

## **PRACTICAL FRAMEWORK FOR EVALUATING AND IMPLEMENTING INFORMATION SYSTEM ALIGNMENT IN THE DEVELOPING COUNTRIES' ORGANIZATIONS**

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### **—Abstract —**

The alignment between Information System (IS) and strategic planning is one of the most significant areas of concern on the priority list of business IT issues, as well as in the management field. IS alignment has persisted as a one of the top concerns for IT managers for almost 30 years, and has been the first- or second-most importance in the last eight years. However, recent studies have shown that organizations are struggling to address alignment challenges. The literature does not provide clear and practical guidance on how to implement success integration between IS and business strategy, and does not identify the requirements for achieving, maintaining and diagnosing challenges that hinder a sustaining alignment.

This paper focuses particularly on the development of a framework to manage Information System alignment in such a way as to achieve organizational efficiency and effectiveness.

**Key Words:** Information System Alignment, Strategic Planning, Information Technology.

**JEL Classification:** O30, O31, O32, O33, O38

## 1. INTRODUCTION

Information Technology (IT) has been considered a key competitive driver for most organizations over the past decade. The role of IT in organizations has become a fundamental part of the business environment dynamic. The strategic use of IT for effective business performance in terms of contributing to the creation of business value has been a proven and well-recognized subject of study (Luftman et al., 1993, Earl, 1997, Silvius, 2007, Pedraza et al., 2011). The alignment between Information System (IS) and strategic planning is one of the most significant areas of concern on the priority list of business IT issues, as well as the field of management (Ward and Peppard, 2002). IS alignment has persisted as a one of the top concerns for IT managers for almost 30 years, and of first- or second-most importance in the last eight years (Luftman and Ben-Zvi, 2010). A survey conducted by CIO Insight indicated that the number one CIO priority for 2008 was “Improve Alignment with Business Objectives” (Alter, 2007). IS alignment was one of the top 10 issues identified in a survey of CIOs in 1983, 1986, 1994, 2008. Recently, CIOs Magazine published its State of the CIO 2011 survey results and listed “Aligning IT and Business Goals” as the number one CIO priority (CIO magazine 2010; State of the CIO survey, 2011).

IS alignment studies, in the early stages, focused on the failure to consider the value of investing in IT. For a long time, IT has been treated as a “Cost Centre” or an expense, rather than as a strategic weapon (Alter, 1995). Since the 1980s, its role has been recognized as “strategic”, and it has been considered an enabler to achieve competitive advantage (IBM, 1981, Porter, 1985, Earl, 1989, Galliers and Sutherland, 1991, Henderson and Venkatraman, 1993, Coleman and Papp, 2006, Johnson and Lederer, 2010).

However, recent studies have shown that organizations are struggling to address alignment challenges (Chan and Reich, 2007, Silvius, 2009, Levy et al., 2011). Despite contributions made to the field from different perspectives, IS alignment

continues to be difficult to achieve (Gutierrez, 2011). Avison et al. (2004) argue that the existing literature indicates that IS alignment has not been clearly researched, particularly the practicalities of its achievement. The literature provides little guidance on how to achieve alignment between business and IT strategies, and what management can do to diagnose, achieve, and maintain alignment. Organizations have to determine and understand how to manage IT strategically in order to stay competitive in a dynamic business environment (Henderson and Venkatraman, 1993, Earl, 1997, Kyobe, 2008, Grant et al., 2010, Pedraza et al., 2011).

### **1.1. IS alignment definitions:**

Studying IS alignment is a challenge, not only for the overlapping of this discipline with other areas of research, but also due to the many perspectives that have emerged in order to understand and identify the alignment (Gutierrez, 2011).

Avison et al. (2004, p.24) argue that “IS/IT strategic alignment has many pseudonyms”; it is also termed strategic alignment (Henderson and Venkatraman, 1993), strategic fit (Porter, 1996), integration (Weill and Broadbent, 1998), bridge (Ciborra, 1997), harmony (Luftman, 1996), fusion (Smaczny, 2001), linkage (Reich and Benbasat, 1996), business-IT alignment (Luftman and Kempaiah, 2007), IT alignment (Chan and Reich, 2007), and IS alignment (Benbya and McKelvey, 2006). However, in all cases, it concerns the integration of strategy relating to the organization and its IT/IS.

