



STRATEGIC INFORMATION SYSTEM CAPABILITIES AS PANACEA TO ORGANIZATIONAL COMPETITIVENESS: A LITERATURE REVIEW

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ABSTRACT

The Information era has imposed so many revolutions. This study aims to investigate the direct and indirect effects of strategic Information Systems (IS) capability on organization's competitiveness through its contribution on the effectiveness and efficiency of strategic design process. Mixed triangulation approach has been used by combining both qualitative and quantitative analysis to explore and empirical examine the research model. The literature review indicate that: (1) the strategic Information System (IS) capability positively affect the effectiveness and efficiency of strategic design process; (2) the strategic IS capability positively impact organization's competitiveness through affecting strategic design positively.

Keywords: *Strategic Information System, Information System Capability, Strategic Design, Strategic/ Information System Alignment, Organization Competitiveness.*

INTRODUCTION

Information has emerged as an agent of integration and the enabler of new competitiveness for today's organizations in such dynamic global marketplace (Hemmatfar et al., 2010). Business trends in the organizations of the 21st century have emerged around supplier and customer relationships, global communications, knowledge management, competitive intelligence, social innovation and networking based on the Information Systems' (IS) innovation (Yang et al., 2015). During the last two decades, there has been a growing

realization of the need to make ISs of strategic importance to an organization. Strategic ISs (SIS) “are systems that support or shape a business unit’s competitive strategy and it is characterized by its ability to significantly change the manner in which business is conducted, in order to give the corporate strategic competitive advantage” (Hemmatfar et al., 2010). In this study, the meaning of utilizing IS strategically in strategic design is about the ability of top management teams to acquire and process strategically relevant information about organization and its environment that can assist them in designing competitive strategies for building up and sustaining its competitiveness.

It has been realized that the lack of strategic alignment between Information System (IS) and organizational strategies has been frequently reported as an important problem in surveys of business executives and IT managers. Especially, the gap between IT and business strategies has been frequently reported in developing countries (Jorfi et al., 2017). Hence, for the purpose of this study to enhance the strategic role of Information System (IS) in the enhancement of organizational competitiveness, the researcher developed a model proposing a positive relationship between three constructs: strategic IS capability as an independent variable, strategic design as a mediating variable and organization’s competitiveness as a dependent variable.

According to MacKinnon et al. (2008), the integration of information systems and technology with key business processes in particular strategic design process allows firms to rapidly adapt to changing requirements and exploit emerging markets. Specifically, Strategic ISs (SIS) assist in making timely business decisions and designing competitive strategies for the organization’s future to retain and extend its competitiveness (Lau & Pun, 2000).

LITERATURE REVIEW

Strategic Information System

Many business leaders and strategy scholars agree that the ability to effectively manage information and knowledge within an organization has become critically important and provides a basis of a competitive advantage (Yoon, 2011). The strategic management discipline has long sought to elicit the sources of sustainable competitive advantage and there is a significant body of research focusing on this objective and so Information System (IS) management field has exerted great efforts in the same direction, there are recent researches arguing that Information Technology (IT) alone is unlikely to be a source of

sustainable competitive advantage as it is easily to be replicated by competitors (Peppard & Ward, 2004). Hence, Strategic IS capability pioneers the beginning of a new era of IS management, in which organizations can continuously derive and leverage value through Information Systems (IS) that is implicitly embedded within the fabric of the organization (Khani et al., 2011).

According to Stoel & Muhanna (2009), Strategic Information System (IS) capability is “a complex group of IT-related resources, knowledge and skills practiced through organizational processes and empower the organization to utilize IS/IT assets for desired objectives. In short, the IS capability is embedded within the fabric of the organization”.

