



Figure 2.1: Resource and Capability Based View of the Firm (Source: Srivastava, 1995)

2.2.3 Knowledge based View

Knowledge based approach considers firms as bodies that generate, integrate and distribute knowledge for a better functioning of the organization (Grant, 1991). The ability to create value is not based as much upon physical or financial resources as on a set of intangible knowledge-based resources (Lopez, 2005). Firms that possess stocks of organizational knowledge associated with the creation of value that could be described as uncommon or idiosyncratic, had better chances of generating and sustaining high returns and sustainable competitive advantage. Knowledge is, therefore, considered as the key strategic asset for firms and a basic element of analysis. Research findings have supported the fact that the processes of generation, development and application of tacit knowledge is of great importance (Nonaka & Takeuchi, 1995).

Shrivastava (1995) emphasised the complementary nature of KBV and organizational learning. He argued that the part played by managers in their role as strategists and decision-makers (organization) is principally centred upon two knowledge-based business assets. Stocks of knowledge (both of a collective and individual nature), are resources possessed and controlled by the firm and to develop dynamic learning processes (collective and individual). There is growing evidence of the importance of knowledge, information and innovation. Organisations can achieve competitive advantage and this depends on employees' knowledge, experience, creative activity and qualification. This is also enhanced by continuous learning and research and development. (Senge, 2007).

3.0 CONCEPTUAL AND EMPERICAL RELATIONSHIP OF VARIABLES

Dynamic Capabilities and Technology Orientation

Zahra *et al.* (2006) argue that the mere existence of dynamic capabilities in an organization does not result in competitive advantages or high performance. The relationship results from the idea that dynamic

capabilities originate and define the organization's individual resource configuration, which shapes the organization's competitiveness and therefore performance. An organization usually adopts a particular orientation to address the external environment. Technology-oriented organizations change and shape the environment and are willing to commit resources to exploit uncertain opportunities. They explore new and creative ideas that may lead to changes in the marketplace and do so proactively ahead of the competition in anticipation of future demand. This kind of better adjustment and shaping of the environment should have positive effects on organization performance (Keh *et al.*, 2007).

Customers are unlikely to wish for things they are not aware of (Prahalad & Hamel 1991), therefore product differentiation from the competition or cost advantages in production can be achieved by developing new technologies and adapting existing ones (Gatignon & Xuereb 1997). This will address the issue of new entrants in the market. Zhu (2004) views e-commerce as higher-order capability that requires alignment among organizational factors, changing technology and business environments. Consistent with IT-related RBV literature, e-business serves as a resource enabler or catalyst that supports organizations in reconfiguring resources and capitalizing on opportunities to adapt to the fast-changing environment. Technology orientation implies that long term success and customer value is best created through new technological solutions, products and services or processes (Gatignon & Xuereb, 1997; Grinstein, 2008; Hamel & Prahalad, 1991). Berthon *et al.* (1999) describe a successful interlink between customers and technologies as the interact-mode. Gatignon and Xuereb (1997) further explained that product differentiation from the competition or cost advantages in production can be achieved by developing new technologies and adapting existing ones. Technological inventors actively develop and incorporate new technology in products, to aspire to a superior technological capability to their competitors and find customers that value the solutions they provide (Hakala & Kohtamäki, 2011)

4.0 RESEARCH AND KNOWLEDGE GAPS

4.1 Knowledge Gaps in Dynamic Capabilities

From the review of empirical literature, it is evident that few studies have addressed and used multidimensional constructs of dynamic capabilities. Most researchers have employed simple proxies or constructs for investigating organizations in general. Many empirical articles tend to use the theoretical perspective of dynamic capabilities only as an explanation approach and not as a model that can guide decision making process in the quest to achieve and sustain competitive advantage. Zahra *et al.*, (2006) concluded that dynamic capabilities framework involves various processes and has failed to provide clear

constructs. Teece *et al.* (1997) recommended further research and theoretical work on dynamic capabilities so as to tighten the framework. According to these authors, empirical research is critical in the understanding of how firms get to be good, how they sometimes stay that way, why and how they improve, and why they sometimes decline. The aspect of dynamic capabilities and how it can help a firm gain and sustain competitive advantage represent a clear research gap. Strategy should also be a battle for sustained development of the organization's organizational capabilities (Teece *et al.*, 1997) and not just a battle for strong market positions.

