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Alignment of Global Business Operations with ERP Systems Capabilities for Improved Business Performance

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ABSTRACT

The number of organizations operating on a global scale is continuously increasing in recent years to exploit business opportunities in the global arena. At the same time, enterprise resource planning (ERP) systems are being increasingly adopted to support global businesses. However, how well these systems are aligned with business operations of global businesses is not very well established. Thus, research on the alignment of global business operations with ERP systems capabilities is imminent. This paper presents an alignment model to address this research gap. The model predicts that if ERP systems capabilities are effectively aligned with global business operations, improved business performance outcomes will be achieved. Control variables such as organization size and globalization history will have some influence on performance as well. This paper makes an original contribution to information system (IS) research, extending the information technology (IT) alignment concepts to a specific IS application (ERP system) in the global business arena.

Keywords

Global business operations, ERP systems capabilities, ERP- global business alignment, improved business performance

INTRODUCTION

Global business has become an important trend in the present era (Gunter and Andrea, 2009). Decline in cross border trade barriers, formation of global and multi-national strategic alliances and rapid development in information and communications technologies paved the way to open up most of the organizations for global trade (Hill, 2011). As a result, the number of organizations operating on a global scale has been increasing (Gunter and Andrea, 2009), mainly to capitalize on the profitable growth opportunities in the global arena (Aberdeen, 2007), gain access to new resources, exploit new market opportunities (Lewis et al., 2008) and search for low cost manufacturing, services and low-end markets in the global arena (Sirkin et al., 2008).

ERP systems are a type of information system (Malhotra and Temponi, 2010, Sammon and Adam, 2010) which includes numerous modules that can support a suite of business operations. These systems possess sound data management capabilities that are suitable for supporting global business operations. Accordingly, ERP systems are being increasingly adopted by global businesses to support global operations (Koumpis and Protogeros, 2010). However, how well these systems are aligned with global business operations are not known. Even though a considerable number of academic studies on ERP systems and IT/IS- business alignment have been undertaken (Chan and Reich, 2007, McLaren et al., 2011), to date alignment of ERP systems to global business operations remains a gap in the extant literature. Therefore, the motivation for this study is to develop a model for the alignment of ERP systems to global business operations. This paper attempts to fill the void in IT/IS alignment theory by endeavoring to answer the question: will global business performance outcomes improve if ERP systems were aligned to global business operations?

The rest of the paper is structured as follows. It begins with a discussion of ERP systems and its capabilities. The following section discusses earlier research on ERP systems, followed by current global business challenges. Then the importance of aligning ERP systems with global business operations is discussed. Next a discussion of extant IT/IS alignment frameworks, a set of factors important for aligning ERP systems with global business operations and the theoretical background to the model is included. Finally, the paper presents the proposed model to align ERP systems with global business operations for improved performance outcomes.

ERP SYSTEMS

ERP systems are enterprise-wide information systems that integrate business processes, creating value and reduce costs by delivering timely and correct information to the right people at the right time supporting sound business decisions (McGaughey and Gunasekaran, 2009). Seddon et al. (2010), extended this description of ERP systems as real time, large

scale, integrated software systems that use the computational, data storage and transmission power to manage business processes, information flows, reporting and business analysis within and between organizational business units.

ERP systems include a suite of business modules (Sammon and Adam, 2010) that can serve and support multiple business functions (Sane, 2005), including management reporting (Davenport, 2000), manufacturing management (El Amrani et al., 2006), maintenance of plant and equipment (Rashid et al., 2002), transportation management (Rashid et al., 2002), materials management (El Amrani et al., 2006), quality management (El Amrani et al., 2006), access controls (SAP AG, 2007), human resources management (Chang et al., 2008), accounting and financial management (Chang et al., 2008), project management (McGaughey and Gunasekaran, 2009), procurement management (Chang et al., 2008), advanced planning and scheduling (McGaughey and Gunasekaran, 2009), e-commerce and m-commerce (McGaughey and Gunasekaran, 2009), sales force automation (McGaughey and Gunasekaran, 2009), investment management (Subramoniam et al., 2009), collaborative commerce (Subramoniam et al., 2009), business intelligence (McGaughey and Gunasekaran, 2009), knowledge management (Subramoniam et al., 2009), customer relationship management (Sedera and Wang, 2009, Seddon et al., 2010), supply chain management (Seddon et al., 2010) and data warehousing (Seddon et al., 2010).

