

A Conceptual Model for Business and Information Technology Strategic Alignment from the Perspective of Small and Medium Enterprises

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Abstract

Small and Medium Enterprises (SMEs) play a significant role in the economy, especially in poverty relief, job creation, and economic growth. To effectively improve the competitiveness and performance of SMEs, the adoption of Information Technology (IT) should be aligned with their business objectives. Despite the importance of the IT-business strategic alignment, past researches are concentrated on large organizations in the developed nations. Up to date, there is dearth of researches undertaken on SMEs, particularly in developing nations. Though voluminous strategic alignment models are available for large organizations, the inherent differences between SMEs and large organizations make these models irrelevant to SMEs. Thus, this study aims to propose a conceptual IT-business strategic alignment model for SMEs operating in Saudi Arabia. The proposed model is expected to serve as the stepping stone for the future researches to design more effective strategic alignment approaches for SMEs.

Keywords: Information Technology Strategy, Business Strategy, Strategic Alignment, SMEs, Organization, Culture, Saudi Arabia

1. Introduction

Information technology (IT) has long been recognized as one of the most critical factors for an organization to increase its efficiency (Henderson & Venkatraman, 1993), competitiveness (Kalkan, Erdil, & Çetinkaya, 2011; Peppard, 2010), and innovation (Kalkan et al., 2011; Luftman, 2003). However, merely investing in the state of the art IT cannot ensure the realization of these benefits to an organization (Hussin & Suhaimi, 2011, p. 43). Rather, past researches have indicated that only if the IT strategy has been properly aligned with the business strategy of an organization, then the competitive advantages can be materialized (Almajali & Dahalin, 2011; Luftman, Papp, & Brier, 1999), and hence the performance of the business can be uplifted (Chan, Sabherwal, & Thatcher, 2006; Croteau & Bergeron, 2001; Raymond & Bergeron, 2008; Tallon, 2007a).

Having acknowledged the importance of the IT-business strategic alignment for the performance of an organization, the notion has received a renewed attention among both academicians and practitioners during the last two decades. In fact, it has been continuously ranked as one of the most important issues faced by IT executives (Luftman & Ben-Zvi, 2011). As a result, researches on both models and effects of the IT-business strategic alignment have flourished. However, most of these studies have focused on the large organizations, particularly in the developed countries. In contrast, only trivial attention has been given to SMEs on the subject (Levy & Powell, 2003; Silvius, 2009).

It has been well acknowledged that SMEs play a significant role in the economies of both developing and developed world, especially in galvanizing the economy, creating jobs, fostering innovation, and spurring economic growth (Adaileh, 2012; Ahmad, 2012; European Commission, 2005; OECD, 2009; Sharma, 2011). Just like other parts of the world, SMEs in Saudi Arabia have also played a pivotal role in the job creation and economic growth. As Zawya (2012) revealed, Saudi SMEs currently account for nearly one fourth of the country's GDP, 63% of the employment, and 98% of all enterprises.

In wake of the intensified competition along the globalization, the growth of SMEs has been significantly constrained by various forms of resources poverty, for instance the lack of skilled human capital, financial capital, valuable market information, and so forth (Levy, Powell, & Yetton, 2011; Sadi & Henderson, 2011; Saptadi et al., 2012). Given that the IT-business strategic alignment can help an organization to achieve efficiency and better performance, the success of SMEs significantly depends on how well their IT investments are aligned with their business strategies.

Despite the significance of the IT-business strategic alignment, up to date, there is dearth of researches undertaken to develop a specific alignment model to fulfil the needs of SMEs. Although there have been numerous alignment models for large organizations, the inherent differences between SMEs and large organizations may result in the ineffectiveness of these models in the context of SMEs (Bili & Raymond, 1993). Therefore, in order to improve the efficiency and competitiveness of SMEs in the Kingdom of Saudi Arabia and hence to materialize their full potential in the growth of the economy, an effective strategic alignment model is foremost crucial. In order to achieve this noble objective, this study has aimed to structure a strategic alignment model for Saudi SMEs. Prior to this, a thorough literature review has been undertaken to scrutinize the existing studies pertaining to the IT-business strategic alignment.

