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RESEARCH-IN-PROGRESS: STRATEGIC INFORMATION SYSTEMS PLANNING IN SAUDI ARABIAN EDUCATIONAL INSTITUTIONS

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ABSTRACT

Strategic information systems planning (SISP) is important as it allows organizations to more effectively deploy information systems. Although this importance of SISP is brought to attention in the information systems literature, findings from several studies indicate the need for a holistic strategic plan for information technology in educational institutions. The literature also shows limited evidence of existing SISP influence in Arab countries. Therefore, the focus of this research-in-progress paper is on the current status of SISP in Saudi Arabian educational institutions. The theoretical background and the research instrument are presented here.

Keywords

Strategic information systems planning, administrative process, strategy alignment

INTRODUCTION

Information systems (IS) play an indispensable role in organizational practices. To have an effective information systems plan is important, and strategic information systems planning (SISP) is a critical management research topic as SISP helps assure organizations deploy IS successfully. SISP is defined as “the process of deciding the objectives for organizational computing and identifying potential computer applications which the organization should implement” (Lederer and Sethi, 1988). SISP has a diversity of objectives that cover the different perspectives of an organization. One essential objective is to improve performance, which can be achieved by aligning information systems strategy to the organization’s strategy (King, 2009; Pant and Hsu, 1995). Other objectives include improving communication, forecasting IT resources, and developing the information architecture (Lederer and Sethi, 1996).

SISP is a concern for educational institutions that invest heavily in information technology (IT) for teaching, research, and administration (Motjolopane and Brown, 2004). Although the importance of SISP is made clear in the IS literature, findings from several studies indicate that a holistic IT strategic plan is needed in educational institutions. Research has found that educational institutions in many countries, including the USA (Tellis, 1997), Malaysia (Yaakub, Mat Saat and Raja Mohd Ali, 2005), and Thailand (Titthasiri, 2000), lack comprehensive SISP. In addition, the IS literature shows limited evidence of SISP in Arab countries (Albadri and Abdallah, 2010). Therefore, the focus of this research-in-progress paper is on the current status of SISP in Saudi Arabian educational institutions. We selected Saudi Arabia (SA) for two reasons: First, it is one of the Arab countries where SISP influence has been very limited. Second, the trend for IT investments in SA has been escalating in the last decade (Communications and Information Technology Commission, 2010).

Our research has two objectives. The first objective is exploratory in that we wish to investigate and describe the current SISP practices at educational institutions in SA. The second objective is to develop SISP guidelines for educational institutions, specifically in SA. To achieve these objectives, we will conduct a survey for which we have adapted and modified a questionnaire taken from Pavri and Ang (1995). We believe our work is significant as the SISP literature lacks research on the practices and the influences of SISP in educational institutions in Arab countries, and this paper tries to fill part of this gap. Furthermore, the SISP guidelines that we develop may assist IS practitioners in developing and implementing IS plans in their educational institutions, resulting in more effective use of IT.

This paper is organized in three sections. After the introduction, we look at past, related research to put our work in context. Then, in the third section we outline our research methodology.

RELATED RESEARCH

The Importance of SISP

Many studies have emphasized the importance of SISP to organizations. SISP helps organizations in understanding the complexity of information systems by analyzing the environment, planning the IT architecture, and determining the best approach for IS to support the organizational goals (Salmela and Spil, 2002). SISP also assists managers in establishing IS strategies, allocating resources, and gaining competitive advantage (Basu, Hartono, Lederer and Sethi, 2002).

Newkirk et al. (2003) conclude that too much or too little SISP may not be effective; they purport that the right amount of implementation planning is required to have successful SISP. The authors argue that more planning is needed only in the early stages of implementation. Based on Newkirk et al. (2003, 2008), the SISP process consists of *strategic awareness* (i.e. defining planning objectives), *situation analysis* (i.e. analyzing current systems), *strategy conception* (i.e. defining IT objectives), *strategy formulation* (i.e. identifying IT architecture), and *strategy implementation* (i.e. identifying the action plan). SISP methodology makes up a major part of the SISP literature. A methodology provides a framework with specific phases, tools, and techniques that are used to solve a specific problem. Examples of SISP methodologies are: *Proplanner Strategic Information System Planning Methodology* (Holland System Corp, 1986), *SISP Framework* (Ward and Peppard, 2002), and *IT Strategic Plan Guide* (UCLA, 1996).