ERP systems are able to integrate business processes both nationally and globally (Gunter and Andrea, 2009), support multi business functions (Sane, 2005), support e-commerce and m-commerce requirements (Kamhawi, 2009), can include legal and tax reporting needs of various nations across the world (Subramoniam et al., 2009), are able to handle multiple enterprises (Siau, 2004), multi languages and multi currencies (Subramoniam et al., 2009). They operate on a web enable architecture (Siau, 2004), provide real time data access (Subramoniam et al., 2009), manage resources productively and proactively (McGaughey and Gunasekaran, 2009), enforce data integrity (Subramoniam et al., 2009), foster speedy intra and extra organizational communication (Subramoniam et al., 2009) and develop specific industry workflow requirements (Subramoniam et al., 2009). ERP systems capabilities discussed above are suitable for supporting global business operations.

The above discussion reveals that ERP systems are large information systems that are capable of supporting large multinational businesses.

CURRENT ERP RESEARCH

Many scholars have investigated various research issues related to ERP systems in the last decade. This is evidenced by the large number of publications in academic journals and conferences on the topic (Aloini et al., 2007, Esteves and Bohorquez, 2007, Moon, 2007). However, the focus of earlier research on ERP systems are on E- business (Turner and Chung, 2006), performance (Wieder et al., 2006), education (Davis and Huang, 2007), cultural issues (Ke and Wei, 2008), supply chain management (Bose et al., 2008), critical success factors (Gunter and Andrea, 2009), evaluation (Uwizeyemungu and Raymond, 2009), evolution (McGaughey and Gunasekaran, 2009), adoption (Varajao et al., 2009), consultants involvement (Linying et al., 2009), top management support (Linying et al., 2009), customer relationship management (Sedera and Wang, 2009), implementation issues (Sammon and Adam, 2010) and benefits (Seddon et al., 2010). Although current research on ERP systems addresses wider business applications, alignment of ERP systems with global business operations remains unexplored.

GLOBAL BUSINESS CHALLENGES

Global businesses are a network of interconnected organizations with business activities in various countries in the world to enjoy country specific competitive advantages such as low cost labour, low cost capital and unique resources (Spulber and Daniel, 2007). Competitive advantage of global businesses is primarily driven by the need for global efficiency (Hill, 2009). However, managing business activities of global businesses is complex, expensive and challenging (Carter, 2010). It is different to managing a traditional business due to the complexity created by national, cultural, organizational and technical differences (Sannarnes, 2010).

The challenges faced with managing business activities of global businesses include consolidation of worldwide business processes and information (Bartlett and Ghoshal, 2003), streamlining geographically dispersed business processes (Infosys Technologis Ltd, 2010) and information flows (Lehmann, 2006), supporting centralized environment round the clock facilitating a holistic view from different time zones (Ghosh, 2003), 24 hour processing capability (Kikuchi and Marjit, 2010), availability of online real time information for better decision making (Bouquet et al., 2009), coping with rapid technological (Serour, 2005), e-commerce and m-commerce developments (McGaughey and Gunasekaran, 2009), forming strategic alliances and partnerships (Arunatileka et al., 2009), managing and integrating with globally dispersed supply chain partners such as suppliers, manufacturers, distributors and retailers (Su and Yang, 2010), gaining a competitive advantage and managing diversity (Parker, 2005), integrating with government organizations, competitors and customers in multiple countries (Parker, 2005), dealing with multiple currencies, accounting standards and taxation requirements (SAP AG, 2009),

comply with multiple country reporting requirements (Kumar et al., 2008), dealing with cultural, language and technical differences (Bidgoli, 2010), identifying consumer similarities and differences across national markets (Tellis et al., 2009), drive business growth by exploiting new business opportunities in the global arena (Bouquet et al., 2009), building a strong investor relationship with investors around the world (Kumar et al., 2008), managing human resource functions on a global basis (House et al., 2008), consolidating financial information for decision making (Mishra, 2009), respond quickly to the changes in external environment (Koh et al., 2006), compete effectively in the global market (Koh et al., 2006), enhance planning & reporting capabilities on a global basis (Lehmann, 2006) and protect confidential information with the help of transparent corporate governance policies (Weismann, 2010).

