Building Strategic Information System Effectiveness of Firms Performance

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Organization Background and Importance of the Problem

Thailand is an independent country located in the Southeast Asia near Myanma, Laos and Malaysia. Bangkok is the capital of Thailand. Thailand is the world's 50th largest country in terms of total area with approximately 66 million people (Wikipedia , 2010). Most of Thai people work in agriculture. Thailand's economy grew between 1985 to 1996. That means Thailand is a new industrial country. The growth rate average is 9.4% annually. Thailand's economic started to recover in 1999, expanding growth rate of 4.2% and 4.4% with largely to strong exports in 2000 (Wikipedia , 2010). Growth in 2002 to 2004 was 5-7% annually and growth 2005 to 2007 hovered around 4-5% , due to weakening of the US dollar and increasingly strong Thai currency. The substantial industries include electric appliances, component computer parts and cars, while tourism in Thailand makes up about 6% of economy.

With the increasing use of new high technology of computer hardware, software and computer based on information system , today's assessment of the value added to organization by information system assets, like the effectiveness of information system, has become an important topic for both practitioners and researchers (Ozham,Bilgen,Hackney,2007). While information technology products

open new opportunities for developing countries , they also pose a set of new challenges. Yahya (1993), Sahay and Avgerou (2002) claim that developing countries have problems in IT use because developing country environments tend to be politically volatile and unstable. And decisions around IT projects are often driven by reasons of expediency rather than rationality. Lee et al.,(2008) said that "IT investment has been an important issue to senior executives as IT investment is one of the major budget items in most businesses. Management literature has shown contradictory results on the impact of IT investments on performance (Sircar et al., 2000).

It means that IT investment can improve business performance. The current issue and full text archive of this journal is available at conditions such as business-IT

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alignment." Although Thailand is a developing country, it is willing to invest in information and telecommunication technology, so business firms in Thailand use information system for developing their organizations.

According to IFLA/FAIFE World Report: Libraries and Intellectual Freedom *(Adapted from http:// archive.ifla.org/faife/report/thailand.htm)* , in Thailand there are two major policy documents related to access to information and freedom of expression, namely; 1) the National Information Policy and 2) the National Information Technology Policy.

The National Information Policy of Thailand pays attention to developing the effective information systems for organization performance. Many organizations in Thailand invest a lot of budget in information system and technology equipments for producing products managing and deciding in their firms , so they expected to use information system to cover their cost.

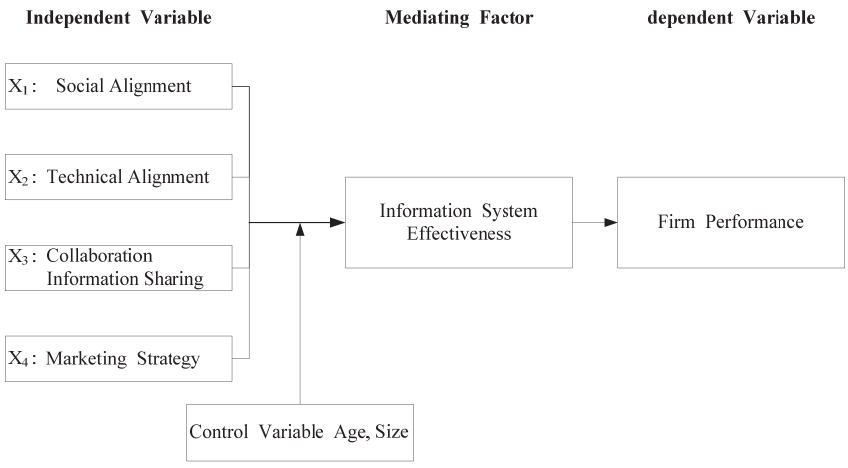
Objective

1. To find the factors which contribute to the effectiveness of the information system
2. To measure the effectiveness of the information system for firms
3. To create an effective information system model for firms performance

Scope and Limitation

This research aims to find the factors which contribute to the effectiveness of the information system. This will focus only on the 4 factors which affect the information system effectiveness and lead to firm performance. The target population in this research are organizations and firms in Thailand.