2. Literature Review

In this section, a thorough review has been undertaken on the past IT-business strategic alignment literature. Having acknowledged that the primary objective of this study is to design an IT-business strategic alignment model for Saudi SMEs, this literature review has focused on the researches pertinent to the strategic alignment in this context. In particular, this review has focused on six major themes: the importance of SMEs, the challenges faced by SMEs, the application of IT in SMEs, the differences between SMEs and large organizations, the major alignment models, and the influence of the organizational culture. By doing so, this review is expected to help one to identify the research gap in the subject, and hence to justify the pertinence of the later proposed alignment model in this study.

It is well-acknowledged that SMEs are vital to the development of the economy, with developed and developing countries alike. For the developed countries, SMEs play an important role in the development of entrepreneurial skills, advancement of innovations, creation of employments, and recovery of economies in wake of economic crisis (European Commission, 2005; OECD, 2009). For instance, the 23 million of SMEs among 25 enlarged EU countries provide in the order of 75 million jobs and account for 99% of total enterprises in the region (European Commission, 2005). Similarly, SMEs are also critical for the development of developing nations, especially in terms of poverty reduction through the course of job creation. For instance, SMEs account for 97.3% of total employment in Indonesia for the year of 2009 (Saptadi et al., 2012), and 56.4% of the total employment in Malaysia for the year of 2005 (Hussin & Suhaimi, 2011; p3). In terms of Saudi Arabia, SMEs account for approximately a fourth of the country's GDP, 63% of the employment, and 98% of all the enterprises (Zawya, 2012). In comparison with large enterprises, SMEs in Saudi Arabia are more effective in providing job opportunities. In particular, about 28 new jobs can be generated for each one million of Saudi Riyal investment in SMEs, whereas only one job can be created in large enterprises for the same amount of the investment (Sadi & Henderson, 2011). Thus, various government programs have been initiated to provide both expertise and financial resources to help the development of Saudi SMEs. Recently, Saudi Arabia's Ninth Economic Plan (2010-2014) has given particular emphasis on the importance of SMEs in the development of the Kingdom's economy (Saudi Gazette, 2012).

Facing with the ever intensified competition both domestically and internationally, in the era of globalization, SMEs have to increase competitiveness in order to survive and hence prosper (Sharma, 2011). Since IT has been generally perceived to be instrumental to improve a company's efficiency (Rivard et al., 2006), reduce the cost of production and operation (Porter & Millar, 1985; Rivard et al., 2006), and add value to the existing products (Porter & Millar, 1985; Tallon, 2007b), the adoption of IT is expected to increase the competitiveness of SMEs (Lin et al., 1993). These researches have primarily focused on the advantages of adopting IT in large organizations (Bili & Raymond, 1993). However, due to the inherent differences between SMEs and large organization, these benefits enjoyed by large organization may be absent for their small counterparts.

In fact, as Levy et al. (2001) revealed that, although the falling costs of IT have enabled SMEs to explore potential benefits of the technology, the adoption of IT in SMEs tends to be slow and unsuccessful (Nguyen, 2009). Some believed that the failure of SMEs in realizing the potential benefits of IT is mainly due to the fragmented and unplanned use of IT in the organization (Levy & Powell, 2003). In details, the study revealed that the adoption of IT into SMEs has mainly focused on its supportive role in operations and transactions, rather than the strategic role in competitions and innovations. Furthermore, the introduction of IT has been mainly driven by the enthusiasm of the owner-manager, rather than the thoughtful business plan. Similarly, Nguyen (2009) identified three major culprits for the unsuccessful implementation of IT in SMEs: first, the management is unclear on why and how IT should be adopted; second, misconceptions toward the IT adoption process; and lastly, the constrained resources to expand IT resources.