To overcome these challenges global businesses are heavily relying on integrated information systems such as ERP systems (Koumpis and Protogeros, 2010). These systems possess the capabilities and capacity to support global businesses operations. The following section discusses the importance of aligning ERP systems with business operations of global businesses.

NEED FOR ALIGNING CAPABILITIES OF ERP SYSTEMS WITH GLOBAL BUSINESS OPERATIONS

Global businesses have unique challenges that are different to local businesses. These include availability of up to date consolidated information covering areas such as global inventories, production, human resources, budgeting, procurement and marketing; supporting centralized environment round the clock facilitating a holistic view from different time zones; 24 hour processing capability; dealing with multiple currencies, accounting standards and taxation requirements; comply with international and multiple country reporting requirements; integrating with government organizations, competitors and customers in multiple countries; exchanging up to date investor relation information with investors around the world; availability of consolidated accounting and financial information incorporating all business units; enhance planning (material requirements, production, inventories and tax) & reporting capabilities on a global basis and exchanging online real time information with globally dispersed supply chain partners such as suppliers, manufacturers, distributors and retailers.

ERP systems possess capabilities that are useful in managing business operations of global businesses. These include, support multi business functions and multiple enterprises, integrate globally dispersed business processes, provide accurate and timely information from a number of business entities, support online real time data processing, handle multiple languages and multi currencies, support legal, tax and reporting requirements of various countries in the world, operate on a web-enable architecture, provide real time transaction processing and data access, foster speedy intra and extra organizational communication, manage resources productively and proactively, provide scalability to expand and facilitate integration with supply chain partners such as suppliers, manufacturers, distributors and retailers.

From the above discussion it is clear that the ERP systems have the capabilities and capacity to support business operations of global businesses. However, research on aligning ERP systems with global business operation is an emergent need and a gap in the extant ERP literature. Recognizing this gap, this paper aims to propose an alignment model for aligning ERP systems with business operations of global businesses. It will help global businesses to enhance their operational effectiveness and business performance. In order to understand the factors that would be important for aligning ERP systems to global businesses, following section explores extant IT/IS alignment frameworks.

IT/IS ALIGNMENT FRAMEWORKS

Alignment focuses on the activities performed by management to achieve cohesive goals across information technology and business functions, such as, accounting, finance, manufacturing, production, sales, marketing, logistics and human resources of the organization (Luftman, 2004). A substantial amount of research has been conducted to explore various theoretical and practical issues related to IT/IS-business alignment in the last decade (Chan and Reich, 2007). However, research focus on aligning IT/IS systems with global business operations is sparse. Therefore, this research attempts to extend the findings of extant IT/IS alignment literature to the alignment of ERP systems with global business operations. Absence of frameworks or studies on the alignment of IS/IT systems to global business makes it imperative to analyze existing IS/IT frameworks, in order to identify a set of factors that would be relevant for the alignment of ERP systems with global business operations. This is presented in table 1 below.

Alignment Framework	IT Alignment Factors
Luftman, J & Brier (1999)	(i) Senior executive support (ii) IT involved in strategy development (iii) IT understands the business (iv) Business/IT partnership (v) Well-prioritized IT projects (vi) Leadership.
Luftman, J (2000)	(i) Communications (ii) Competency/value measurement (iii) Governance (iv) Partnership (v) Scope and architecture (vi) Skills.
Reich & Benbasat (2000)	(i) Shared domain knowledge (ii) IT implementation success (iii) Communications (iv) IT planning.
Duffy (2002)	(i) Human resource management (ii) Innovation and renewal (iii) Partnership (iv) IT/business architectures (v) Operational excellence (vi) ROI strategy and management.
Hussin, King & Cragg (2002)	(i) IT sophistication (ii) CEO's commitment (iii) External IT Expertise.
Croteau & Raymond (2004)	(i) Shared vision (ii) Cooperation (iii) Empowerment (iv) Innovation. (v) Connectivity (vi) Flexibility.
Broadbent & Kitzis (2005)	(i) CIO's commitment (ii) Executive support (iii) IT governance.
Chan, Sabherwal & Thatcher (2006)	(i) Shared domain knowledge (ii) planning sophistication (iii) Prior IS success (iv) Environmental uncertainty (v) Organizational size.