As an emerging area of research, several calls for how to develop a theory of dynamic capabilities have been issued. First, the concept of dynamic capabilities has been criticised for being tautological in nature and for not being operational (Mosakowski & McKelvey, 1997; Priem & Butler, 2000). Thus, this study follows recent calls for enhancing conceptual models of dynamic capabilities (Wang & Ahmed, 2007) by exploring possible antecedents of dynamic capabilities. Second, scholars agree that the field lacks empirical studies of new organizations (Zahra *et al.*, 2006), as new organizations are likely to have fewer initial resources to the development of dynamic capabilities. Third, research needs to frame micro-questions concerning of how and why managers use dynamic capabilities, what dynamic capabilities look like in organizations, and how they are deployed (Ambrosini & Bowman, 2009). Following this call an empirical study of the experience of managers in entrepreneurial organizations is necessary. Lastly, there is need to determining the moderating function of technology orientation in dynamic capabilities-performance relationship. Zahra (2007) points out that few studies relate dynamic capabilities to an organization's innovation hence a link to entrepreneurial aspect of strategic orientation. Thus the framework contains the context of dynamic capabilities, technology orientation in a rapidly changing environment and how an organization can achieve superior firm performance.

4.2 Conceptual Overview

Achieving superior performance in the face of dynamic environment is the main concern of an organizations. Rapid environmental changes (both external and internal) have led to most organisational failures as core competences and capabilities easily become obsolete. As a result, the concept of dynamic capabilities was coined so as to address these issues. Dynamic capabilities have been defined as an organization's ability to incorporate, build, and restructure internal and external competencies to address changing environments. Teece *et al.* (1997) categorized capabilities and competences into three. They are: processes (routines and practices), positions (endowments) and paths (past and future alternatives). They concluded that the framework encompassed organizational processes that are shaped by the firm's asset

positions and molded by its evolutionary paths (Strategic alternatives available to the firm and attractiveness of opportunities which lie ahead.

Organizational and managerial processes have three roles which are coordination, learning and reconfiguration. From the literature, it is evident that rapid technological advancements contribute to environmental dynamism. Therefore, an organization with a strong propensity to technology creation, adoption and use will outdo its rivals. Technology orientation implies that long term success and customer value is best created through new technological solutions, products and services or processes (Gatignon & Xuereb, 1997; Grinstein, 2008; Hamel & Prahalad, 1991). Technology orientation equally has a moderating effect of dynamic capabilities-competitive advantage relationship. The need to separate technology orientation and innovation constructs have been emphasised in literature. It is, therefore, important to study technology orientation concept and establish its relationship with dynamic capabilities. This will enhance a firm's ability to earn excess economic rents (Collis, 1994)

4.3 Conclusion

It is necessary to focus on the identification of dynamic capabilities in a rapidly changing environments for the existence of dynamic capabilities. An analysis of the most important definitions of dynamic capabilities reveals fundamental contradictions. Expanding the analysis to more articles leads to the identification of further inconsistencies will be important. Eisenhardt and Martin (2000) posit that dynamic capabilities are specific and identifiable processes and rather embedded in an organization's routines. Zollo and winter (2002) emphasise that they are a group of activities that can be analysed in a patterned way.

Researchers like Anand and Vassolo, (2002) tend to link the organization's possession of dynamic capabilities to organization success. If this is the case, it would mean that unsuccessful organizations do not have any dynamic capabilities and considers this understanding as unsatisfactory and tautological. Dynamic capabilities have often been criticized for being repetitive vague and not operational. Furthermore, while organizational performance has been a core issue in the research on dynamic capabilities the question of whether and how they affect performance is still open (Helfat *et al.*, 2007).