SISP in the Educational Sector

In the educational sector, SISP is a concern for institutions that invest heavily in IT for teaching, research, and administrative processes (Motjolopane and Brown, 2004). SISP can be viewed as a guide for future development in and of educational institutions, given that SISP can affect teaching, research, and administration (Rowley et al. 1997). Suhaimee, Abu Bakar and Alias (2005) found that effective SISP is important in the implementation of knowledge management in Malaysian educational institutions. In another study that investigated four Indonesian educational institutions, Semiawan and Middleton (1999) found that SISP significantly affects the functions and performance of information systems.

Though the importance of SISP is clear from the IS literature, findings from several studies imply that a holistic IT strategic plan is needed in educational institutions. Yaakub, Mat Saat, and Raja Mohd Ali (2005) found that only 15% of private Malaysian research institutions have applied SISP. Titthasiri (2000) purports that higher education institutions in Thailand do not have enough experience of strategic IT planning which confines the IT development in these institutions; the author proposes an IT strategic guideline and a new organizational structure for the IT planning team. Tellis (1997) found that in the USA comprehensive SISP is particularly needed for issues related to IT structure, funding, and governance.

At the university level, IS include an umbrella of different systems such as registration system, financial system, library system, and housing system. With these systems, overlap or redundancy may cause significant inefficiency in educational and administrative processes; therefore, many universities apply SISP to improve the efficiency of their systems and processes, and thus perhaps gain a competitive advantage over other educational institutions (Wiggins, 1995). SISP is a multi-step process that includes identifying vision, mission, strategies and goals (Ward, Griffiths and Whitmore, 1990). SISP for an educational institution covers a wide spectrum of important issues such as (ibid):

- Identifying current and future information needs for the educational institution
- Determining policies for management, creation, maintenance, control and accessibility of resources
- Identifying a portfolio of skills that will be needed
- Designing an effective organization structure for the IS function
- Ensuring that there is an acceptance of common responsibility between IS and business people

SISP in Saudi Arabia

In this study, the focus is on the current status of SISP in Saudi Arabian educational institutions. According to the Communications and Information Technology Commission (2010), the IT investments in SA are considered high. IT spending was SR27 billion (approximately \$7.2 billion) in 2010 and expected to increase by 10.2% in 2011. Major IT projects are launched in employment, education, smart cities, healthcare, and transportation. Furthermore, per capita IT spending was SR998 (approximately \$266) in 2010, which is a 14% increase over the previous year's value. Saudi Arabia has 21 government universities and 27 private universities and colleges distributed over different regions and linked to the Ministry of Higher Education.

Published research about the use of SISP in Saudi Arabia is scarce. In one study, Issa-Salwe, Ahmed, Aloufi and Kabir (2010) discuss the key features of strategic information systems alignment in three private companies in Saudi Arabia. The authors purport that SISP in these three Saudi companies is a customer-centric process where the goal of IT implementation

is to satisfy customers, reduce cost, and ensure the continuity of the business. We could not find any published research that discusses the use of SISP in Saudi Arabian educational institutions. However, based on the IT National Plan project, more than 50% of IT departments in the public sectors do not have strategic planning (Aleqtisadiah, 2007). Therefore, this research may be a first step toward describing SISP practices in SA educational institutions.

Summarizing from the previous subsections, we deduce the following three important points. First, SISP is essential not only for business corporations but also for educational institutions. Second, there is a lack of SISP research in educational institutions. Third, there is limited evidence of SISP influence in Arab countries, such as Saudi Arabia, although they invest heavily in IT. Thus, as stated earlier, we plan to describe the current SISP practices, and develop and propose SISP guidelines for educational institutions in Saudi Arabia.