Table 1: IT/IS alignment frameworks

The IT/IS alignment frameworks shown in the above table indicate that communications, partnership, IT governance, shared domain knowledge, IT skills, prior IS success, planning sophistication, top management support and external expertise are important for the alignment of IT/IS to business. It is also apparent that factors such as competency, scope & architecture, innovation & renewal, empowerment, connectivity, flexibility, environment uncertainty and organizational size also have an impact. The next step is to determine the applicability of these factors to the alignment of ERP systems with global business operations for improved business performance.

IT/IS ALIGNMENT FACTORS

To determine the applicability of the above identified IT/IS alignment factors for the alignment of ERP systems with global business operations a number of studies presented in table 2 were analyzed.

Factor	Literature source
Top management support of head office & global strategic business units (GSBUs)	(1) Carpenter and Fredrickson, 2001 (2) Zhang et al., 2002 (3) Plant and Willcocks, 2007 (4) Gutierrez et al., 2007 (5) Biehl, 2007 (6) Kumar et al., 2008 (7) House et al., 2008 (8) Petrini and Pozzebon, 2008.
Communication across global business units	(1) Solomon, 1998 (2) Peppard, 1999 (3) Ghosh, 2002 (4) Yen and Sheu, 2004 (5) Biehl, 2007 (6) Roy and Sivakumar, 2007 (7) House et al., 2008 (8) Kerr, 2008.
Partnership between global business units	(1) Plant and Willcocks, 2007 (2) Peppard, 1999.
Cross border expertise	(1) Ghosh, 2002 (2) Soh et al., 2000 (3) Plant and Willcocks, 2007 (4) Kerr, 2008.
Global IT/IS governance standards	(1) Peppard et al., 1999 (2) Guldentops, 2003 (3) Barrett et al., 2003 (4) Lehmann, 2004 (5) Sia et al., 2008 (6) Hitachi Consulting, 2009.
Change management	(1) Biehl, 2007 (2) House et al., 2008 (3) Brainin, 2008 (4) Bradford et al., 2008 (5) Chang et al., 2009 (6) Teoh et al., 2010 (7) Sannames, 2010.

Table 2: Alignment factors: ERP- global business operations

From the above analysis, it is inferred that factors such as top management support, communication across global business units, partnership between global business units, global IT/IS governance standards, cross border expertise and change management are important for the alignment of ERP systems with global business operations based on the fact that ERP systems are IT/IS systems (Malhotra and Temponi, 2010) and global business is a type of business. A brief discussion of these factors and their relevance to the proposed model is presented below.

Top management support

Top management support with regard to ERP systems refers to the extent to which the executives of the organization provide attention, direction, authority and resources during and after the acquisitions of ERP system (Ifinedo, 2008). Proactive top management support is the most effective critical success factor in global ERP projects (Plant and Willcocks, 2007). Lack of top management support is considered to be a main impediment in achieving success in global IS projects (Biehl, 2007) as well as in global ERP projects (Kumar et al., 2008). Top management can assist global organizations to overcome hurdles

related to political resistance, encourage participation of all business units (Wang et al., 2008), play a useful role in resolving disputes and provide clear signals for any doubtful matters (Zhang et al., 2002). In global businesses, member of top management can locate in numerous countries in the world and not always in the head office (Bartlett and Ghoshal, 2003). Understanding of the position taken by the top management of global strategic business units (GSBUs) as well as the top management of head office is important in adopting global information systems (Petrini and Pozzebon, 2008). Based on the above discussion, top management support is expected to have an influence on the alignment of ERP systems to global business operations. Thus, following hypotheses is formulated.

H₁- Top management support at the head office will positively influence the alignment of ERP systems to global business operations.

H₂- Top management support of the GSBUs will positively influence the alignment of ERP systems to global business operations.

Communication across global business units

Communication can be described as sharing of information for mutual understanding between IT/IS and business functions (Sledgianowski and Luftman, 2005). Effective communication is an important enabler of IT/IS-business alignment (Luftman et al., 2009) and includes exchange of ideas, knowledge and information among IT/IS and other functional managers (Luftman and Kempaiah, 2007). Communication in global ERP projects involves the exchange of information and ideas between business units (House et al., 2008). Different business units of global organizations have their own preference in selecting ERP system for their respective business units (Ghosh, 2002). Lack of communication between business units usually lead to unsuccessful global IS projects (Biehl, 2007). Global organizations have conflicting information needs driven by the combination of business wide accounting and control, local taxation and accounting laws, customs and languages. These mixed requirements can only be met when head office and other functional business units communicate in an effective manner (Biehl, 2007). Unlike local IS projects, recognizing the need of all SBUs as well as the active involvement of all SBUs are vital for the success of global IS projects (Biehl, 2007). Therefore, global originations should integrate information within the departments in the organization as well as with geographically dispersed business units to provide a holistic view of the organization (Ghosh, 2002). From the above literature discussion the following hypothesis is formulated.

