EFFECTS OF INFORMATION SYSTEM INTENT OF MANAGERS ON INFORMATION SYSTEMS IMPLEMENTATION: CASE OF SELECTED E-GOVERNMENT PROJECTS IN TWO CITY ADMINISTRATIONS IN ETHIOPIA

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Abstract

The importance of management support in information systems (IS) implementation has been emphasized in previous studies. In line with this, research on critical success factors in IS projects implementation and management is increasingly recognizing the importance of non-technical factors, such as leadership. However, despite its importance, there is lack of empirical evidence to clarify the role of top managers IS intent on IS implementation. This paper, thus, argues for the need for greater inquiry into the field of management support for IS implementation success. It will provide an empirical investigation of the influence of IS strategic intent of managers on IS effectiveness in two city administrations in Ethiopia. The research will be conducted as an interpretive case study in the selected two public institutions. Information Systems projects from these two setups will be selected and the role and extent of IS intent of managers in relation to each project will be studied in detail. Interview items will be adapted from related previous studies. By so doing, this research is aimed at increasing our understanding of managers’ role in facilitating success of IS implementation in organizations.

Keywords: IS intent; project; IS implementation; Leadership Commitment
1. Introduction

Information Communication Technologies (ICTs) impact individuals, businesses/organizations, nations and the world at large. As a result they become core of business operation in many sectors (Negash, 2004). As Nah, et al (2001) pointed, now, more than ever, effective business strategy centers on aggressive, efficient use of information technology. Applegate and Elam (1992) argue that most senior executives are now well aware of the critical role information technology (IT) plays in enhancing organizational competitiveness.

Recognizing its critical role in major aspects of the nation, the government of Ethiopia is investing a lot to strengthen the ICT infrastructure for different sectors of the economy. WoredaNet, for instance, is one of these initiatives that is aimed at linking all Woredas1 throughout the country so that different eGovernment packages can be effectively and efficiently implemented all over the nation.

In spite of the overall budget limitation, in many cases, the percentage of GDP allocation by economically developing countries is higher than that of industrialized nations as far as IS/IT implementations is concerned (Negash, 2006).

To benefit from such investments, more and more companies are using the project approach as a vehicle for creating change in pursuit of organizational goals. Each project strives for excellence, yet is by definition a unique task, normally subject to severe restrictions on budget and time; it is widely recognized that projects involve complex set of processes which helps explain why so many fail to achieve the initial overall aims (Anderson, 2006; Yetton, et al., 2000).

Although it is difficult to identify a unifying framework, (Nah et al, 2001; Andersen, 2006) indicated that project mission (clarity of goals and general directions), top management support, project schedule/plans, client consultation, personnel (recruitment, selection, and training), technical skills (availability of the required technology and expertise), client acceptance, monitoring and feedback, communication, and troubleshooting (ability to handle unexpected crises and deviation from plan) as critical success factors for projects. The reason why most Information Systems projects in developing economies fail or do not perform as expected could be due to the absence of most of the aforementioned critical success factors.

Among the critical success factors, this study specifically focuses on top management support. This is mainly because of the fact that top management support and commitment plays the lion’s share role in success of IS implementation. As it is clearly summarized by Nah et al (2001), top management support is needed throughout the implementation. The project should receive approval from top management and should align with strategic business goals. Top management needs to publicly and explicitly identify the project as a top priority. Furthermore, senior management must be committed with its own involvement and willingness to allocate valuable resources to the implementation effort.

Management support is considered (Sharma and Yetton, 2003; Myerson, 2002) to be a critical factor in the successful implementation of information systems innovations. Commitment by top management is identified as one of the most prominent critical factors for successful ERP implementation among such other factors as clear understanding of strategic goals, excellent project management, organizational change management, a great implementation team, data accuracy, extensive education and training, and focused performance measures (Umble, et al., 2003).

