

Strategic Sensitivity and Innovative Capabilities of Software Development Companies in South-South, Nigeria

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ABSTRACT

This work tends to review the issues of strategic sensitivity and innovative capability among software development companies in South-South, Nigeria. Innovative capability is defined as the holistic, comprehensive, and all-encompassing ability of an entire organization to respond to changes in the business environment with actions that deliver real value to the organization. Strategic sensitivity describes organizations' scanning ability and knowledge development about its context, the internal assessment of its capacities and its alignment of functions and behavior in a manner that advances it towards its goals and objectives. The issue that this work intends to address is the negligence that is given to the contextual business issues which has led to loss of sensitive data, disruption of work, damage to the brand image, and company reputation. Findings revealed that strategic sensitivity relates with innovative capability among software development companies in south-south, Nigeria. The study concludes that for an organization to be able to stay relevant; such a firm must ensure that its operations efficiency, management capability and personnel must be competent to allow for the organization to be able to achieve its goals and objectives. Therefore, we recommend that software development companies should have the right staff with the proper skills and competencies if they will want to stay relevant in the software development industry. Also modern management styles and operational techniques must be put in place for a better and sustainable advantage.

KEYWORDS: *strategic sensitivity, operational efficiency, personnel competency, management capability*

1. INTRODUCTION:

With rapid changes happening presently in both domestic and international market, and the issue of competitions with its impact on the survivability of software development companies across the globe; software development companies need to have the innovation capability to create superior products and services from its rivals. Furthermore, with such new changing global economy, software development companies cannot exist without developing some sort of innovative capabilities if they want to enjoy competitive advantage above their rivals or enhance their level of competitiveness among firms in the same industry. If the objectives of being sensitive to new products features, service and process must be attained, software development companies must

develop different strategic agility or be sensitive to the various strategies that could ensure goals achievement by promoting its innovative capability; which will in the long run foster corporate goal attainments without neglecting the individual employee's expectations in this time of innovative needs.

The concept of innovation is gaining ground on a daily basis; innovation capability plays a significant role in present day business. As a result of such a situation, companies continue to operate in such industries where customers' tastes, product-service technologies, and competitive weapons often change unpredictably. To be successful and to obtain stability in performance, companies should therefore not only

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seek new opportunities but also be highly sensitive to innovations (Tajeddini, Trueman& Larsen, 2006). As innovation is considered as a key driver for long-term success for firms in today's competitive markets (Darroch&McNaughton, 2002). Hence, businesses with the capacity to innovate are able to respond to market challenges faster and better than non-innovative companies (Calvo-Porrall, Medín, &Losada-Lopez, 2017).

That is why the right kind of innovation and investments in new technologies and strategies would not only help software development companies in providing improvement in their productivity but also in their general performance and growth (Wolf, Beck &Pahlke, 2012; Stiglitz, 2010).it is along this line that innovative capabilities is define as the holistic, comprehensive, and all-encompassing ability of an entire organization to respond to changes in the business environment with actions that deliver real value to the organization (Stiglitz, 2010). From the definition it will be observed that Other than enjoying lower cost and increasing productivity, innovative firms should be capable of introducing or improving products or processes; define and redefined the firm or products positioning in a new market place (Darroch& McNaughton, 2002)

On the other hand, the business environment today is such that imposes and pushes for change and competition. Organizations are forced to compete in order to survive. Beal (2000) observe that in competing, most organizations fail to link their plans and structures with the emerging features and dynamics of their own context (strategic sensitivity). This observation is reiterated by Hitt, Ireland and Hoskisson (2016) observing that one of the major reasons organizations fail, especially within the service sector, is their inability to anchor strategies on the underlying contextual values and expectations that have overtime crystallized into realities of the context – which, according to Jain and Moreno (2015) is imperative in establishing and advancing a more effective market stance and approach – thus advancing a more effective competitive position in the market.