Strategic Design

Alongside with the late 1990s forward thinkers in academia and industry have identified the role of design at strategic creation for enhancing the organization’s strategic goals through vision leadership (Holland & Lam, 2014). This line of thought goes back to “design school” proposed by Mintzberg (1990), one of the schools of thoughts on strategy proposes a simple model that views the process as one of design to achieve an essential strategic fit between external threats and opportunities and internal distinctive competences. According to Montuori (2003) strategic design defined as “a journey of creation. It is a journey toward a desired future state, which we define for ourselves and want to realize”.

Strategic design is an analytical ongoing process that assesses the business and its environment and due to high level of uncertainty and ambiguity of this process, it requires using broad organizational knowledge and strategic information (Meroni, 2008; Nooriaiee & Pour, 2013). Recently, it has been widely realized in literature that the collaboration of internal and external stakeholders from the early beginning has emerged as a new necessity for successful strategic design. Holland & Lam (2014) clarified how strategic design is about using design management to drive corporate strategic goals. They argue that it creates vision and integrates and orchestrates collaboration across disciplines in order to deliver real value to all stakeholders through creative solutions to business, social and environmental problems.

Business strategy and strategic information system are inextricably linked. The strategic information that executives needs for designing strategies is based on abroad range of strategic ISs such as ERP, CRM, SCM and Business

Intelligence (BI) that process data related to the organization and its environment. Strategic ISs are very useful for preparing and interpreting strategic information for being used at process of developing useful organizational strategies (Nooriaiee & Pour, 2013). In addition, Shujahat et al. (2017) developed a strategic model based on lens of knowledge management and competitive intelligence coordination, arguing that both are effective tools to assess the current and potential internal and external environment.

Hence, the potential contributions of different strategic ISs throughout the strategic design process have been widely recognized in literature, and can be summarized as:

1. Provision to real-time, precise and interactive information about market and business performance.
2. Scanning, extracting, forecasting and disseminating strategic knowledge about market demand, customer preferences and other external market environmental trends such as emerging opportunities and critical trends.
3. Facilities collaboration and involvement of external and internal stakeholders as a way to reach a shared mental representations and commonly interpretations.

Organization's Competitiveness

Organization's competitiveness is a complex and multi-dimensional concept that should be analyzed in a continuous dynamics (Radu & Popesu, 2011). In today's information intensive business environment, dynamic capabilities, flexibility, and adaptability are becoming more important sources of competitiveness (Ajitabh & Momaya, 2004; Ahmad & Schroeder, 2011). Lii & Kuo (2016) used a comprehensive approach and defined organization's competitiveness as "a manufacturer's capacity to provide superior quality, delivery, and flexibility at a low cost"; they divide competitiveness into capability indicators and firm performance. Such comprehensive approach has been used by the researcher as a basis for measuring organization's competitiveness construct.

Strategic Information System and Organizational Competitiveness

For several decades, the alignment of IT and business strategy has been among the top concerns of the business leaders for improving their organizational performance. Chan et al. (2006) defined Strategic information systems alignment, as the degree to which the mission, objectives and plans contained

in the business strategy are shared and supported by IS strategy. As cited in Jorfi et al. (2017), the strategic alignment between IT and business refers to applying IT in an appropriate and timely manner, in harmony with business strategies, goals and needs.

Chang (2011) developed a Coordination Strategy IS Framework, arguing that the well designed strategic information systems play an important role to enhance the flow of precise strategic information involved in the designing process through scanning, analyzing, storing and communicating the information within the organization in a particular format that assist business managers in designing their strategies.

Numbers of models have been developed using “content approach” to examine the impact of strategic Information system and business strategy orientations alignment on perceived business performance such as Chan et al. (1997), Sabherwal & Chan (2001), and Chan et al. (2006), and It has been concluded that the alignment between strategic IS and Business strategy orientations have positive impact on business performance. While in this study the researcher used the “process approach” for examining the relationship of strategic IS and strategic design process on organization’s competitiveness.