Past Researches have revealed that the misalignment between IT strategy and business objectives is the major culprit of the IT implementation failure (Chan, 2002). In order to effectively acquire the benefits of IT investments, the strategic use of IT has to be aligned to the business strategy of an organization. However, the strategic alignment models proposed by the past researches are mainly for the large enterprises. Though SMEs may also benefit from IT-business strategies alignment, the alignment models of large enterprises may not be effective for SMEs. Traditionally, SMEs are considered as the smaller version of the large enterprises, so that the management principles used in the large organizations are believed to be applicable to SMEs as well (Welsh & White, 1981). However, it is argued that due to the inherent differences between SMEs and large enterprises, SMEs should adopt different management approaches (Blili & Raymond, 1993; Levy et al., 2001; Lin et al., 1993; Welsh & White, 1981). In particular, Blili & Raymond (1993) have identified five business specificities that justify the need of a dedicated strategic alignment model for SMEs. These specificities are: environmental, organizational, decisional, psycho-sociological and information systems specificity.

In details, the environmental specificity is characterized by both technology and market competition uncertainties. Since SMEs tend to focus on small markets and few major customers, the customer power has significant influence on the utilization of IT in SMEs (Blili & Raymond, 1993; Levy & Powell, 2003). As for the organization specificity, SMEs tend to have informal structures with minimal differentiations (Blili & Raymond, 1993) and the resource poverty in financing, skilled labour and management, and access to key external information (Blili & Raymond, 1993; Lin et al., 1993; Nguyen, 2009; Welsh & White, 1981). In terms of decisional specificity, the strategic decision-making cycle tends to be short-term and reactive, and the process of the decision-making process tends to rely on the intuition and experienced of the owner-manager (Blili & Raymond, 1993; Levy & Powell, 2003). In addition, psycho-sociologically SMEs are owner-manager centred, especially in term of decision making and organizational climate (Blili & Raymond, 1993). And the adoption of IT in SMEs has been mostly driven by the enthusiasm of the owners (Levy et al., 2001). As for the information systems specificity, the adoption of IT is still in the early stage, which has focused on administration and transaction, rather than adding values to the products or improving the competitiveness of the business (Blili & Raymond, 1993; Levy & Powell, 2003).

Acknowledging the specificities of SMEs, the strategic IT alignment models designed for large organizations are believed to be inflexible, energy-consuming and expensive for SMEs (Blili & Raymond, 1993). Thus, a new strategic alignment model is needed to meet the specificities of the SMEs. Prior to the design of the IT-business strategic alignment model for SMEs, it is essential for one to understand alignment models of large organizations, and hence gauge the factors that influence the effectiveness of the alignment model. By doing so the strategic alignment model of SMEs will take into account the merits of the alignment models of large enterprises.

Despite the variety of the IT-business strategic alignment models, it is perceived that most of these models have laid their foundation on the Henderson & Venkatraman (1993)'s SAM model (Silva et al., 2006). The SAM model explores the interrelationship between the business and IT domains with four major domains of strategic choices: a) business strategy; b) IT strategy; c) organizational infrastructure and process; d) information technology infrastructure and process. In addition, this model can be interpreted both vertically and horizontally. In terms of the vertical dimension, it indicates the coherence between strategies and supporting infrastructure and process. In other words, it looks into the strategic fit between the external environment and the internal structure.

On the other hand, the horizontal dimension shows the coherence between business and IT domains at both strategy level and the infrastructure-process level. In other words, the horizontal aspect of alignment describes the functional integration between business and IT.

Based on the Henderson & Venkatraman (1993)'s SAM model, the IT alignment can be conceptualized through either bivariate fit or multivariate fit between the four domains (Henderson & Venkatraman, 1990). In addition, this study has also indicated that, in comparison with the multivariate approach the bivariate approach is a simpler form of alignment, which enables researchers to only focus on the relevant domains by holding the other conditions to be constant. In Bergeron et al. (2004) and Henderson & Venkatraman (1993), the bivariate alignment has been further classified into two dimensions: strategic level and operational level. The former is commonly referred as the strategic integration, which indicates the alignment between IT strategy and business strategy of an organization. The latter is normally named as the operational integration, which refers to the alignment between the IT strategy and the infrastructure and organizational process of IT.