Conceptual Framework



Figire 1 : Conceptual Framework of Building Strategic Information System Effectiveness of Firms Performance

Hypothesis

1. Social Alignment influence for Information System Effectiveness
2. Technical Alignment influence for Information System Effectiveness
3. Collaboration Information sharing influence for Information System Effectiveness
4. Marketing Strategy influence for Information System Effectiveness
5. Information System Effectiveness affect to Firm Performance .

Review Literature

The purpose of this research is to find the factors which contribute the information system effectiveness of the firm, to measure the information system effectiveness for firm performance, so the researcher must review the literature about information system effectiveness, firm performance and theory which to related the research ; information system effectiveness, business performance, socio - technical and Market orientation.

Review Literature

Information System (IS) is not new discipline. It always exists in organization (Gallier et al.,1999), information systems are viewed as procedures which have function to collect , process , store and communicate for supporting the activities of the enterprise(Grant et al., 2010). The definition of information system is combination of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, coordination, and decision making (businessdictionary.com). UKAIS (1999) defines that information systems are the means by which people and organizations, utilizing technologies, gather, process, store, use and disseminate information. SEI Report, Glossary (as cited in http://en.wikipedia.org) defines that information system (IS) is any combination of information technology and people's activities using that technology to support operations, management, and decision-making. In addition Kroenke (2008) notes that information system is frequently used to refer to the interaction between people, algorithmic processes, data and technology that an organization always uses to support business processing. Alter (n.d.) argues for an information system as a special type of work system which humans or machines perform work using resources (including ICT) to produce specific products or services for customers. An information system is a type of socio-technical system and it is a mediating construct between actions and technology (Beynon-Davies, 2009).

Effectiveness is a measure for matching between firm's goals and their achievement (Fraser,1994). Erlendsson (2002) defines that effectiveness is doing the right things which achieve the objective. Vlãsceanu et al., (2004) define effectiveness in the educational term that it is a measurement of the quality of the achievement for a specific education goal. The effectiveness can measure in other term such that Descy and Westphalen (1998) define in term of training that meet its objective in two points in mind. First it is not always the case that the funders precise objective and transparent. Second the funders may have objective, it is only by relating the extent which there are perceived by the various stakeholders. West(1999) argues that the way of effectiveness is **"training"** which can identify economic outcomes.

Definition of IS effectiveness has many meaning such that it is the way for determining the task objectives of the system or the organization that are being achieved the organization goals by comparing performance to objectives (Hamilton,S. and Chervany, N. L.,1981). Ozkan, Cakir and Bilgen (2008) define that IS effectiveness is measurement of the degree of contribution to organizational performance.

Socio-Technical System

Socio technical systems (STS) in organizational development is an approach to complex organizational work design that recognizes the interaction between people and technology in workplaces. The term also refers to the interaction between society's complex infrastructures and human behavior. In this sense, society itself, and most of its substructures, are complex socio technical systems. The term socio technical systems was coined in the 1960s by Eric Trist and Fred Emery, who were working as consultants at the Tavistock Institute in London (wikipedia.org,2010).

Socio-technical studies approached the organization as a social system focusing wholly on group relations in depth on three levels primary work systems, whole organization systems and macro social systems. Primary work systems consist of one or more face-to-face work units each collaborates jointly on set tasks usually with support from specialist personnel and representatives of management plus the relevant equipment and other resources while whole organization systems involve an enterprise-wide effort (Aldridge, J.W. ,2004). Macro social system are communities system and entire business sectors as same as societal institutions, Trist (as cited in Aldridge, J.W. ,2004).

The STS work design is based on the premise that outcomes such as work group productivity and job satisfaction. They can be manipulated by jointly optimizing both the social and technical factors of the workplace (Aldridge, J.W.,2004).

The social and technical systems were the substantive factors; the people and the equipment. Economic performance and job satisfaction were outcomes, the level of which depended on the goodness of fit between the substantive factors. The following research tasks emerged in the Tavistock program (H. Van de Ven and W. F. Joyce , 1981). A socio-technical system is a collection of people, projects, processes and products that engage in an exchange relationship with one another :

- People translate, transform and communicate within the system, and between the system and its environment,
- Projects and Processes discover, interpret, constrain or transform aspects of the system (e.g. software, physical surroundings, laws, regulations, standards, QMS)
- Products result from projects and processes, and provide a snapshot of the state of understanding at a particular time (e.g. documents, artifacts, software, hardware, data) (http://qualityandinnovation.com)

Projects, processes and products are all technologies. When represented as a network, at least some of the nodes of a socio-technical system are people. Thus socio-technical systems can be contrasted with social networks, where all of the nodes are people, and other networks (e.g. PERT/CPM) where none of the nodes are people.