Zhao, Flynn and Roth (2006) argued that to stand out within the context of today's market, there is the need for organizations to (a) learn and understand the unique features and attributes that define their environment, (b) identify their own internal capacities and strengths, and (c) effectively align and adjust their structures, systems and functions to match and address the changes in their environment. Torchia and Calbro (2011) noted that strategic sensitivity is as

such a two-way process that starts from the environment, matching the features of the organization with the gaps in the environment – implying considerations of workers skills, technology and organizational competence as being a major concern for competitiveness.

Strategic sensitivity describes an organization scanning ability and knowledge development about its context, the internal assessment of its capacities and its alignment of functions and behavior in a manner that advances it towards its goals and objectives. Pulaj&Pulaj (2015) opined that strategic sensitivity can be futuristic as well as focused on the present functions of the organization. Primarily, it is concerned with planning the best course of action based on learning and the predictions of the future – hence, its concerns are based on addressing the uncertainties of the environment. The issue that this works intends to address is the negligence that is given to the contextual issues which has led to lose of sensitive data, disruption of work, damage to the brand image, and company reputation.

It is in pursuit of an understanding of how to improve innovative capability in the software development companies in the south-south, Nigeria that this paper seeks to examine different strategic sensitivity issue that can help improve software development among companies in south-south, Nigeria. The study has as an objective to determine how companies learning of the business environment foster innovation capability among software development companies in south-south, Nigeria. Even though there are indications that strategic sensitivity is important to a firm, prior review on strategic sensitivity does not provide conclusive evidence regarding its relationship with innovative capability. Rather, there were conflicting results that link between the two variables.

1.1. Theoretical Foundation

A theoretical foundation or framework is lens from which knowledge are constructed either metaphorically or literally for a research study. It serves as a structure and support or as the rational for the study. In search of theories of strategic sensitivity and innovative capability a number of theories have been raised. This study looks at organizational learning theory. The organizational learning theory maintain thatto remain viable in an environment characterized by uncertainty and change, organizations and individuals alike depend upon an ability to learn. As yesterday's knowledge and skills are vulnerable to obsolescence, and future success requires flexibility, responsiveness and new capabilities.

1.2. Innovative Capability

There are various definitions of innovation capability in literature. Browsing from previous articles, some researchers used the term innovation capability to refer to innovation or innovative organization or innovativeness. The difference found exists only in term of different sets of measurement approaches (Kumar & Che Rose, 2010). Innovation capability is the ability of a firm to transform an idea into a something new which carries an economic value. Value is something that is relatively worth and which determines wealth creation. The economic value would then increase profit and consequently firm performance. According to Ngah and Ibrahim (2011) innovation capability refers to a firm's ability to generate knowledge in the form of intellectual property such as a pattern. Laforet (2011) refers to innovation capability as availability of resources, collaborative structure and process to solve problems. While we look at innovation capability from personnel competence, operational efficiency and management capability.

Personnel Competency

Software development companies need to develop new and special abilities and capacities for exploitation of new environmental opportunities. This is because the firms which show more potential for exploitation of new ideas are said to possess more innovation capability compared with competitors. So, the first step in the innovation process is finding, considering, and establishing innovation opportunities in personnel capabilities for the organization (Lichtenthaler & Ernst, 2012). Personnel capabilities encompasses the traditional scope of professional development (skills-based training, knowledge-based education, and experience), but also incorporates other aspects including relationships, mandate and direction, tools and work environment, time, motivation and the previously acquired knowledge and skills the person brings to their role. In essence, capability development is a broad and comprehensive approach to growing and developing people to ensure they are effective in their roles.

Operations efficiency

Operational abilities are the "secret ingredients" in explaining the development and maintenance of competitive advantage (Zhang, Vonderembse, & Lim, 2003). However, they are often overlooked because they are tightly embedded in the organizational fabric of an operations system. Operational innovation is a distinguished set of skills, processes, and routines for radically improving existing operations processes or creating and implementing new and unique operations processes. This is because operational improvement

builds upon existing organizational abilities; it is unlikely to lead to innovations that significantly depart from existing technological or market competencies. Operational efficiency can be looked from operational corporation, operational responsiveness, and operational reconfiguration

Operational Corporation refers to the ability to coordinate between manufacturing and the product-process design function. This is part of a broader operational capability includes the ability to create and sustain healthy relationships with supply chain members and relates to sourcing products. Operational responsiveness is the differentiated skills, processes, and routines for reacting quickly and easily to changes in input and output requirements so that a process can consistently meet customer requirements with little time or cost penalty (Zhang, Vonderembse, & Lim, 2003). Operational reconfiguration focuses on reshaping (investing and divesting) operations resources to catch up with environmental changes. Operational reconfiguration is based on the concept of dynamic capabilities (Teece 2007).