In order to improve the effectiveness and sustainability of the IT-business strategic alignment model in bringing the competitive advantages for an organization, it is critical for an organization to have a strong positive organizational culture (Chan, 2002). In fact, it is well perceived that the "culture gap" between IT professionals and their business counterparts is one of the major culprits for the failure of the strategic alignment model (Almajali & Dahalin, 2011; Cummings, 1998; Pepper & Ward, 1996). In general, past alignment studies have divided culture into two dimensions, namely the national culture and organizational culture. Though national culture has proved as a critical factor for the success of the strategic alignment model (Silvius et al., 2009), this study has focused on organizational culture. Such focus is primarily because of two reasons: first, national culture may not reflect the real picture of a nation which has many subcultures; second, the increased importance of IT in facilitating the business process and networking of an organization (El-Mekawy & Rusu, 2011).

The organizational culture can be considered as the way of doing and sharing things for individuals through complying firms' beliefs, and attributes (Nguyen, 2009). Past researches pertaining to the influence of the organizational culture has focused on large organizations, only dearth of researches has been devoted to SMEs. For instance, Lin et al. (1993) postulated that a major factor that influences the adoption of technological innovation is the adjustment of the organizational culture to the new environment. In particular, in order to effectively integrate IT function into small business and obtain competitiveness, the executives of the organization should not only be aware of the information technologies that are shaping the future of the firms but also to alter the organizational culture to support IT functions. Thus, it is crucial for a small business to cultivate an encouraging organizational culture to support the organization changes towards viewing IT strategies as the competitive resource for the success of an enterprise. In case of the Arab world, a study carried out by Straub, Loch, & Hill (2001) have revealed that the Arab cultural beliefs are strong predictors of resistance to IT transfer. Similarly, Loch, Straub, & Kamel (2003) found that the Arab culture is the major impediment for the acceptance of Internet among organizations and individuals in the Arab world. Putting it differently, the success of the IT-business strategy alignment will highly depend on the compatibility of social and organizational cultures with information technology.

3. The Conceptual Model

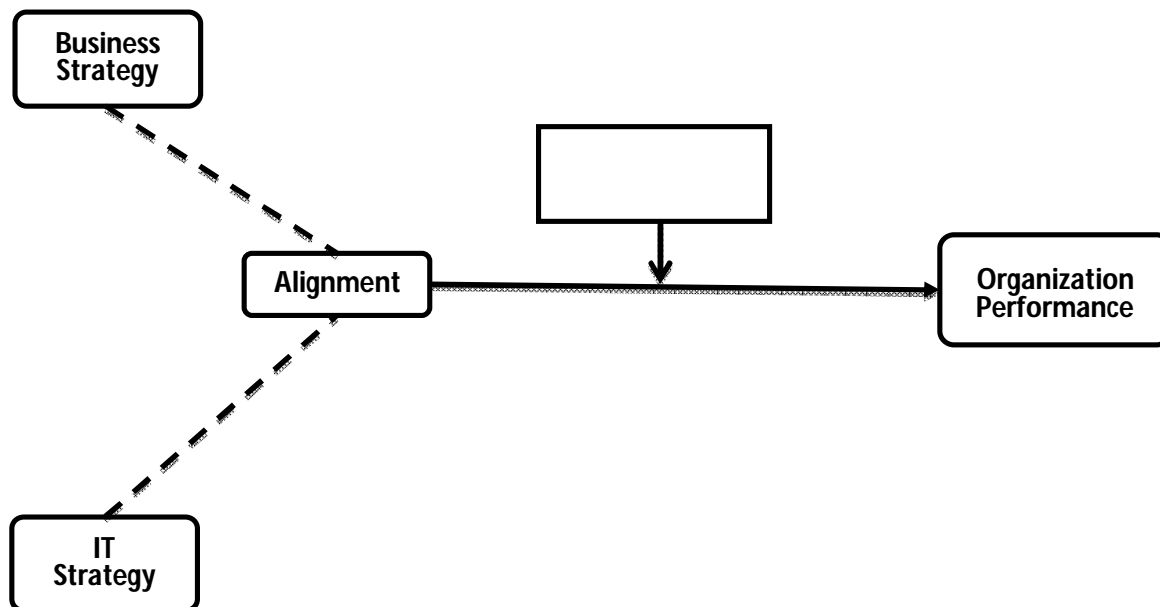
Like most of the alignment models, the proposed conceptual model is also derived from Henderson & Venkatraman's (1993) SAM model. In particular, since Henderson & Venkatraman's (1993) SAM model can be conceptualized in a bivariate form, the proposed model in this study will focus on the strategic integration of the alignment model. In particular, since the strategic integration has been commonly perceived as one of the most important advantages for a company (Anthony et al., 2006; Henderson & Venkatraman, 1993), and hence having greater explanatory power than the operational approach (Cataldo, Mcqueen, & Hardings, 2012), the proposed alignment model has emphasized on the strategic perspective of alignment only.

