PERCEIVED ABSORPTIVE CAPACITY OF INDIVIDUAL USERS IN PERFORMANCE OF ENTERPRISE RESOURCE PLANNING (ERP) USAGE: THE CASE FOR PENANG MANUFACTURING FIRMS

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2008

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Research report in partial fulfillment of the requirements for the degree of Master of Business Administration

Universiti Sains Malaysia
JUNE 2008

ACKNOWLEDGEMENTS

I would like to extend my deepest gratitude and appreciation to my supervisor, Associate Professor T. Ramayah for all his guidance and support throughout this research. Special thanks to others lecturers from Advanced Management School for their guidance and advice throughout my study in USM.

I would also wish to dedicate my heartfelt appreciation to my beloved family and friends who have rendered their support during my study.

Last but not least, I would like to thank all who have been directly or indirectly involved in making these research a success.

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ABSTRAK

Penyelidikan ini memeriksa kesan keupayaan menyerap pengguna Perancangan Sumber Perusahaan (ERP) di kilang-kilang pembuatan Pulau Pinang. Keupayaan menyerap yang terdiri daripada tiga komponen, iaitu, pemahaman, asimilasi, dan aplikasi pengetahuan ERP. Keputusan mencadangkan bahawa tiga komponen keupayaan menyerap mempunyai kesan terhadap prestasi penggunaannya. Kebolehan pengguna untuk memahami pengetahuan ERP didapati mempengaruhi prestasi penggunaannya, menerusi asimilasi and aplikasi ilmu pengetahuan tersebut. Prestasi pengguna didapati mempengaruhi niat melanjutkan penggunaan sistem maklumat. Tetapi, sokongan organisasi didapati tidak mempunyai kesan penyederhana ke atas hubungan di antara kesan penyerap dengan prestasi.

ABSTRACT

The research examines the effect of absorptive capacity of users on their use of ERP in Penang manufacturing firms. The absorptive capacity were consists of three main components, namely, understanding, assimilating, and applying ERP knowledge. The results suggest that the three components of absorptive capacity had direct effect on its performance usage. The users' ability to understand ERP knowledge was found to influence its performance usage by assimilating and applying the knowledge. Users' performance was found to influence their IS continuance intention However, the organizational support was found to have no moderating effect on the relationship between their absorptive capacity and performance.

CHAPTER 1

INTRODUCTION

1.0 Introduction

Enterprise Resource Planning (ERP) has emerged as enterprise information management backbone to the organizations (Nah, Lau, and Kuang, 2001). ERP is also term as a central integration of all the information throughout the company, chiefly to improve productivity, competitive advantage and satisfying customer demands (Somers and Nelson, 2004). Accordingly, the enterprise system is capable to provide an insight into the organizational systems and procedures, and breaks the "empire" that works across multiple functions in many organizations (Ramayah, Roy, Arokiasamy, Zbib, and Ahmed, 2007). In other words, it consolidates the entire business function and information technologies into systematic suite of procedural applications and metrics between and beyond the firm boundaries to achieve competitive advantage (Wier, Hunton, and Hassabelnaby, 2005).

Hence, ERP integrates and optimizes multiple business processes, namely, finance, human resources, production planning, material management, plant maintenance and sales and distribution, and transactions in a corporation (Moon, 2007). To illustrate the functional areas included in the current ERP software, Figure 1.1 depicts the functional areas covered by the ERP software in the market (AMR Research, 2005). From the Figure 1.1, purchasing, inventory management, order management, financial management, human resource and manufacturing are the common functional modules packaged in most ERP software.