Management capability

Management capabilities refer to the capabilities with which managers construct, integrate, and reconfigure the organization's resources and competences (Adner & Helfat, 2003). A managerial capability refers to the management capacities, expertise, and processes in the custody of firms that are drawn to execute programs and activities to achieve superior performance. An organization's management capabilities are crucial to achieving congruence among its competences and the changing conditions of its environment (Kor and Mesko, 2013). Managerial capabilities combine greater technical, human, and conceptual abilities to construct, integrate, and reconfigure the organization's resources and competences (Adner & Helfat, 2003). Kor and Mesko (2013) show that management capabilities contribute to establishing a dominant logic in the firm that takes concrete form in routines, procedures, and capabilities that influence implementation of strategies and the search for new options for growth and innovation. These capabilities enable top management teams to face their environment, improve organizational performance, and maintain and create competitive advantages (Carmeli & Tishler, 2004).

1.3. Strategic Sensitivity

Strategic sensitivity describes an organization's scanning ability and knowledge development about its context, the internal assessment of its capacities and its alignment of functions and behavior in a manner that advances it towards its goals and objectives. Pulaj & Pulaj (2015) opined that strategic

sensitivity can be futuristic as well as focused on the present functions of the organization. Primarily, it is concerned with planning the best course of action based on learning and the predictions of the future; hence, its concerns are based on addressing the uncertainties of the environment. Yarmohammadian, Alavi, Ahmadi, Fatemi and Moghadasi (2016) argued that one of the ways organizations can stay ahead and sustain their effectiveness is by building capacities that are futuristic in nature; thus, availing trend setting services that in turn define the market competitiveness. As market competitiveness describes the extent to which the organization is aggressive in driving for its own success and goals (Vickery and Droge, 2007).

Abiodun, (2009) proposed a set of strategic sensitivity variables that are applicable at the business level. They are aggressiveness, analysis, defensiveness, futurity, proactiveness, and riskiness. Aggressiveness dimension measures the business ability to engage organizational resources in executing aggressive strategies and the pursuit of increased market share as a means to achieving business unit profitability (Abiodun, 2009). Analysis refers to the ability to investigate deeply into the foundational causes of problems and develop the best alternative solution as a way of problem-solving. Defensiveness reflects firms emphasizes on defense strategies over its core technology and product-market domain through the use of cost minimization and techniques that achieve operational efficiency. Futurity is the extent to which decisions that relate to possible future occurrences are seriously engaged. Proactiveness reflects the firm's constant engagement in the search for new market opportunities, the mover in the introduction of new products, while old products are strategically withdrawn from markets (Chang *et al*, 2002).

2. Strategic Sensitivity and Innovative Capabilities

Mavengere (2013) in his work on information technology role in supply chain's strategic agility in the University of Tampere, Finland. Strategic agility is a business imperative especially in a competitive business environment. Strategic agility has main dimensions as strategic sensitivity, strategic response and collective capabilities. Information technology (IT) is of immense importance in enhancing strategic agility especially in supply chain setting. This study notes strategic agility dimensions and thereby highlights IT services required to promote strategic agility. Moreover, a conceptual model of strategic agility in supply chain environment is developed in order to define the precise role of IT to enhance strategic agility. The findings confirm the different

roles IT plays to promote strategic agility in different parts of the supply chain. In the supply chain downstream, IT that promotes strategic sensitivity is most essential, and in the supply chain upstream, IT that promotes strategic response is most essential. There is also need for IT that promotes collective capabilities throughout the whole chain. Strategic sensitivity is further classified as strategic foresight and strategic insight.