Although the importance of leadership commitment to project success is widely recognized, the determinant factors for leadership commitment in support of IS projects needs further exploration in the context of developing

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1 Woreda is a local government administrative unit next from the bottom administrative unit in Ethiopia.
countries because most IS projects in developing countries are not successful. Thus, the main objective of this study is to assess the effect of IS intent of managers in IS/IT implementation success. In particular, this research tries to answer the following question:

How is the IS intent of managers in an organization affect the success of Information Systems implementation?

In order to find the answer to this research question, the following sub-questions will be answered:

- Does the IS intent of top managers affect Information Systems project success?
- What are the key IS intent-related factors for success of Information Systems implementation in an organization?

Silva and Magalhaes (1999) suggest that for the corporate governance of IS, a degree of IS intent is also needed. This means that stakeholders should be very clear about the IS-related criterion that the organization will use to chart its progress. Silva and Magalhaes (1999) further stated that IS intent has to do, above all with the awareness, the understanding, the action and the proaction from all the firms managers regarding the role of IS/IT in helping to achieve their own business objectives and, ultimately, the firm’s strategic aims. According to this definition, in a firm where managers have IS intent, the corporate governance of IS will be different from a firm where managers do not have (or have less) IS intent.

2. Literature Review

Leadership commitment is the loyalty or devotion, dedication, assurance, obligation or promise of a leader to effectively and efficiently exercise his duty. As pointed by (Bossink, 2007) charismatic leadership generates energy, creates commitment and directs individuals towards new objectives, values or aspirations. Top management commitment becomes a reality when a manager of a company or division accepts the responsibility for the successful implementation of the business plan. It is expressed in different ways such as commitment to set of values, principles or beliefs; commitment to oneself, to how one acts as a leader; commitment to customers, results, employees, and the organization at large (Staw and Ross, 1980; Keramati and Azadeh, 2007).

Thus, it is possible to deduce that without leadership commitment, it is unthinkable to attain the goal the business is aspiring for. Indeed, projects are not successful in most cases due to several reasons. Leadership commitment is one of the very important determinants or success factors for projects success. This is because of the fact that projects have high degree of risk and uncertainties. The role of leaders and leadership is manifest in the context of projects as they are mostly short-lived and fast track (Toor, 2008).

As clearly stated by McLeod (2005), top management commitment for IT projects is measured in terms of its strength; the extent to which concerned bodies are prepared to commit time and required resources timely in line with the work plan. The availability of designated resources (physical and logical) for the project as per the project plan is an indication of strong commitment while the denial of the resources is an indication of withdrawal of commitment.

According to Silva and Magalhaes (1999), the issue of organizational implementation of IS is relevant mainly at two levels: the strategic or corporate governance level and the operational level. IS-related organizational learning takes place at the corporate governance level, with three major stakeholders – the top managers in charge of the IS function, the information systems manager and the senior line managers and the operational implementation level, also with three major players – the senior line managers, the middle managers and the end users. Both levels are interesting in terms of IS research, but due to the complexity and the size of the problem it is thought that this research will try to address the top. Thus, in terms of level in the organization, this research will focus on the strategic or the corporate governance level because managers at this level mainly deal with the strategic issues that determine the well being of the organization.
One of the issues that Information Systems (IS) researchers and practitioners have been trying to address ever since computers began to be adopted by organizations is a simple one: how to make the most out of the investment in Information Technology (IT)? Investors invest in IT hoping to achieve better organizational effectiveness. Better organizational effectiveness can take many forms, but basically IT can help in one or several of the following ways: reducing costs, improving the firm’s management information, improving the firms competitive positioning and enabling organizational restructuring (Silva and Magalhaes 1999).

In order to achieve any such objectives, the firm must be able to implement the new technology effectively. And this is where difficulties often arise. What does effective implementation mean? One way of tackling the issue is through evaluation. In other words, for implementation tools and techniques to be considered effective, evaluation measures must be put in place, for example, financial measures (Silva and Magalhaes 1999).