Socio-Technical System = People + Projects + Processes + Products (http://qualityandinnovation.com)

Socio-technical system is a Trist's theory which scope the interactive of people (social system) with tools and technique (technique system) defined by Aldridge, J.W. (2004). Moreover Ropohl (1979) suggested the socio-technical system as the theoretical construct for describing and explaining technology generally. So the social and technical system are factors that influence the efficiency of organization, today new business use socio-technical framework by using information system and technology to manage collaborative environments for business performance (Lee et al. ,2008).

Chan et al.,(1997) define IS effectiveness is a mediating factor between business-IT alignment and business performance. The framework of social alignment and technical alignment directly influence IS effectiveness (Lee et al. ,2008). Luftman (as cited in Lee et al. ,2008) suggest six maturity component of business-IT alignment; communication , partnership, skill , governance , scope and architecture and value. The result of Lee et al. ,(2008) revealed that the social and technical alignments positive relation IS effectiveness and IS effectiveness positive influence business performance. So the study about IS effectiveness must be used socio-technical framework which is developing to business-IT alignment. Finally Lee et al.,(2008) conclude that IS effectiveness has impact on business performance. It is also an important mediating factor of socio-technical alignment and transforming the business-IT alignment which is driven value for increasing business performance.

Business Performance

Performance is the result of activities of an organization or investment over a given period of time (http://finance.wharton.upenn.edu). Performance is measured as a combination of profitability, size of firm, market share, and sales growth relative to the firm's largest competitor. The measures are adopted from the PIMS studies (Profit Impact of Market Strategy), according to Buzzell and Gale,1987. Business Performance Management (BPM) is a set of activities that helps organizations optimize business performance. Business Performance Management focuses on planning and forecasting to help with the competent use of their business resources(FDE glossary). Business performance management is a set of management and analytic processes that enable the management of an organization's performance to achieve one or more pre-selected goals. Synonyms for "business performance management" include "corporate performance management" and "enterprise performance management" (Frolick et al., 2006). Business Performance as stated is a series of processes and applications designed to optimize the execution of business strategy (Mojdeh, S. ,2005). Business performance management is contained within approaches to business process management (Vom Brocke, J. & Rosemann, M. (2010). The factors that can effect the firm performance are nine critical IS capabilities; leadership, business systems thinking, relationship building, architecture planning, making technology work, informed buying, contract facilitation, contract monitoring, and vendor development. Anecdotal evidence is used to argue that these capabilities can have a direct effect on firm performance (Feeny and Willcocks ,1998).

Ravichandran and Lertwongsatien (2005) found out that an organization's ability to use IT to support its core competencies is dependent on IS functional capabilities, which in turn are dependent on the nature of human, technology, and relationship resources of the IS department. The results of Hasan (2008) revealed that IT competency positively and significantly influences overall firm performance (profitability, ROI, customer retention, and sale growth) and organizational learning capability which is an important determinant of overall firm performance.

Control variables

The research of Ravichandran and Lertwongsatien (2005) use organization age and organization size to control variables in framework. Aldrich, H.E. (as cited in Ravichandran and Lertwongsatien,2005) mention that organization size reflects past success and may influence current performance. Fichman and Kemerer , Kalyanaram and Wittink (as cited in Ravichandran and Lertwongsatien 2005) also remarks that organization age perceive as an indicator of legitimacy of the existence of interfirm relationship of the staying power and of the pervasive internal routine , both of them can affect current performance.

Conclusions

From the above details about Socio-Technical System IS effectiveness , the meaning of Business Performance and Business Performance Management are scope to set the variable and factor for finding the result of firm performance and the results of relative researches . So this research aims to study about firm performance by using the socio-technical alignment frame work , the Resource-Base-View in issue collaboration information sharing , and marketing strategy. All of them influence on IS effectiveness. And IS effectiveness is driven to effect the firm performance.

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