SudarmaN, Kartini, Helmi&Dewi(2021) study the effect of managerial capabilities, strategic alliance and strategic innovation on product lifecycle management: A case study in Indonesia. The purpose of this study was to examine the effect of managerial capabilities, strategic alliance and strategic innovation on product lifecycle management and corporate performance is moderated by the social media in RTD tea companies. The research method used in this research is a quantitative approach with data processing using SemPls. The results showed that the Managerial Capabilities variable did not have a significant effect on Marketing Performance, the Managerial Capabilities variable did not have a significant effect on Product Lifecycle Management, the Product Lifecycle Management variable had a significant effect on Marketing Performance, the Social Media variable was proven to mediate PLM Marketing Performance, the Strategic Alliance variable did not have a significant effect on Marketing Performance. The Strategic Alliance variable had no significant effect on Product Lifecycle Management, the Strategic Innovation variable had a significant effect on Marketing Performance, and the Strategic Innovation variable had a significant effect on Product Lifecycle Management. Strategic innovation is an innovation that is able to support the company's efforts and strategies in achieving company goals. Strategic innovation that transforms existing businesses into new businesses and has a major impact on the company's marketing performance (Kodama, 2018). The strategic innovation model framework developed by Schlegelmilch *et al*. (2003) shows that strategic innovation has the ability to increase the value of a company's products and services and as a result the company is able to remain in competition (Dogan, 2017). Innovative business processes and activities that support the direction of company goals have an impact on the company's marketing performance (Kalay& Lynn, 2015; Laban &Deya, 2019; Lilly &Juma, 2014).

Adna&Sukoco(2020). Managerial cognitive capabilities, organizational capacity for change, and performance: The moderating effect of social capital.

The aim of this study is to analyze the role of organizational capacity for change as a mediator between managerial cognitive capabilities with organizational performance. Further, we investigate the moderating role of social capital on the influence of organizational capacity for change on organizational performance. We surveyed middle managers and their immediate followers (supervisor level) in the Directorate General of State Asset (DGSA), Ministry of Finance, Republic of Indonesia. Overall, 313 middle managers and their followers participated in this study. The results demonstrate that organizational capacity for change mediate the influence of managerial cognitive capabilities on organizational performance. In addition, there is no significant moderating effect of social capital on the influence of organizational capacity for change on organizational performance. Theoretical and managerial implications are further presented in this study. Business activities cannot be separated from linkages with external parties. Linkages with other parties can be made through cooperation agreements or strategic alliances, namely alliances that are in line with the company's strategy, so that they can support the achievement of company goals. Strategic alliances lead to agreements among companies to pursue common goals through a coordinated effort and through sharing of resources. This cooperation agreement can create new opportunities, entrepreneurial and innovative capabilities, and social capital (Kalay& Lynn, 2015). A research study conducted by Kalay and Lynn, (2015) also showed that strategic alliances can improve a company's marketing performance.

Future Studies

Despite the indication that strategic sensitivity is important for firms to develop its innovative capability, there were no agreement between scholars that strategic sensitivity will determine companies innovative capability; thus creating a gap between both variables. Future studies may look into many raised issues and questions pertaining to their relationship which researchers may wish to investigate further. Researchers may explore mediating variables that are assumed have effect on innovative capability such as firm age, organizational culture.

Conclusion and Recommendations

Based on the findings of the work, we conclude that indeed strategic sensitivity impacts innovative capability in software development companies in Nigeria. As such, we recommend that

1. software development companies in the south-south, Nigeria and other related companies should

ensure that they take a closer look at software development companies' operations efficiency in other countries and copy from them as that will ensure growth of the industry in the south-south, Nigeria.

2. Furthermore, software development companies in south-south, Nigeria must ensure that the collaborate with sisters firms in other parts of Nigeria to understand the modern practices as this will facilitate the ultimate achievement of its corporate growth.
3. The body in charge of information technology companies must emphases why companies under its operation most embrace modern ways of doing things in the industry as this will enhance uniformity and conformity in the industry which will in turn ensure sustainability in form of the right skills and personnel availability.

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