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# IT Operations and Firm Performance: A Review Paper

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**Abstract**
This article emphasises the competencies in IT market, and how IT affects the development of companies Performance by the financial ratios. This piece of work is a review paper and reviews the literature on the IT Operations and Firms Performance. Most of the firms just invest on IT operation and just focus on new skills by their workforce without caring about other important factors such as the way they should transfer the knowledge, human capitals and organisation learning. Improved training programs help employees to be familiar with the new technological advancement. The Review of the Literature has allowed us to conclude that the value of human capital can generate to the customers derived from skills about the costs incurred. Regarding the uniqueness of human capital, it is a derived fact that, if an asset or skill cannot be duplicated or imitated by another firm, it provides a potential source of competitive advantage to the business.The paper proceeds as follows. The first section is about Introduction. Next three section reviews the empirical literature on the IT Operations, Information Sharing, and Human Capital respectively. Part five, we will present our analysis of Firm Performance and IT Operation.part six will introduce an organisational performance, and Finally, Section seven concludes.
**Keywords:** IT Operations, Information Sharing, Firm performance, and Human C

## 1. Introduction

The digital economy is enacted by the constant demand and investment by organisations for innovation in information, communication, and Internet technologies. With the help of Information Technology (IT) we can save time, do a more efficient management and improve information, as it facilitates access to critical knowledge (Phiri, 1999). Gaining information from the markets and customers ensure firms to do business safely and help them to challenge the ill-informed competitors (Barney, Wright, and Ketchen, 2001).

In a modern global market, the most valuable means of competencies will be knowledgeable and skilful human capital (McKinsey, 2006). Boost the desired the employee motivation and feeling toward work and the related experience and skill (Meyer and Allen, 1991). To improve one firm productivity; organisations need to train their employee's talent and abilities. Most of the firms just invest on IT operation and just focus on new skills by their workforce without caring about other important factors such as the way they should transfer the knowledge, human capitals and organisation learning. Improved training programs help employees to be familiar with the new technological advancement (Robert, 2006).Many scholars would agree on the importance of managing the information in one company effectively which lead us here to see the role of human capital in this competitive process. Creation can be replaced by the cost (Sampler, 1998). Information will boost the firm's profits and customer knowledge. In recent years top companies tested the varieties of novel strategies that focus on information technology (IT) (e.g., Bharadwaj, 2000; Mata, Fuerst, and Barney, 1995; Nault and Dexter, 1995; Powell and Dent-Micallef, 1997). .... But still the central question of most f these companies which allocating money on IT, rather than IT performance outcomes still unanswered (e.g., Berndt and Morrison, 1995).According to (locus,1991) while some companies gain a desirable profit regard to their IT investments, others could not have profit at the end.

Both Human capital education, are among the most critical elements of modern economic and social structures. The future of foreign trade affected by the growth strategy and the market economy principles had significant rapidly and, the growth and productivity effect of the policy has dramatically disappointing. According to the statistics, The rate of capital accumulation decreased, the employment creation capacity of the economy fell and, except in the second half of the 1980s, the perspective of height productivity and growth performance of the economy is not promising(Saygılı et al. 2001).

Human Capitals play a significant role to justify an outstanding productivity due to the trained and skilful, and related economic activities IT alone without managing and calculating other variables such as training and information sharing cannot achieve competitive advantages (Tippins and Sohi, 2003).

## 2. IT Operations

Before the year of 1990, scholars paid a lot of attention to the potentials of IT markets, which was concerned

 

about the change of industry structures and strategy variables, such as the force of contracts, cost, and position, as well as the economy of scale (Clemons, 1986).that will be influential in promoting the development of companies with the leveraging of corporate competencies (Zhang and Lado, 2001). A lot of researchers indicates that with the increase of investment in IT,, the value of which will also go up in enterprises (Sircar et al., 2000, Thatcher and Oliver, 2001). Nonetheless, there are also some problems, like the ageing of equipment and the significant decrease in hardware prices, which are underestimated. Therefore, our research is based on the features of competencies. It is advised that the development of skills needs to be based on instruments and processes.

