Operations strategy: will it ever realize its potential?. *Gestão & Produção*, 12(3), 323-332.
- Smith, R. (2006). Dealing with Darwin: How great companies innovate at every phase of their evolution. *Research-Technology Management*, 49(3), 61.
- Tonelli, F., Taticchi, P., & Starnini, E. (2009,). A framework for evaluating product-service systems strategies. In N. E. Mastorakis, A. Croitoru, V. E. Balas, E. Son, & V. Mladenov (Eds.), *WSEAS International Conference. Proceedings* pp 265-270. *Recent Advances in Computer Engineering* (No. 10). WSEAS.
- Vandermerwe, S. and J. Rada (1988). "Servitization of business: Adding value by adding services." *European Management Journal* 6(4): 314-324.
- Voss, C., Tsikriktsis, N., & Frohlich, M. (2002). Case research in operations management. *International journal of operations & production management*, 22(2), 195-219.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal*, 5(2), 171-180.
- Wise, R. and Baumgartner, P. (1999), "Go downstream: the new profit imperative in manufacturing", *Harvard Business Review*, September/October, pp. 133-41.