Having noted that the ultimate objective of this study is to propose an alignment model to help Saudi SMEs improve their organizational performance, the proposed model should not only take into account the effects of the strategic alignment on the organizational performance of Saudi SMEs, but also the factors that influencing the level of the strategic alignment. Thus, the alignment model in this study focuses on the integration of three major parts: the strategy components of the alignment, the factors influencing the level of the alignment, and the impact of the strategic IT alignment. In terms of the strategy components of the alignment model it comprises both IT and business strategies, which are considered as independent variables in the alignment model. On the other hand, the organizational performance is used to measure the influence of the alignment on SMEs, which is viewed as the dependent variable in the model.

Since organizational cultures play a critical role in the adoption of the innovative technology among organizations and individuals in Saudi Arabia (Loch et al., 2003; Straub et al., 2001; Abousaber & Papazafeiropoulou, 2011), the organizational culture factor has been considered as the influencing factor in the proposed alignment model. Specifically, this study has focused on the organizational culture rather than the societal culture, so that it will provide more practical recommendations to Saudi SMEs on how to improve the degree of the strategic alignment.

Since the Miles and Snow's typology is applicable in the context of SMEs (Gimenez, 2000; Raymond & Bergeron, 2008), this study has used this typology to classify business strategy. In addition, the IT strategy will be measured by Parson's (1989) classification. The selection of Parson's (1989) classification has been primarily driven by the unique specificities of SMEs, where the IT strategy is considered as the IT-related business decision which is independent from the business strategy of an organization. As the strategic alignment model in this study is bivariate in nature, it is measured by "moderation" and "matching" approaches developed by (Venkatraman, 1989). Moreover, in term of the empirical recognition, 'moderation' and 'matching' have been widely used in the past researches and perceived to be the most established approaches in comparison with the other four approaches advocated by Venkatraman (Cragg et al., 2002). As for the organizational culture, it has been classified based on the categorization suggested by Wallach (1983), where the Organizational Culture Index (OIC) is used to facilitate the assessment of the cultural types. Lastly, having noted the reluctance of the owner-managers to provide financial information on the performance of SMEs (O'Regan & Ghobadian, 2006), the non-financial/subjective approach is used to measure the performance of an organization. Specifically, the owner-managers will be asked to either indicate the performance of his/her firm in comparison with the competitors in the same market (Bergeron, Raymond, & Rivard, 2004), or to indicate the perceived performance of their organization (Croteau & Bergeron, 2001). Graphically, the proposed research model can be viewed in Figure 1.

Figure 1. The Conceptual Alignment Model.



Based on the proposed model, we have developed the following two propositions:

- a) There is significant positive relationship between the levels of strategic alignment and the organizational performance of Saudi SMEs.