A number of researchers refer to IS/IT alignment as a mechanism that supports organizational strategy. Reich and Benbasat (1996, p.56) define alignment as a linkage: “...the degree to which the IT mission, objectives, and plans supported and are supported by business mission, objectives, and plans”. Furthermore, Luftman (2000) argues that achieving alignment is an evolutionary process, which requires strong support from senior management, good working relationships, strong leadership, appropriate prioritisation, trust, and effective communication, as well as a thorough understanding of the business and technical environments. Likewise, Hirschheim and Sabherwal (2001, p.88) define IS/IT alignment as “the extent to which the IS functions, strategies, and structures support, and are supported by the business strategies and structures”.

Other researchers refer to IS/IT as an event or phenomenon which emerges from coordination between IS and business strategy. Kefi and Kalika (2005, p.4) define strategic alignment as "...an emergent concept resulting from co-variation at a specific point of time between:

- Attributes of business strategy (partnerships and/or alliances strategic choices); and
- Attributes of IS/IT strategy (IS/IT strategic role, systemic competencies, architecture choices, and processes choices)".

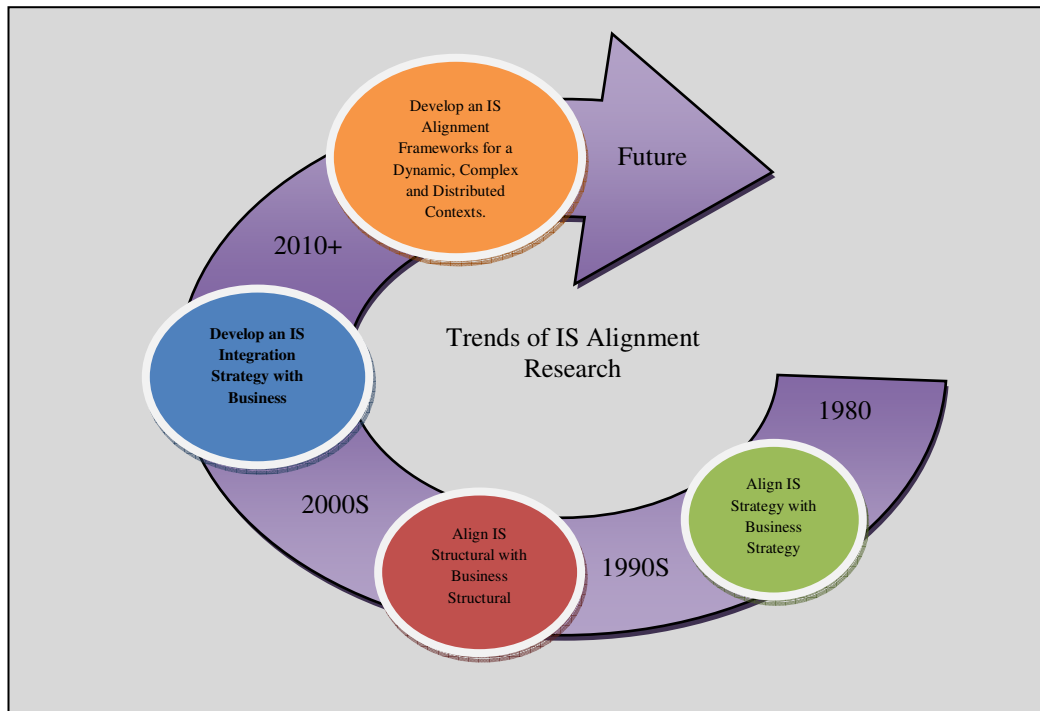
Lederer and Mendelow (1989, p.6), for instance, define it in terms of coordination, which "...can be achieved when the information systems strategy is derived from the organization strategy".