There are differently defined concepts for IT competency. According to Ross et al. (1996), IT competency refers to the capacity to reduce the costs relevant to IT, improve corporate strategies with the application of IT and set up the appropriate system if there is a need. It is indicated by (Feeny and Wilcocks ,1998), , as well as (Sambamurthy and Zmud ,1997) that IT competency enterprises can obtain, allocate and manage IT products and services, for the purpose of promoting corporate strategies and innovations, with a variety of assets, knowledge, capacity, process and relation.

The function in allocating and mobilising IT resources needs to be combined with other abilities and resources. According to Sohi and Tippins (2003), IT competency is concerned with the capacity of enterprises in the management of IT for the purpose of promoting the flow of knowledge within companies. The concept can be considered as a second-order idea, consisting of three first-order factors. With a similar level of importance, the factors refer to some given resources in the measurement of corporate capacities for learning and applying the tools and processes of IT competency for the purpose of managing markets and obtaining information of consumers. At present, there are a lot of sharing approaches of knowledge, like training and development programs, and IT systems. They serve as the best examples of knowledge integration as knowledge is combined with a broad scope for the purpose of improving the quality of products and services, adding more responses to customers' requirements, enhancing corporate performances, and strengthening innovation capabilities of enterprises (Wang and Wang, 2012). ).

Compared with other fields of knowledge, IT knowledge can be regarded as a small group with more common conceptions (Capon Glazer, 1987). We also have similar results with what was indicated by Tippins and Sohi (2003). IT knowledge is considered as the extent to which enterprises can have a set of awareness about their goals, as a computer system. IT operation means that to which degree companies can use IT in the management of markets and information of consumers (Tippins and Sohi, 2003). In general, it is composed of measures used to obtain limited capacities in producing commercial products and services or knowledge transfer in some special operations (Leonard-Barton, 1995). What it objects is defined as the Enablers, which has the responsibility for the rise in information production and publication presently (Glazer, 1991). In this paper, the conceptualised IT objects are embodied as factors based on computers, like hardware, software, and supporting persons (Tippins and Sohi, 2003). IT operation is considered to the extent to which enterprises can use IT in the management of markets and information of customers. Organisational memory information based on computers is relevant to the time spent in producing certain products, dealing with shipments of materials ordered, and recruiting or training different staff members.

It can be seen there is a growing importance for the application of information in the current markets (Glazer, 1991). Therefore it is urgent to improve capacities concerned with the instruments and processes applied in the management of information. Based on resources, competency cannot be imitated as the development of resources is less valuable if it is not within the particular context of enterprises. As a result, such characteristics will serve as the advantages in competition (Lei et al., 1996). It is believed that operations with high-level IT competency hold advantageous positions in the management of intangible assets, which constitute the leadership of markets (Itami, 1987). In the exploration of different areas, such as strategies (Leonard-Barton, 1995), information sciences and technology (Ortega y Gasset, 1983; Mitcham and Mackey, 1983; Taylor, 1971),. . and marketing (Glazer, 1991). We believe that IT competency is the degree to which an enterprise is evident of the efficient utilisation of IT in the management of information. In the conceptualising process, it is assumed that firms own IT elements, such as hardware, software and IT employees. Hence, the elements of IT competency are gradually used to indicate corporate capacities for learning and utilising IT instruments and procedures needed in the management of markets and customer information. Moreover, when the components are independent, they need to be shown for the purpose of obtaining IT competency. If a lot of enterprises own a large number of IT objects, they may not have IT competency due to the lack of information to efficient use the items.

