



Investment on IT to Gain Organizational Productivity through Technological Advancement and Complementary Human Resources

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ABSTRACT

This study identifies the technological advancement and qualified human resources effect on the organizational productivity. Organizations upgrade technology for improving employee's performance, increased efficiencies, improved communication, facilitated job-tasks, and higher-levels of effectiveness in the organization. Advance technology has improved the employee performance as well as less the employee working effort and task completion time. This paper focused on effects of IT, IS advancement and human resources on organization productivity, and also supports the expected positive impact of IT investment.

Keywords: Investment on IT, Organizational productivity, Technological advancement, Human resources

1. INTRODUCTION

Last one decade, the concern with the impact of information technology on firm performance and on economic growth. technology Using in the organization become essential and inevitable to compete with the competitive business world. But after implementation of technological innovations a lot of companies face difficulties. The reason behind lack of management involvement is less experience and inadequate knowledge in technical aspects of computer hardware and software systems for the individual who work in the business department.

The lack of these factors may form a potential barrier to the gaining of benefits from organizations' investment in IT. As revealed in the preliminary study, lack of leadership of top management is a result of lack of communication. The communication that takes place is found to be only verbal and not adequate enough to identify requirements of the business department. Lack of communication between IS and other senior executives, according to Coakley et al. (1995) could lead to mismatches between IS investments and business objectives, create conflicts and redundancy in the organization. The study of

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Luftman et al. (2004) concluded that IT is a crucial enabler of strategic alignment. Others mentioned that leadership is a critical requirement for the position of Chief Information Officer or CIO (Weiss et al., 2006). They recommended that CIO leaders should acquire technical and behavioral skills in order to enhance their strategic alignment ability.

However, knowledge sharing between IT management and top management that can hinder the linkage between IT plan and business plan. Broadly we can explain the reason of IT-business alignment issue, such as the a) conflict, redundancy and coordination problems experienced by many firms which may arise from technological innovation. b) New technological innovation may slower down the productivity because such as qualified human resources, lack of proper training. So therefore, those organizations are far behind from expected outcomes. The objective of the study is to identify whether technological innovation affect the organizational productivity and qualified human resource.

2. LITERATURE REVIEW

Over the last decade organizations are facing competitive pressures to improve efficiency and productivity through technological innovation (Ifandoudas and Chapman, 2006). Moreover, organizations have to compete in the market through service or product innovation, as organizational efficiency and effectiveness derives from innovation. All stages of the service and production process such as reducing set-up time, inspection time and run time can be improved through IT, which will improve firm's market position. But lack of coordination, quality of human resource, inadequate IT and business alignment, cost the firm inefficient and less productive. This paper on the effects of IT, IS alignment and human resources on productivity and performance.

Business infrastructure relates with the activities that drive the business and how they run the business. This involves misusing IT in a firm, which may affect the improvements in its business process. Business skills concentrate on the human resources of the firm. They focus on the training, education and motivation of employees, including salaries and rewards. The ways a firm creates the organizational culture, and deploys human resources to achieve the firm's business goals also influence the concentration of business skills.

Moreover, the components of IT strategy are: technological scope, IT governance, and systematic competences (Papp, 1995). Information technology scope refers to all applications, information, and technologies that the business has to use. The systematic competences element is related to all information regarding the firm's customers and clients, which serve the firm's business strategy. The most important part of IT strategy is the IT human resource, which

addresses issues such as the possibility of technological partnerships, including outsourcing, selection and prioritizing the IT applications and projects.

2.1. Information Technology on organizational productivity

Lots of studies have been carried out concerning the impact of information technology on productivity. The results suggested that there is a strong direct relationship between efficiency and effectiveness. Similarly, Taghizadeh, (2006) examined the impact of information technology on organizational effectiveness in The Organization of Libraries, Museums, and Documents Center of Astan Quds Razavi. The results indicated that the employment of IT systems has increased the effectiveness of the organization. In addition, IT system users who employ such tools to provide services to clients believed that the pace of doing things, timely data recovery, and the speed of accessing to information have improved dramatically comparing the period prior the deployment of IT systems to the extent that this improvement has enhanced the organization's productivity because of providing quality services to clients. Human capital and investment in IT have a positive significant impact on organizational productivity.

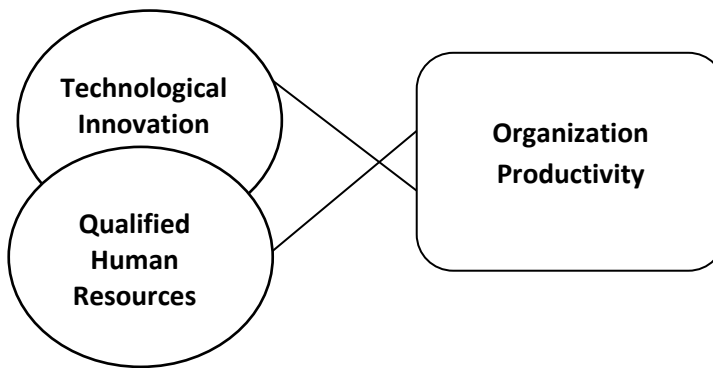
2.2. Technological Advancement and Employees Performance

Rezaei and etal (2014) results suggested that that there is a positive relationship between IT and human resources productivity. Abaee Shoushtary (2013) study indicated that the dimensions of IT affect human resources productivity. Abaee also claimed that the education level and the type of available jobs had effects on the dimension of human resources productivity.

Dedrick and etal (2013) found that the higher earning countries have gained positive and significant productivity from IT investment. Dedrick etal also found that the productivity effects of IT are moderated by country factors such as; human resources, openness to foreign investment.

3. THEORETICAL FRAMEWORK

In order to utilize IT properly, it must be used in a combination with complementary resources such as organizational structure, organizational resources or human resources (Ramírez et al., 2001; Aral et al., 2010; Peppard and Ward 2004). Bresnahan et al. (2002) suggested empirical evidence about the constructive effects of combining IT and organizational design to increase organizational productivity. Powell and Dent-Micallef (1997) suggested that sustainable performance advantages cannot be produced by IT, although some of the firms have gained productivity and competitive advantages by using technological innovation with complementary human resources.



4. HYPOTHESIS DEVELOPMENT

Information has been seen as a valuable resource along with other factors of production. Following the expansion of business activities, globalization, and rapid changes in the organizations' environment, information is considered as a strategic factor. Many organizations have realized the importance of information technology and its impact on speeding up and accurate performance of tasks and increasing customer satisfaction, support systems, managers' decision-making, and especially the organization's productivity. Such awareness has caused most organizations to quickly move towards the Information technology. Thus, we declare the hypothesis;

Hypothesis 1: "There are positive relationships between technological innovation and organization productivity".

In order to successful implementation of information technology effectively and to obtain expected result from IT investments, corresponding resources such IT infrastructure is required. Similarly, IT members have to be highly skilled in order to face the firm's demands. Therefore, organizations have to provide appropriate training courses in order to get the maximum efficiency. Therefore, we propose our next hypothesis:

Hypothesis 2: "There are positive relationship between qualified human resource and organization productivity."

5. CONCLUSION

Most of challenges are generated by competition, advanced technology, enhancing employee efficiency and repaid growth. In order to stay competitive in the market organization have to upgrade their technology and strategy. It is difficult for many organization to continuously change their technology and

trained employee accordingly. Moreover, the cost of technology, support and maintenance cost, qualified human resources, competing rivalry in the market, whether the organization still be able to gain their expected profit is become a question. It is urgent to research on how to determine technology's specification and cost according to firm's size, which will optimize organization's productivity and stay competitive in the market.

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