H₃- Effective communication across global business units will positively influence the alignment of ERP systems to global business operations.

Partnership between global business units

Partnership is the relationship between business units, and refers to how they perceive the contribution of each other (Luftman, 2000). It gauges the relationship between business and IT/IS, including the degree of trust between IT/IS and business and how each perceives the other's contribution (Luftman and Kempaiah, 2007). According to (Plant and Willcocks, 2007), trust among business units of global businesses is very important for the success of international ERP projects. It empowers companies to compete ironically and provides new ways to cooperate. (Teo and Ang, 1999) stated that partnership is greatly facilitated if business and IS management understands each other's goals, problems and limitations. From the above literature discussion, the following hypothesis is derived.

H₄- Partnership between global business units will positively influence the alignment of ERP systems to global business operations.

Global IT/IS governance standards

IT/IS governance is the degree to which the authority for making IT/IS decisions is defined and shared among management (Luftman, 2000). Grembergen and Haes, (2008) define IT governance as "the organizational capacity exercised by the board, executive management and IT management to control the formulation and implementation of IT strategy and in this way ensuring the fusion of business and IT". Governance drives alignment and ensures that IT/IS goals are met, risks are mitigated and IT/IS delivers value to sustain and grow the enterprise (De Haes and Van Grembergen, 2009). Provision of information is one of the main functions of ERP system (Oliver and Romm, 2002). Information governance in global organizations is concerned with outlining responsibilities and accountabilities; defining the set of rules guiding information, systems and technology decision making and managing the interdependencies across the range of decisions. In other words, it is concerned about achieving coherence across the range of decisions (Peppard et al., 1999). Having a clear governance framework that specifies roles and responsibilities in coordinating management information requirements are critical to

achieve business success in global organizations (Peppard et al., 1999). From the above discussion the following hypothesis is formulated.

H₅ - Effective global IT governance standards will positively influence the alignment of ERP systems to global business operations.

Cross border expertise

Cross border expertise with regard to ERP system refers to the extent to which external mediating entities, such as vendors and consultants provide knowledge, training, maintenance and other technical support to the adopting organization (Ifinedo, 2008). Many authors cited that service of external expertise is essential throughout the life of the global ERP implementation process (Kerr, 2008). According to Ghosh, (2002), ERP applications in global organizations need to be compliant with multiple countries' statutory and tax requirements. Cross border expertise is important for the success of international ERP projects (Plant and Willcocks, 2007). Key users, IS department personnel and the external experts required to work together to integrate specific needs of each group (Soh et al., 2000). It is difficult for any global ERP vendor to keep track of changing rules and regulations in all the countries they operate in. In order to keep track of these changes, it is required to have local support that understands the ERP software and country specific business practices and statutory requirements so that business practices and statutory requirements could be mapped efficiently to the ERP software (Ghosh, 2002). From the above literature discussion it is apparent that cross border expertise is important to establish alignment of ERP systems to global business operations. Thus, it is hypothesized that:

H₆- Cross border expertise will positively influence the alignment of ERP systems to global business operations.

Change management

Change management plays an important role in successful implementation of global IS projects (Teoh et al., 2010). Introduction of enterprise systems involves a considerable organizational change (Sannarnes, 2010), that could bring advantages as well as disadvantages for the organization concerned (Teoh et al., 2010). Implementation of the global ERP system should normally be a corporate management decision. However, local business needs may initiate changes in system configuration and related applications. Therefore, a combination of corporate and SBUs management approach is necessary for the success of global ERP projects (Sannarnes, 2010). Having a proactive change management plan right from the beginning will help to overcome misalignment related obstacles in ERP projects (Soh and Sia, 2004).