4.4 Implications of the Study

This literature review aimed at exploring the joint relationship between dynamic capabilities and technology orientation in determining superior organizational performance. This review will be of great interest to both academics and practitioners, particularly the top management teams. It is evident from the review of literature that dynamic capabilities have impact on organizational performance. Some studies explain the

indirect link between dynamic capabilities and firm performance indicating that they cannot in themselves is a source of sustainable competitive advantage; rather they contribute to the achievement of superior firm performance by combining and renewing functional competences which, in turn, affect performance. The identification of dynamic capabilities as processes that shape the firm's resource reservoir, addresses the tautology problem arising when they are directly related to firm performance. Therefore, managers should recognise the significant payoffs of building and developing dynamic capabilities.

Dynamic capability helps a firm transfer the benefits of operational capabilities from alliances partners to superior firm performance. Further, dynamic capability also effectively updates and renews a firm's operational capabilities that lead to an enhanced firm performance. Managers can use dynamic capabilities as tools to manipulate, integrate and recombine their firms' functional and organizational competences and resources in achieving and sustaining competitive advantage. The need to tighten the dynamic capabilities framework as a basis for extensive empirical research in strategic management has been addressed in this review as it shows a joint relationship with technology orientation in achieving high performance. This will enhance the delineation of dynamic capabilities construct in academics and research particularly in the quest of analyzing the sources and methods of wealth creation and capture by firms operating in environments of rapid technological change as recommended by Teece *et al.*, (1997)

REFERENCES

- Antoniou, P. H. & Ansoff, I. (2004). Strategic management of technology. *Technology Analysis & Strategic Management*, 16(2): 275-291.
- Ambrosini, V., Bowman, C. & Collier, N. (2009). Dynamic capabilities: an exploration of how firms renew their resource. *British Journal of Management*, 20(1), 34-39.
- Amit, R. & Schoemaker, P.J.H. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33-46.
- Anand, J. & Vassolo, R.S. (2002). *An examination of dynamic capabilities: Is evolutionary theory under-determined*. Paper presented at the Annual Conference of the Strategic Management Society 2002 in Paris.
- Barney, J.B. (1991). Organization resources and sustained competitive advantage. *Journal of Management*, 17 (1), 99-121.
- Berthon, P., Hulbert, J. and Pitt, L. (1999). 'To serve or create? Strategic orientations toward customers and innovation'. *California Management Review*, 42, 37-58.
- Collis, D.J. (1994). How valuable are organizational capabilities? *Strategic Management Journal*, Winter Special Issue 15, 143-152.
- Damanpour, F. (1991). Organizational innovation: a meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34(3), 555-590.