METHODOLOGY

Saudi Arabian higher education institutions can be classified into public and private institutions. Saudi Arabia has 21 public (government) universities, and 9 private universities, not counting smaller colleges (Ministry of Higher Education website). Because of differences in organizational structure, goals, and visions between public and private universities, we restrict our investigation of SISP practices initially to public universities.

We believe a survey is the most appropriate methodology to address the research objectives. We have adapted the questionnaire of Pavri and Ang (1995) to fit the purpose of this research (see the appendix). In addition to translating the questionnaire to Arabic, we will modify the questionnaire to include three sections. Section one has general information about the education institutions such as organizational structure. Section two asks about the availability of SISP in educational institutions. If SISP is present, the respondent is then asked to continue with the rest of the questions. Otherwise, the respondent is asked for the reason of not having SISP. Finally, section three includes the questions on SISP practices. The appendix shows the details of the questionnaire.

We plan to obtain formal permission from the Government Research Department before starting the research. After that we plan to talk with the directors of information systems departments in different educational institutions either by phone or in person. In these short calls, we plan to give the directors an idea about the research project, its objectives, and its benefits. Finally, we will send the questionnaire to the IS departments in the education institutions. After receiving and analyzing the returned questionnaire, we will be able to describe the current SISP practices at educational institutions in Saudi Arabia.

After completion of this first phase of this project, and after evaluating the results, we will develop SISP guidelines or a framework for educational institutions in Saudi Arabia or in similar cultural settings.

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Appendix: Survey Questionnaire

Part I: University Information		
1. University Name:	2. Total Number of Employees A. Less than 500 B. 500-1000 C. Above 1000	3. Organizational Structure A. The university has only one campus B. The university has more than one campus
Part II: Availability of SISP		
1. Does your university have a strategic IS plan? If yes, please continue with the rest of the questionnaire If no, please specify the reasons for not implementing SISP		
Part III: SISP Practices		
1. To what extent does the Government's emphasis on IS planning efforts raise your institution's awareness of effective strategic IS practices?	2. Time required to develop strategic IS plan: (months)	3. IS budget covered by the strategic IS plan?
4. Strategic IS plan update frequency:	5. Executives responsible for strategic IS plan A. Directors B. Managers C. Others (Please specify)	6. Does your university have an IS steering committee? If yes, what role does it play in strategic IS planning efforts?
7. Highest level within the university hierarchy whose approval is needed for the strategic IS plan: A. Vice Rectors B. Heads of departments C. Supervisors D. Other (please specify)	8. Degree of satisfaction with strategic IS plan A. Top management B. IS management C. Staff management D. Student management	9. Which year was the first strategic IS plan developed?
10. Is the strategic IS plan modeled after the university strategic plan? A. Yes B. No C. No university strategic plan	11. Are those involved in developing the strategic IS plan made aware of the overall university objectives? A. Yes B. No	12. Degree of participation in developing strategic IS plan A. Top management B. Non-IS managers C. IS managers D. Users (staff and students) E. Programmers F. Developers G. Vendors H. Consultants
13. What items are included in your strategic IS plan? A. Statement of Objectives B. Projection of possible future MIS environment C. Projection of possible future user environment D. Projection of possible future industry environment E. Summary of strengths and weaknesses of MIS staff F. Evaluation of past performances vs. plan by MIS G. Alternate strategy definition/evaluation	14. Please weight (5 = very important, 1 = not important) each purpose you had in mind when undertaking your Strategic IS Planning efforts A. Identifying new applications B. Improving communications with users C. Improving communications with top management D. Forecasting resource requirement E. Identifying internal improvement opportunities F. Improving short-term decision making G. Improving the allocation of personnel resources H. Securing budget increases I. Improving morale and sense of purpose J. Increasing ROI of new applications	15. Weight the degree of attainment to date (5 = outstanding relative to expectation, 1 = poor relative to expectation) in carrying out the Strategic IS Planning efforts. A. Undertaking your Strategic IS Planning efforts B. Identifying new applications C. Improving communications with users D. Improving communications with top management E. Forecasting resource requirement F. Identifying internal improvement opportunities G. Improving short-term decision making H. Improving the allocation of personnel resources I. Securing budget increases J. Improving morale and sense of purpose