### **1.2. The historical development of IS alignment thinking:**

According to Peppard and Breu (2003) , the historical development of information system alignment started in the late 1970s. Figure-1 shows the trends of IS alignment over the years. Much of the basic research that has addressed the theoretical and practical aspects of IS alignment has aimed to explore the value of increasing investment in IT for organizations. The first studies focused on alignment as a strategic, top-down planning event, and provided the IS alignment literature with a number of tools and techniques such as value chain analysis and critical success factors (Earl, 1989; King, 1978; Wiseman, 1985). The second phase of development in IS alignment thinking involved the recognition that studying the relationship between IS strategy and organizational strategy alone does not deliver alignment. This phase indicated the importance of examining IS structure as well as organizational structure (Ein-Dor and Segev, 1982; Morton, 1991). The dynamic alignment between strategic business contexts and IT contexts occurred in the third phase of development of IS alignment thinking. This focus in this phase considered alignment as a process rather than an event (Henderson and Venkatraman, 1989, 1993; Broadbent, 1990; Broadbent and Weill, 1993) . The fourth phase of development in the study of IS alignment considered identification of the key mechanisms and enablers of alignment in a

dynamic context. Studies from this phase tried to explore conditions leading to sustainable competitive advantage (Ciborra, 1994; Earl, 1993, 1997; Keen, 1993; Luftman and Brier, 1999; Ross and Weill, 2002).

**Figure-1: Trends of IS alignment over the years**



## 2. IS ALIGNMENT DIMENSIONS:

Aligning IS strategy with business strategy is difficult (Luftman, 1996, Hirschheim and Sabherwal, 2001, Ward and Peppard, 2002, Bunker et al., 2008, Gutierrez, 2011). One reason for this is the complexity of the strategic process itself (Gutierrez, 2009). In the strategic management literature, there seem to be two dimensions to understanding and dealing with strategic complexity; intellectual and social dimensions (Horovitz, 1984). The same duality has been used in the IS alignment research (Reich and Benbasat, 2000). The intellectual

dimension of alignment is defined as the state in which a high-quality set of interrelated IT and business plans exists, therefore, this dimension refers to the planning methodologies and tools. On the other hand, the social dimension of alignment is defined as the state in which business and IT executives within an organizational unit understand and are committed to the business and IT mission, objectives, and plans; and refers to the IS alignment teams (Reich and Benbasat, 1996).

### **3. IS ALIGNMENT CONTEXT:**

The IS alignment literature is integrated with other related areas such as strategic management, organizational culture, leadership and theories and strategic information systems management. Figure-2 illustrates the context of the research and connections with the related disciplines.

Several authors indicate that IS alignment is a strategic issue and any recommendations to enhance the level of integration between IS strategy and business strategy must have strategic components (Voss, 1989, Ken, 1995, Wainwright and Waring, 2004). Bracker (1980) provides a general definition regarding strategic management noting that "...strategic management entails the analysis of the internal and external environment of a firm to maximize the utilization of resources in relation to objectives" (p.221). A more practical definition of strategic management provided by David (2009) states that "...strategic management can be defined as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives" (p.4). Strategic management can also be defined as "...a company's manifest plan of action for the ongoing creation and appropriation of value. Strategic management is at once a short-term and long-term process that involves both plans and actions" (Amason, 2010, p.7). One of the top areas of study in the strategic management field currently is focusing on how to ensure that the different jobs within the organization are aligned and are pulling together in the same strategic direction; IS plays a key role in terms of the success of this mission (Voss, 1989, Ken, 1995, Wainwright and Waring, 2004).

**Figure-2: IS Alignment Context:**



The scope of this research is to explore IS alignment in developing countries, which are investing a large amount of their budgets in transferring IT. However, there is a deficiency in terms of a common understanding of the concept of alignment between IS strategy and business strategy in developing countries that can lead to an increase in time and wasted effort and an increase in costs, all of which result in the creation of a negative environment for IT investment (Alfaouri, 2004).

Developing countries have recently begun to understand the important role that IT can play in resolving their problems (Almajali and Dahlin, 2010, Straub et al., 2001). Moreover, Arab countries, as developing countries, face common challenges in view of the absence of a well-developed technology system, and the lack of an IT culture (Al majali and Dahlin, 2010, Straub et al., 2001). Aldhmour and Shannak (2009) have highlighted the most important factors that affect the implementation of IT in developing countries, such as insufficient IT/IS infrastructure, a lack of government policies, the small size of companies, a lack of IT/enterprise resources, a lack of planning experience, a low level of IS maturity, and social and cultural beliefs.

According to Hann and Weber (1996) the activities of Information System Planning (ISP) aim to achieve three objectives:

- Recognizing organizational opportunities and problems in terms of which IS might be applied successfully.
- Identifying the resources needed to allow IS to be applied successfully to these opportunities and problems.
- Developing strategies and procedures to allow IS to be applied successfully to these opportunities and problems.