Conclusion

According to the literature reviewed, it has been found that the extent to which strategic IS capabilities contribute in effectiveness and efficiency of strategic design process affect positively the organization’s competitiveness, through:

1. Acquiring, analyzing and disseminating real-time, precise, relevant strategic knowledge and competitive intelligence for decision makers.
2. Extracting, discovering and estimating strategic knowledge about external market environmental trends such as emerging opportunities and critical trends.
3. Clarifying and communicating the strategic vision, mission, objectives and strategies within and outside the organization.
4. Facilitate collaboration and involvement of internal and external stakeholders

In addition, the research model has been proved to be useful in explaining the relationship or chain of events that leads to the final organization’s competitiveness based on the significant paths between “Internal Information system capability” and “External Information system capability” and ‘Strategic Design”.

Proposed Research Model

According to the literature gap analysis and research objectives, an empirical research model has been developed proposing a positive relationship between three main constructs: Independent variable (strategic IS capability), mediating variable (strategic design) and dependent variable (organization's competitiveness) (Figure 1).

First, Strategic IS capability was measured by the measurement developed by Stoel & Muhanna (2009), it has been classified into two main categories (Internally and externally focused IS capabilities). Internally-focused IS capability sub-divided into (IS Infrastructure, IS business partnerships, IS knowledge and technical skills). Externally-focused IS capabilities classified into external relationship management and competitive intelligence.

Second, It has been widely recognized that the most common and basic attributes for successful strategic design process are being future-oriented through developing business vision and mission, conducting ongoing environmental scanning, analyzing and choosing the best fit business strategies and involving and collaborating internal and external stakeholders from the early beginning. Thus, according to the categorization explored by Acur and Englyst (2006), Friedel and Liedtka (2008), Meroni (2008) and Kağan and Kurtb (2016), Strategic design construct was measured in terms of the four main attributes: future-orientation, environmental scanning, strategic choice, and collaboration.

Finally, Organization's competitiveness was measured by a multi-dimensional scale developed by Lii and Kuo (2016); the scale combined the competitive qualitative capabilities (quality, convenience, flexibility, innovation and cost) and firm performance quantitative indicators (market share, sales growth and total sales).

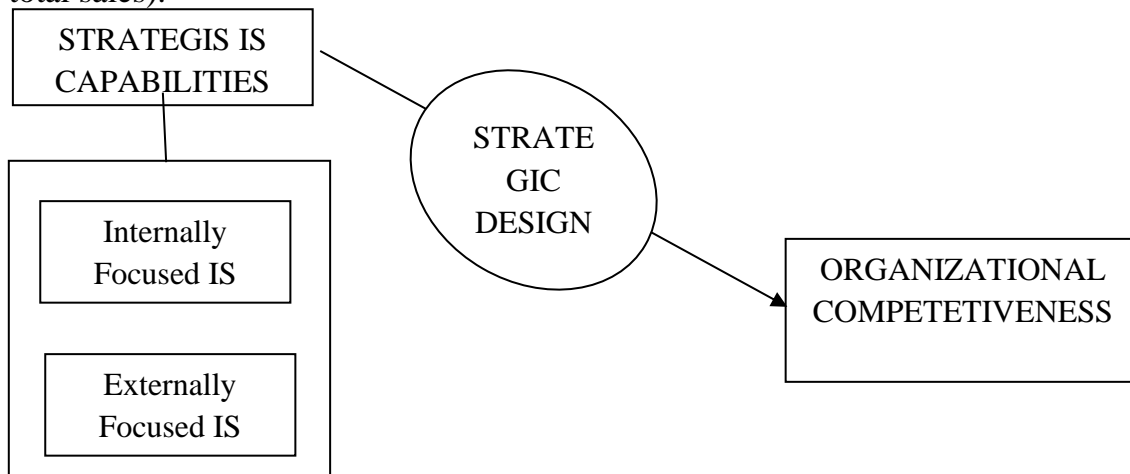


Fig. 1: Research Model for Strategic Capabilities and Organizational Competitiveness

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