## 3. Information Sharing

According to the Tippins and Sohi (2003), we also define IT competency, as the company technological procedure toward managing the information. IT mainly included the programs, computers, and telecommunications, and the term IT skill consist of related techniques to ease the firm's data process (Mithras et al...2002). (French and Michael,2003) and(Riege,2005) noted that power struggle for control of the use of the

 

knowledge or information was another problem, while (Lichtblau,2003) reported that sharing was almost impossible amongst different agencies due to the various types of software and databases used. (Kellogg,2003) (Davidson and Voss, 2002); . Lack of tools and inadequate information systems, imperfect information Moreover the academic context referring information sharing is a source of confidence shortage in relation to which this information would be shared personally, under conditions that Workers recognize how vital this exchange of information can be to their job and also to the other participants, despite busy timetables; they also realize that management has concern about the exchange of information issues. It is supposed that information sharing skills, and business processes in the organisation with those of institution partners, which indicated that lack of trust was one of the factors hindering the exchange process they stressed the need for extreme caution as inappropriate information might endanger a current mission.(French, Michael,2003) And (Riege,2005) noted that power struggle for control of the use of the knowledge or information was another problem.While (Lichtblau,2003) reported that sharing was almost impossible amongst different agencies due to the various types of software and databases used According to(Davidson and Voss, 2002), the quality of data processing, lack of accurate and proper tool (Skyrme, 2002; Stoddart, 2001).

Overpopulation of the knowledge management systems with non-essential information (Davenport, 1997); lack of time and resources (Lunney, 2002; Stoddart, 2001); . and a general lack of balance between the investment in human and technological resources (Davenport, 1997).

Currently, the use of information is of great importance in economic development. It is believed by a lot of enterprises that they will certainly have advantages in competitions with the use of knowledge. However, businesses are also likely to be troubled with too much information, as the amount of information is beyond our abilities to deal with. Therefore, knowledge management (KM) appears to address the problem (Anthes, 1998). Regarding organisational capability, the effective knowledge management is examined by (Malhotra, Gold, and Segars,2001). It is indicated that knowledge infrastructures are composed of culture, technologies, structures, as well as the process of transfer, application, acquisition, and protection, which are the fundamental corporate capability for the effectiveness of knowledge management. Therefore, the research results serve as the basis for learning competitive advantages of enterprises. Knowledge management process is identified by scholars from different process, such as capture, transfer, and application (Delong, 1997); create, and process (Ivers,1998); create, transfer, collect, integrate, and develop (Teece, 1998); create, transfer, and application (Skyrme, 1998, Spender, 1996);. Obtain, corporate, integrate, experiment (Leonard, 1995). With the exploration of different features, it can be seen that there are four dimensions in the whole process, including conversion process, protection process, capability-acquisition process, and application processes (Gold et al., 2001).(Cui et al. 2005) Argue that there are three correlated processes in knowledge management capability, including the transfer of knowledge, acquisition of knowledge, and application of knowledge (Gold, Malhotra, & Segars, 2001). Regarding experience, it serves as primary resources for enterprises, and their advantages in competition (Conner and Prahalad 1996; Gold, Malhotra, and Segars 2001; Grant 1996; Jaworski and Kohli 1993).

Previous Literature show that particular IT , may directly with the process of information sharing ,or indirectly with the product quality, improve the financial performance (Choo, 1998; Holsapple and Joshi, 1999; Jennex and Olfman, 2004; Leonard-Barton, 1995; Sage and Small, 2000; Stewart, 1997; Von Krogh, 1998; Wiig, 1993). (Shore and Venkatachalam,2003). .....stated that change in the technology and advancement computer-supported supplemental work-at-home is the main reason affecting the organisations and employees,( Duxbury, Higgins, & Thomas, 1996);. organisational structure, (Scott, 1990); organisation of work, (Van Der Spiegel, 1995). In particularly the altitude of information technology IT) has dramatically increased and positively influence their market and customers.

Scholars listed information sharing as a means to realise inter-organizational coordination and build cooperative relationships (Zeng and Pathak, 2003; Ganesh et al., 2008). .In the manufacturing firm's competitive strategy Information-sharing services can play a particular role as a critical component of supply chain environment which need to coexist with inter-organizational processes (Li et al., 2006; Chan and Chan, 2009). According to the related studies in this field, Relationship marketing proved to be improving the customer loyalty intention, with boasting value of informed by the client (Sirdeshmukh et al., 2002; Lam et al., 2004).