Checkland (1998) argues that the whole process of IS implementation, in fact, is a process of organizational change. From this it follows that IS implementation could be construed to be a process of change where a key criterion is integration, i.e., the embedding of IT-based systems into organizations. Hence, among other interpretations, it is possible to say that IS implementation is a (never-ending) process of change aimed at the integration of technological artifacts into the social structures and processes of the organization. As discussed by Davidson (2006), when Information Technologies have a central role in organizational change programs, understanding how organizational members make sense of technology is critical to influencing their actions and to achieving planned outcomes. As it is suggested by Orlikowski and Gash (1994), when the technological frames of key groups in organization – such as managers, technologists and users- are significantly different, difficulties and conflict around the development, use and change of technology may result.

2.1 The changing nature of IS implementation

As time passes, the nature of information systems in organizations and, therefore, the nature of IS implementation is changing. As briefly discussed by Silva and Magalhaes (1999), in at least three different aspects, such change is noticeable: (1) information systems in organizations is becoming less and less a technical issue; (2) information systems in organizations are becoming more and more “horizontal” in terms of functional responsibilities; (3) as the consequence of the two preceding points, information systems and the rest of the organization are becoming more and more independent. This new thinking is related, on one hand, to the increasing costs of the operations and maintenance of IT applications in all organizations and, on the other hand, to a new awareness on the part of most managers regarding the competitive implications of IT management (Silva and Magalhaes, 1999).

Walsham (1993) argues that IS organizational implementation encompasses all the human and social aspects of the implementation of information systems in organizations. Silva and Magalhaes (1999), on the other hand, suggest that IS organizational implementation goes further than that and has to include also other aspects of organizational reality, such as the technical, strategic and the managerial aspects, among others. Hence, they have proposed a definition of IS organizational implementation, which encompasses all of the aspects, which are organizationally relevant to the complete process of introduction of information technology applications into organizations and which reads as follows:

**IS organizational implementation is a continuous process of organizational learning guided by IS-related managerial action and shaped by IS-related organizational contexts, the constitutive bases of the alignment between the organization’s strategy and the process of infusion and diffusion of information technology artifacts into the organization.**
3. Method and Research Approach

3.1 Theoretical Framework
The researcher didn’t found a theoretical framework that can be used as a spring-board to study the problem at hand. Due to this, a grounded theory methodology will be employed as a strategy of enquiry hoping that I may choose the theoretical framework much later on due to the iterative nature of qualitative research.

3.2 Philosophical Assumptions
The researcher will conduct a case study within the interpretive tradition of information technology studies. The objective is to understand how managers at different levels in organizations understand and interpret information systems implementation in organizational setup. With the assumption of interpretive research, it will be focused on subjective description of the managers and their expressed thoughts and feelings about information system implementation in their organization. Specifically, I will adapt an inductive approach, and accordingly, did not specify theory a priori to guide the data collection and analysis tasks. Instead, relevant theories will be investigated as data will be analyzed.

3.3 Research Method
Grounded theory research methodology in this research. More specifically, the “Straussian” version of grounded theory will be used. Indeed, the intent of a grounded theory study is to generate an abstract analytical schema of a phenomenon that relates to a particular situation. As required in grounded theory, data collection is tightly interwoven with data analysis.

3.4 Data Collection Approach
In-depth interview will be used as a tool to collect relevant data. The interview will be supplemented by document review such as using memoranda, organizational charts, project timetables, and other documents such as annual reports. Case study research will be conducted focusing on two selected public institutions in Ethiopia (Baherdar and Diredawa City Administrations). Specifically, two implemented IS projects will be selected from the two city administrations and the effect of the IS intent of key managers in the overall implementation of the projects will be studied in detail. One of the City Administration is located in the North Western Ethiopia and the second one is located in the South Eastern Ethiopia. One can infer from this that the managers that are going to be used as study subjects are probably from two different cultures.