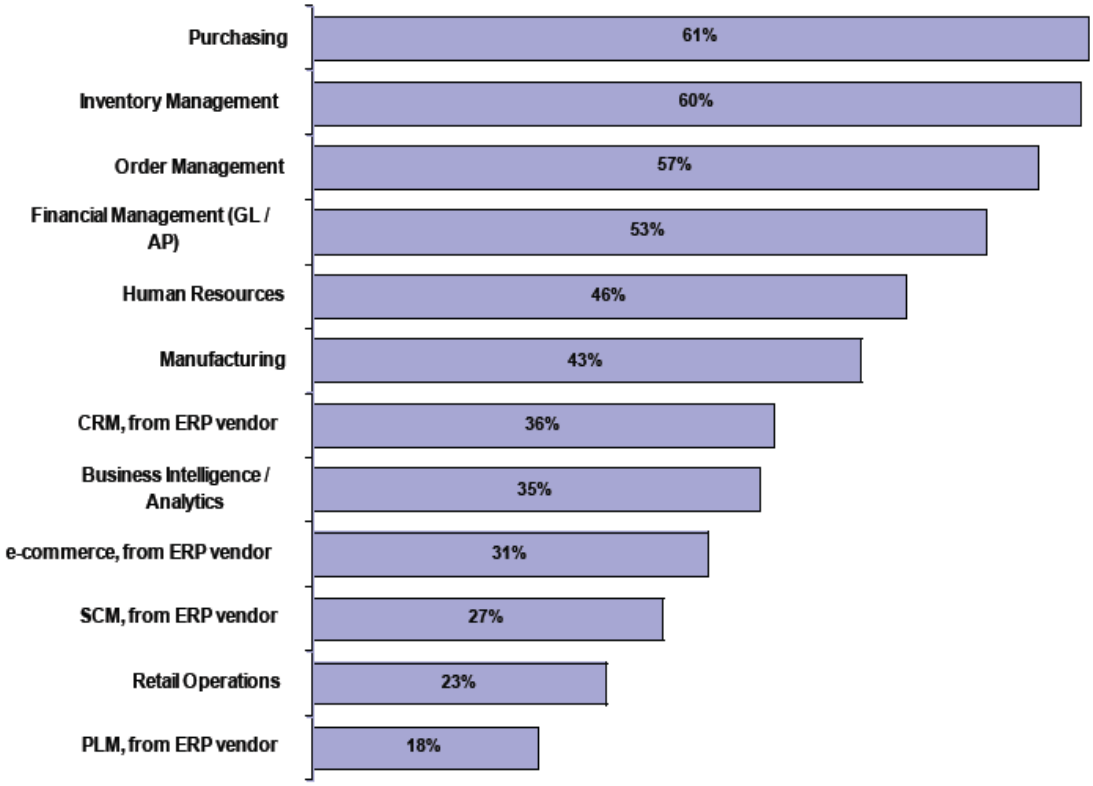

Figure 1.1 **Functional areas covered by the ERP software in the market (Source: IBM – United States, 2007)**

According to AMR Research, the worldwide ERP software sales for year 2006 are recorded at USD 28.8 billion which showing a 14% growth from a year ago (IT Jungle, 2007). The report is also predicts the ERP software sales are expected to achieve an annual growth rate of 11% for the next five years. The bullish outlook of the ERP software has also been seen in the previous year as per supported in the Figure 1.2 and Figure 1.3 below. Figure 1.2 shows the top ten ERP vendors by revenue in year 2004. From which, the top five vendors which accounted more than 70% of the 2004 market share have forecasted their sales to grow above 10 percent in 2005. Likewise, Figure 1.3 shows a survey of change in 2007 ERP budget which was conducted in 2006 among managers who responsible for ERP spending priorities

(IBM – United States, 2007). The findings show that about 60% of pools believed their spending would increase in 2007 compare to 2006. Approximately 10% indicated that their spending would decrease and the balance predict unchanged.