## 4. Human Capital

Human capital links closely with knowledge, skills, and abilities which contribute to the creation of outcomes (Hitt et al., 2001). Also, individuals' relationships (Nahapiet and Ghoshal, 1998) may promote the creation of greater profit for the parties involved in the relationship (Burt, 1992). Education is the primary factor of human capital(Davidsson and Honig, 2003; Brush and Manolova, 2004; Ucbasaran et al., 2008) .. because it generates benefits for individuals (Becker, 1993). Human capital quality and efficiency will impose an effect on the performance of the firm amid fierce competition( Alexei V. Bolshov,2014). According to the studies conducted by (Schultz,1963), (Becker,1964), (Nelson and Phelps,1966) and Mincer (1974), ...it is not difficult to find that the function of human capital and its role in development process. In a word, one's learning competence links

 

closely with human capital which is composed of a variety of formal and informal learning mechanisms. It includes both the knowledge in one's mind and one's learning competence. Besides that, it also refers to one's ability to adaptation to the environment. About the economic issue, human capital is considered both as a separate input posing an impact on outputs and inputs resulting in the productivity of other inputs (Lucas, 1988). By the studies by (Schultz,1963), (Becker,1964), (Nelson and Phelps,1966) and Mincer (1974), .. .a growing number of scholars focused on the nature of human capital and its role in development process. With the spreading of endogenous growth theories in the economic growth literature in the 1980s (e.g. Lucas (1988) and Romer (1990)), it has nudged further studies concerned with the role of human capital. Generally speaking, human capital is seen as representing the productive capacity of individuals accumulated by a variety of formal and informal learning mechanisms. It is indicated that it includes both the knowledge in one's mind and one's learning competence. Besides that, it also refers to one's ability to adaptation to the environment. From the perspective of the macroeconomic level, a range of studies has been conducted to evaluate returns derived from the human capital on economic development.

**5.0 Performance and IT Operations**

Business performance was broadly defined to include some of the more prominent of the financial and non-financial indicators of company competitiveness Business which refers to the enterprise to gain or retain new business. Manufacturing performance is concerned with engineering change rates, production cycle times, operational cost, and internal and external customer satisfaction. Process efficiency examines whether the company has adequate and efficient operational (Lo´pez et al., 2005). As for labour capitals, educational background is the element to be explored mostly (Davidsson and Honig, 2003; Brush and Manolova, 2004; Ucbasaran et al., 2008). Due to the benefits for individuals (Becker, 1993). Also, labour capitals are thought to be the key components affecting competitive corporate capacities (Alexei V. Bolshov, 2014).

In the field of management, performance is a vital subject, which is paramount for researchers and managements of enterprises. However, there is rare agreement on its basic definition, in spite of the increase of researchers on this topic. As a result, the components, such as operational performance, corporate effectiveness, and financial results need to be explored in the scope of return (Venkatrman & Ramanujam, 1986). In a traditional sense, corporate performance is considered as finance performance. Therefore, the overall performance of an enterprise is significantly influenced by human capital, service, budget, asset, operation, product, and market (Dixon, 1999; Thurbin, 1994; Smith, 1999). .. Similarly, the financial advantage of enterprises is usually correlated with the success of operations (Thurbin, 1994). Nonetheless, the concept of performance has a variety of definitions. As for corporate learning, it needs to have a detailed exploration of the performances correlated with it. There are a variety of systems for the measurement of returns. It needs to demonstrate the way of operation for enterprises, the achievements achieved, and the development made in realising objectives, which are imperative in dealing with corporate changes (Yeo, 2003).As a result, a qualitative method is used for the investigation of purposes for making decisions and taking actions (Thurbin, 1994; Hedges, 1998). .It is pointed out by (Darroch,2005) that comparison and the measures of internally reflective performance are appropriate, such as "compared with the average figures, we achieve excellent development," or "we have more profits compared with the conditions three years before." It can be seen that financial measures and non-financial measures are used in the measurement of performances, such as sale growth and market share. Like other corporate resources, with the improvement of capability, effective knowledge management is beneficial for the achievement of corporate performances (Andrew, 2001). In the meantime, if enterprises improve their ability in knowledge management, customer requirements can be better met with the development of marketing offerings (Hunt,2000). Also, with the improvement of capacity in knowledge management, enterprises can be more effective and efficient in the application of knowledge, thus bringing excellent performances. One of the clearest and most pervasive forms of organisational search is performance monitoring. Organisations formally and routinely assess how well they are meeting both their human capital, workers, institutions and information sharing. Also, as (Mintzberg,1975) makes clear, managers informally monitor conditions in their organisation.