Resistance to change in global ERP projects could potentially be high due to the differences in work practices in different SBUs (House et al., 2008). Furthermore, cultural differences across SBUs of global businesses make it even more complex (Brainin, 2008). Hence, managing change in global businesses require more time, more resources, better preparation and better management than a traditional business (Biehl, 2007). When implementing global ERP projects, requirements and desires of all SBUs must be taken into accounts, and global users' involvement throughout the whole process is critical to achieve success (House et al., 2008). Furthermore, it is required to have long-term perspective on change management in global businesses due to the complex nature of these organizations (Sannarnes, 2010). Change management can also have a profound impact on information integration of global businesses as it requires collection of data and information from a network of information systems that are dispersed across various countries in the world (Chang et al., 2009). From the above literature discussion it is thus hypothesized that:

H₇- Effective change management principles will positively influence the alignment of ERP systems to global business operations.

Global business performance

The principal research question of this study is: will global business performance outcomes improve if ERP systems were aligned to global business operations? Therefore,

H₈- Alignment of ERP systems with global business operations will positively influence global business performance.

Control variables

Extant literature provides a set of control variables that would have an impact on aligning ERP systems to global business operations. They are organization size and globalization history.

Organization size can be identified as an important variable that has an impact on the success of ERP projects (Sedera et al., 2003). Organization size in global organizations can be measured with number of employees (Johnson and Lederer, 2010),

sales volume (Carpenter and Fredrickson, 2001) and total assets (Carpenter and Fredrickson, 2001). Several academic studies have identified that there are significant differences between small multinationals (SMNE) and large multinationals (LMNE) (Madapusi and D'Souza, 2008). Therefore, there is a need to view the ERP systems employed by SMNEs as different from those of LMNEs (Madapusi and D'Souza, 2005).

Researchers have established a strong correlation between company size and ERP adoption and differences in the ERP selection process adopted by SMNEs and LMNE (Madapusi and D'Souza, 2007). Kim and Oh, (2000) stated that the organizational size is an important control variable since the perceived effectiveness of a global IT system can be affected by the absolute size of the firm (Kim and Oh, 2000). Johnson and Lederer, (2010) also suggested that the organization size is a control variable and is statistically significant for all dimensions of IT strategic alignment.

Globalization history is represented by the number of years an organization is operating in the global market (Kim and Oh, 2000). It can be determined from the year when the first foreign subsidiary was established. The IT/IS effectiveness can be influenced by a firm's prior experience with IT/IS use, which in turn can be embodied by the globalization history (Kim and Oh, 2000).

THEORETICAL BACKGROUND

This study derives its theoretical foundation from theories of IT/IS alignment. It derives its theoretical background primarily from Henderson & Venkatraman's strategic alignment model (SAM) and Chan and Huff's IS Strategic Alignment model. Detail discussion of these models and their relationship to this research is discussed below.

Henderson & Venkatraman's strategic alignment model (SAM) comprises four fundamental domains of strategic choice: business strategy, information technology strategy, organizational infrastructure and processes and information technology infrastructure and processes. Strategic alignment is achieved through three types of relationships, namely strategic fit, functional integration and cross domain relationship. Strategic fit recognizes the need to address both external and internal domains. External domain is the business arena in which the firm competes. Internal domain consists of choices pertaining to the logic of administrative structure, specific rationale for the design of critical business processes and acquisitions and development of the human resource skills. Functional integration has two modes, namely strategic integration and operational integration. Strategic integration deals with corresponding external domains and focuses on the link between business strategy and IT strategy. Operational integration, deals with the corresponding internal domains, and focuses on the link between organizational infrastructures and processes and IS infrastructure and processes. Finally, cross domain relationship addresses the balance among the choices made across all four domains (Henderson and Venkatraman, 1993).

According to SAM, alignment can be achieved by establishing harmony between four domains namely business strategy, IT strategy, business infrastructure and processes, and IT infrastructure and processes. It is not sufficient to work any one of the domains in isolation, as it is the integration of all four domains together that leads to the achievement of alignment (Scott, 2007). Alignment addresses how IT/IS is in harmony with the business, and how the business should, or could be, in harmony with IT/IS. It evolves into a relationship where the function of IT/IS and other business functions adapt their strategies together (Luftman, 2004).