- Eisenhardt, K.M. & Martin, J. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10-11), 1105-1121.
- Gatignon, H. and Xuereb, J.-M. (1997). 'Strategic orientation of the firm and new product performance'. *Journal of Marketing*, 34, 77-90.
- Grant, R.M. (1996), "Toward a knowledge-based theory of the firm", *Strategic Management Journal*, 17 (4), 109-122.
- Grinstein (2008). The relationships between market orientation and alternative strategic orientations", *European Journal of Marketing*, 42 (2), 115-134.
- Hakala, H. & Kohtamäki, M. (2011). Configurations of entrepreneurial- customer- and technology orientation: Differences in learning and performance of software companies. *Forthcoming in International Journal of Entrepreneurial Behaviour and Research*, 17, 1.
- Halac, D.S. (2015) Multidimensional Construct of Technology Orientation. *Procedia - Social and Behavioral Sciences*, 195, 1057 – 1065
- Helfat, C.E. (1997). Know-how and asset complementarity and dynamic capability accumulation. *Strategic Management Journal*, 18(5), 339-360.
- Helfat, C.E. & Raubitschek, R.S. (2007). Product sequencing: Co-evolution of knowledge, capabilities and products. *Strategic Management Journal Special Issue* 21(10- 11), 961-979.
- Helfat, C.E. & Peteraf, M.A. (2003). The dynamic resource-based view: capability lifecycles. *Strategic Management Journal*, 24 (10), 997-1010.
- Helfat, C.E., Finkelstein, S., Mitchell, W., Peteraf, M.A., Singh, H., Teece, D.J. & Winter, S.G. (2007). Dynamic capabilities: Foundations. In *Dynamic Capabilities: Understanding Strategic Change in Organization*. Blackwell Publishing: Malden MA; 1-18.
- Keh, H.T., Nguyen, T.T.M. & Ng, H.P. (2007). The Effects of Entrepreneurial Orientation and Marketing Information on the Performance of SMEs. *Journal of Business Venturing*. 22 (4), 592-611.
- March, J. G. (1991), Exploration and Exploitation in Organizational Learning. *Organization Science*, 2, (1), 71-87
- Mahoney, J. 1995. "The Management of Resources and the Resources of Management," *Journal of Business Research*, 33(2), 91- 101
- Morone, J. (1989). Strategic use of technology. *California Management Review*, 31(4), 91-110.
- Nonaka, I. and Takeuchi, H. (1995), *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*, Oxford University Press, New York, NY.
- Porter, M.E. (1991). Toward a dynamic theory of strategy. *Strategic Management Journal* 12, 95-117.
- Powell, T.C. & Dent-Micallef, A. (1997). Information technology as competitive advantage: the role of human, business and technology resources. *Strategic Management Journal*, 8(5), 375-405.
- Prahalad, C.K. and Hamel, G. (1990), "The core competence of the corporation", *Harvard Business Review*, 68 (3), 79-91.
- Priem, R.L. and Butler, J.E. (2001), "Is the resource-based view a useful perspective for strategic management research", *Academy of Management Review*, 26 (1), 22-40.
- Qiang Wu Qile He Yanqing Duan, (2013),"Explicating dynamic capabilities for corporate sustainability", *EuroMed Journal of Business*, 8(3), 255 - 272
- Shrivastava, P. (1995), "Environmental technologies and competitive advantage", *Strategic Management Journal*, 16, Special issue, 183-200.
- Senge, M.P. (1990), *The fifth discipline: The art and practice of the learning organization*, Doubleday Currency, New York, NY.
- Teece, D.J., Pisano, G.P. & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, 18(7), 509-533.
- Teece, D.J. (2007). Explicating dynamic capabilities: the nature and micro-foundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13): 1319-50.
- Van de Ven, A.H. (1986). Central problems in the management of innovation. *Management Science*, 32 (5), 590-607.

- Voudouris, I., Lioukas, S., Latrelli, M. & Caloghirou, Y. (2012). Effectiveness of technology investment: Impact of internal technological capability, networking and investment's strategic importance. *Technovation*, 32: 400-414.
- Wang, C.L. and Ahmed, P.K. (2007), "Dynamic capabilities: a review and research agenda", *International Journal of Management Reviews*, (9), 1, 31-51.
- Wernerfelt, B. (1984). A resource-based view of the organization. *Strategic Management Journal*, 5 (2), 171- 80.
- Zahra, S., Sapienza, H. & Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: a review, model and research agenda, *Journal of Management Studies*, 43, 917-955.
- Zahra, S.A. & George, G. (2002), Absorptive capacity: a review, reconceptualization, and extension. *Academy of Management Review*, 27 (2), 85-203.
- Zander, U. & Kogut, B. (1995). *Knowledge and the speed of the transfer and imitation of organizational capabilities: an empirical test*, *Organization Science*, 6 (1), 76-92.
- Zhu, K. (2004). The Complementarity of Information Technology Infrastructure and E- Commerce Capability: A Resource-Based Assessment of their Business Value, *Journal of Management Information Systems* (21:1), 167-202.
- Zollo, M., & Winter, S.G. (2002). *Deliberate Learning and the Evolution of Dynamic Capabilities*, *Organization Science*, 13(3), 339-351.