Past researches indicate that, when IT and business strategies are aligned successfully companies will obtain better competitive advantages (Almajali & Dahalin, 2011; Luftman & Brier, 1999), and enhanced business performance (Chan & Sabherwal, 2001; Chan et al., 2006; Croteau & Bergeron, 2001; Tallon, 2008; Raymond & Bergeron, 2008). Thus, this research is expected to find significant positive relationship between the level of the IT-business strategic alignment and the performance of SMEs in the context of Saudi Arabia.

b) Organizational cultures have significant moderation effect on the relationship between IT-business strategic alignment and organizational performance of Saudi SMEs.

In details, organizational cultures are said to have significant moderation effects if the relationships between IT-business strategic alignment and organizational performance vary in magnitude or sign for different aspects of organizational culture (Baron & Kenny, 1986). Although no researches have undertaken to investigate the moderation effect of organization cultures on the relationship between strategic alignment and organizational performance, past researches have indicated that positive and encouraging organizational cultures are conducive for the effectiveness and sustainability of the strategic alignment in bringing competitive advantage for an organization (Chan, 2002). Thus, it is expected that the innovative and supportive cultures will have positive moderation effect on the relationship between business-IT strategic alignment and performance of Saudi SMEs, whereas bureaucratic culture will have a negative moderation effect on the relationship.

4. Discussion

In order to implement the proposed model to investigate the effects of IT-business strategic alignment on the performance of Saudi SMEs, the next step of this research is to conduct the questionnaire survey. The survey will be carried out among three thousand companies listed on the 2010 Saudi National Factories Directory, which is provided by the Saudi Industrial Development Fund.

Prior to the full-scale survey, small-scaled pilot tests will be implemented to ensure the validity and reliability of the questionnaire. In particular, the pilot tests will involve two steps. First, it is to conduct the pilot study among lecturers and students in the faculty of information & communication technology and faculty of economics and management sciences, International Islamic University Malaysia. Then, the second pilot study will be applied to managers of one hundred companies among the targeted entries in Saudi Arabia. After the pilot tests, questionnaires will be modified according to the comments from the two preliminary pilot studies, so that the adequacy of the questionnaire design can be improved. Upon the finalization of the questionnaire, the full-scaled survey will be carried out through post-mail, fax, email, and webpage.

As for the structure of the questionnaire, it will contain five sections: demographic profile, business strategy, IT strategy, organizational culture, and organizational performance. In the demographic section, it will include a set of questions pertaining to the background of the managers and the companies, for instance the number of the employees in the firm, the education level of the managers, and so forth. As for the business strategy section, a list of subjective statements will be included in the questionnaire. Based on the 5-Point Likert scale rating results of the respondents, the business strategy currently adapted by the participating firm is expected to be identified. Similarly, in order to identify the IT strategy and organizational culture of a firm, a list of subjective statements will be included in the IT strategy and the organizational culture sections respectively, along the 5-Point Likert scale to be rated with. Lastly, in order to extract information on the performance of the firm, subjective statements associated with the performance of the company will be rated using the same Likert scale as the previous sections.

5. Conclusion

SMEs play a crucial role in the economy of Saudi Arabia, both in terms of job creation and economy growth. In order to fully materialize the potential benefits of SMEs, they have to employ IT strategically. In other words, the IT strategy has to be aligned with the business strategy of the Saudi SMEs. Despite the importance the IT-business strategic alignment for SMEs, the alignment issues among SMEs have not been addressed properly. In particular, little or no researches have been dedicated to design a specific model that suits the specificities of SMEs. In addition, being different from other developing countries, organizations in the Arab world have been significantly influenced by the culture factors both in the society and organization.

Thus, in order to improve the IT-business strategic alignment among SMEs in Saudi Arabia, a new alignment model should be structured with the consideration of the above two unique aspects. Such research gap has motivated the proposition of the conceptual model in this study. This study is expected to bring three major contributions both in practice and academics. First, the proposed framework will provide some guidance to the Saudi government to structure effective programs to improve the competitiveness of SMEs. Second, it will help Saudi SMEs to better structure their strategies and organizational culture to fully realize the potential benefits of IT investments. Third, it will shed some light on the role of the organizational culture on the levels of strategic alignment in the context of SMEs.

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