IS strategic alignment model proposed by Chan and Huff contains five fundamental constructs: business strategy, IS strategy, IS strategic alignment, IS effectiveness and business performance (Chan and Huff, 1993). It measured business strategic orientation, IS strategic orientation, and IS strategic alignment and then investigates their implications on perceived IS effectiveness and business performance (Chan and Huff, 1993). IS strategic alignment is determined as the fit between business strategic orientation and IS strategic orientation (Chan and Huff, 1993). This model adopted seven dimensions of strategic orientation of business enterprises (STROBE), aggressiveness, analysis, defensiveness, futurity, innovativeness, pro-activeness and riskiness, introduced by (Venkatraman, 1989). Then it determined the extent to which each of these dimensions influenced the company's information systems and business strategy (Chan and Huff, 1993). The results of this study revealed that the stronger the link between these dimensions, the alignment becomes stronger contributing to improve IS and business performance.

The idea behind ERP system is to generate a centralized information system that allows seamless flow of information across various functional departments (Subramoniam et al., 2009), including, accounting, finance, manufacturing, logistics, marketing, human resources, research and development, suppliers and customers of the organization (Wang et al., 2008, Kamhawi, 2009). Alignment focuses on the activities that management performs to achieve cohesive goals across the information technology and other business functions, such as, accounting, finance, manufacturing, logistics, marketing, human resources, research and development, suppliers and customers of the organization (Luftman, 2004). Investment in

IT/IS is considered as a type of strategic investment that supports organizations for achieving their strategic objectives (BPP Learning Media, 2009).

From the above it is clear that there is a direct relationship between the objectives of alignment and the objectives of ERP system, both endeavors to establish a harmony across business units. Theoretical principles of alignment models proposed by Henderson & Venkatraman and Chan and Huff are thus useful to establish the alignment of ERP systems with business operations of global businesses.

PROPOSED ALIGNMENT MODEL

Initial alignment model drawn from the above literature analysis is shown in the figure 1.

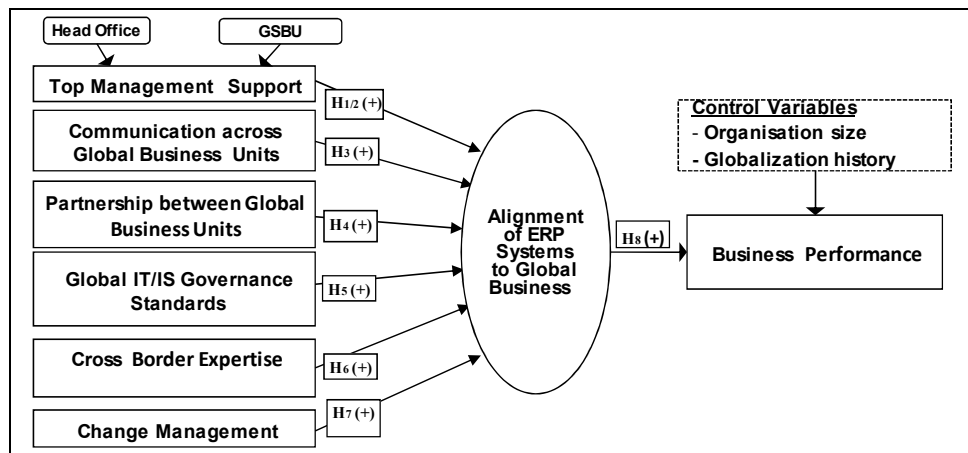


Figure 1: Proposed Alignment Model

Figure 1 shows that factors such as top management support of the global company, top management support of the global SBUs, communication across global business units, partnership between global business units, cross border expertise, global IT/IS governance standards and change management are important for the alignment of ERP systems to global business operations. It also predicts that if ERP systems are aligned to global business operations improved business performance will be achieved with some influence from variables such as organization size and globalization history.

CONCLUSION

Global business has become an important business trend dominating the world's trade and investments in the present era. The number of companies operating in the global market is on the rise seeking profitable growth opportunities in the global arena. ERP systems have the capacity and capabilities to support business operations of global businesses. Based on extant literature this paper identified a set of factors important for successful alignment of ERP systems to global business operations. These include top management support of the head office and global SBUs, communication across global business units, partnership between global business units, cross border expertise, global IT/IS governance standards and change management. Based on these factors this paper proposes an alignment model to address the alignment of ERP systems to global business operations. Further research is required to confirm the importance and relevance of the identified factors and the proposed alignment model in actual global business environment supported by ERP systems.

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