While the role of Strategic Information System Planning (SISP) is complementary to ISP, Newkirk and Lederer (2007) argue that SISP at its most basic, can be defined as the process of identifying the computer-based applications portfolio that help organizations to achieve their objectives. Doherty et al. (1999) clarify the relationship between SISP and IS alignment as "...differences between SISP, and the planning practices that pre-dated it, are in terms of its explicit emphasis on strategic alignment and competitive impact" (p. 264).

#### **4. Discussion**

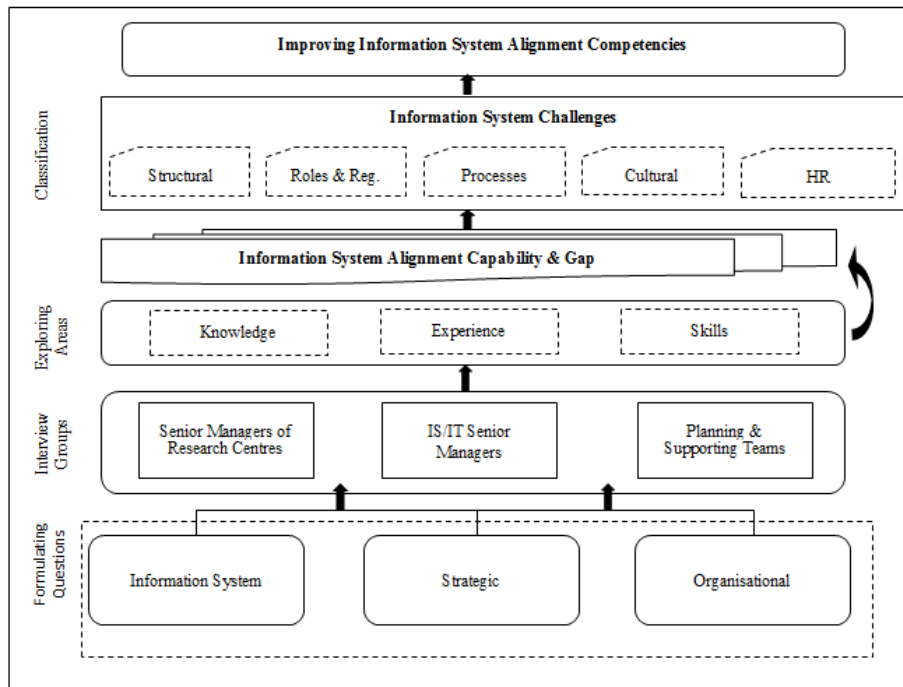
The literature provides several frameworks with regard to IS alignment. Unfortunately, they have not provided a practical roadmap to achieve IS alignment (Luftman and Brier, 1999).

The need to develop further relevant work in the field of strategic alignment is obvious, especially the need for empirical research that offers an understanding of the organizational domains that affect the integration between IS and organizational strategic planning, as well as techniques to identify and analyse information system alignment capability and gaps.

In order to develop this work further, we propose a Practical Framework for Evaluating and Implementing IS alignment. The framework shown in Figure-3 identifies the three effective domains for achieving IS integration; the strategic, organizational, and Information System domains.



**Figure-3: Practical Framework for Evaluating and Implementing IS Alignment**



To make this framework useful and practical, a set of questions has been developed from the literature regarding each domain, in order to analyse the situation at a senior level in terms of three groups; IS/IT managers, planning and supporting teams, and team managers.

The aim of this analytical process is to explore each group’s capability, including their knowledge, experience and skills regarding IS alignment. Furthermore, this process helps the researcher to discover the gaps and challenges associated with IS alignment within the organization under consideration; particularly in terms of human resources, organizational cultural, structural aspects, and roles and regulations.

## 5. Conclusion

The framework we have presented in figure-3 has given a roadmap to integrate IS with the strategic business plan. It can apply by different methods such as interviews or survey. Moreover, several data analysis techniques could be used whether working with qualitative or quantitative data.

The proposed framework is phase one of this research; the second phase is to translate this work to the empirical field. The frame work will implement in various organizations; the methodological in the future work will be obvious. A multi case study will be adopted to verify and enhance proposed frame work.

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