The researcher is currently engaged in another research that deals with assessment of eGovernement project in the selected two city administrations (two eGovernment projects from each city administrations) and thus have familiarity with the study area and study subjects. In the eGovernment project assessment case, the objective is to assess the overall situation of the projects based on agreed upon framework designed to study same. The basic objective in this research is to specifically focus on the IS intent of managers in relation to the implementation of the projects under consideration.

The common theme running through the data gathering activities will be the actions (i.e., situations, behaviors or attitudes) of the three main IS corporate governance stakeholders. The respondents will be given the following frame of reference: behaviors or attitudes in the daily life of the company presented from the perspective of one of the three key stakeholders: the top manager, the information system manager, or the senior line managers; the main reasons for the success or failure of the key information system(s) which have been implemented in the company in the last few years, taking into considerations the actions of three leading actors in so far as they are involved in such implementation(s). In this case respondents will be asked to comment freely upon their perceptions of the reasons behind such successes or failures.
3.5 Analysis of the data

Data analysis will be based on three types of coding: open, axial, and selective coding. Open coding was the process of breaking down, comparing, conceptualizing, and categorizing data. In this type of coding, comparison of each incident, event, quote and instance that will be gathered during the data collection for similarities and differences. Axial coding involves putting the coded data back together in new ways by grouping codes that are conceptually similar. Finally, during selective coding, it will be tried all analysis into one core category. Briefly the basic idea here is that, the investigator will go through the data several times. First, the data will be organized by breaking down large bodies of text into smaller units, perhaps in the form of stories, sentences, or individual words. Then, particular attention will be paid to the entire data set several times to get a sense of what it contains as a whole. In the process, few memos will be jotted down that suggest possible categories or interpretations.

Following this, general categories or themes, and perhaps subcategories or subthemes will be identified, and then classify each piece of data accordingly with the objective of getting a general sense of patterns – a sense of what the data mean. Finally, the data will be integrated and summarized for the readers.

4. Expected Contributions

Stakeholders of the corporate governance of IS should be very clear about the IS-related criterion that the organization will use to chart its progress. IS intent has to do, above all, with the awareness, the understanding, the action and the proaction from all the firms managers regarding the role of IS/IT in helping to achieve their own business objectives and, ultimately, the firm’s strategic aims. Accordingly, in a firm where managers have IS intent, the relationships, which characterize the corporate governance of IS will be different from a firm where managers do not have or have less IS intent.

As to the knowledge of the investigator, extensive research is not conducted in relation to the IS intent of managers except an attempt made in a developed country perspective. In line with this, commitment is one of the vital inputs to project success and IS intent can be considered as one input for manager’s commitment in their work environment. Therefore, doing the research in a developing country context such as Ethiopia would help to validate whether the already identified determinants of leadership commitment components of IS intent can also apply for the developing country context.

IS intent of managers actually affects organizational learning. On top of that, managers take lion’s share role in introducing and implementing new technology in an organization. Thus, dealing with the IS intent of managers in relation to the IS implementation is unquestionable. By so doing, this research piece is aimed at filling knowledge gap by extending the already known components of IS intent specifically in developing country context.

As far as its implication for practice is concerned, this research work can contribute mainly changing the image of IS project implementation especially by managers giving valuable input on the key problem areas of awareness (specifically in relation to the IS intent) and as to what managers should do in relation to facilitating IS implementation effectively and efficiently. As boldly mentioned in a recent study by Dada (2006), numerous studies have shown that it is not just e-government applications, but information systems in general that fail in developing countries. In line with this, as quoted by Dada (2006), a literature review by Avgerou and Walsham (2000) in this field concludes by stating, “successful examples of computerization can be found … but frustrating stories of systems which failed … are more frequent.” Ethiopia as one of the developing countries is not an exception. Therefore, the research output can also be used as point of reference to check whether IS intent exists or not as critical input for success in IS project implementation and management.
References

McLeod, R. (2005) Guidelines for evaluating your European project; Aberdeen City Council (Learning and Leisure Service).