**6. Organisational performance:**

There are a lot of definitions for corporate returns (Abu- Jarad et al., 2010). It is the capacity of enterprises to realise their objectives (Ricardo, 2001). In general, organisational performance could be evaluated by information from both secondary resources and primary resources. Also, it needs to assess organisational performance with the consideration of two kinds of performance, including non-financial performance and financial results.

It is proposed by (Kaplan and Norton,1993) that there is an appropriate approach can be used when we obtain and organise outcomes generated by enterprises (Andreadis, 2009). It is indicated by (Andreadis,2009) that balanced scorecard can be applied as an innovative method for the management of corporate performances.

 

As a result, we can evaluate and manage returns with the use of balanced scorecard. There are four correlated views, including innovation and learning perspective, financial views, internal processes view, and customer view. Therefore, performance is thought to be a partial influence on organisational learning.

There is a complex relation between corporate performance and organisational learning (Crossan et al. 1995). It is believed that there are three interrelated subprocesses in corporate learning, including retaining, creating and transferring of knowledge. An enterprise with theoretical framework could obtain knowledge but have no corresponding change in its behaviours. However, it is defined by scholars that organisational learning has changed within the scope of possible reactions (Huber, 1991). (Pentland,1992) Also dealt with corporate knowledge and considered it as the capacity of enterprises to behave competently. Also, the experience is evaluated with the analysis of features of products or services (Helfat & Raubitschek, 2000) and patent stock (Alcacer & Gittleman, 2006) for enterprises.

## 7. Summary & Conclusion

The digital economy is enacted by the constant demand and investment by organisations for innovation in information, communication, and Internet technologies. With the help of Information Technology (IT) we can save time, do a more efficient management and improve information, as it facilitates access to critical knowledge. Gaining information from the markets and customers ensure firms to do business safely and help them to challenge the ill-informed competitors (Barney, Wright, and Ketchen, 2001). The 'benefits resulting from an innovative application of information technology can be originated from competitors do not fully benefit from imitation.' Support for our claim that intervening factors partially mediate the relationship between IT competency and firm performance stems have the range of profits realised by different companies IT that positively will impact critical outcome measures (e.g., profitability, ROA). Moreover, experienced negative returns from investing in IT—the implication being the answer to enhanced performance, By constant leverage the organisational learning, firms are in a position and investing in IT may lead to the high productivity accordingly. Human capital and information sharing play the significant role in a company performance. IT enables knowledge capabilities (Joshi et al., 2010).

We may say by a literature review that Information is sharing increasing the Firm Productivity, Education and Training Affect versus the Education Increase knowledge & Skills, Moulds attitudes and enhance Motivation, into human capital which, causes the growth of budget by increasing their productivity. Therefore, Firms must focus their attention on intervening processes such as organisational learning and human capital studies to determine what benefits are being derived from IT-based information systems.

Although IT competency has a potential and direct effect on the competitive market, it is not sufficient to maintain admirably. Firms need complementary strategic capabilities such as organisational learning, education background, information sharing to strengthen the effect of IT competency on strong performance (Tanriverdi, 2005). The findings of the current might be a hint for the innovative managers.which should not only focus on investing resources but also for IT projects, and they should concern about the human capital too.

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