2004 Revenue Rank	Company Name	Revenue, 2003 ($M)	Revenue, 2004 ($M)	Revenue Forecast, 2005 ($M)	Revenue Share, 2003	Revenue Share, 2004	Revenue Share Forecast, 2005	Growth Rate, 2003–2004	Growth Rate Forecast, 2004–2005
1	SAP	7994	9372	10403	39%	40%	43%	17%	11%
2	PeopleSoft	2682	2880	0	13%	12%	0%	7%	-100%
3	Oracle*	2470	2465	4534	12%	10%	19%	-0%	84%
4	Sage Group	900	1243	1375	4%	5%	6%	38%	11%
5	Microsoft Business Solutions	683	775	891	3%	3%	4%	14%	15%
6	SSA Global	471	700	700	2%	3%	3%	49%	0%
7	Geac	431	445	445	2%	2%	2%	3%	0%
8	Intentia	361	388	407	2%	2%	2%	8%	5%
9	Infor Global Solutions	123	375	395	1%	2%	2%	205%	5%
10	Lawson	341	357	358	2%	2%	2%	5%	0%
Total (including other ERP vendors)		20711	23649	24288	100%	100%	100%	14%	3%

Figure 1.2 **ERP vendors ranked by 2004 Revenue (including estimated 2005 growth) (Source: AMR Research, 2005)**

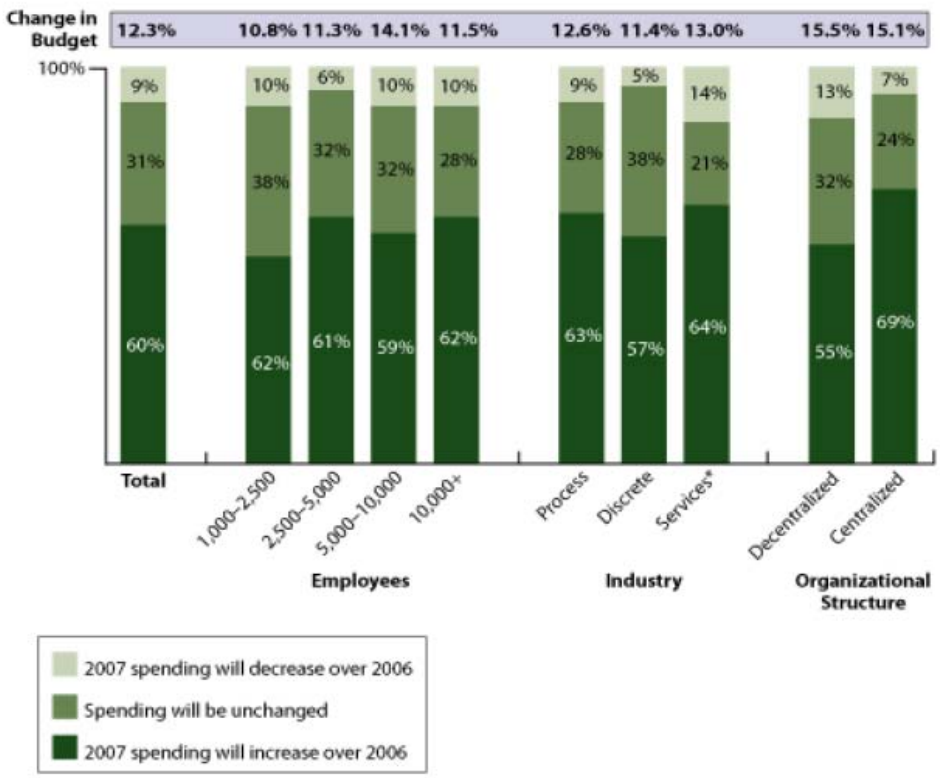

Figure1.3 **Change in ERP budget, 2007**
(Source: IBM – United States, 2007)

In view of the enormous potential and prospects on the ERP software and services, there are many ERP vendors and resellers have emerged in the market. The phenomenon is in line with the AMR Research report which stated that the ERP spending across all industries for year 2008 are expected to increase by 5.8% from previous year (IT Jungle, 2007a). In general, services cost accounted almost 50% of the budget in a typical ERP investment with reference to Figure 1.4 below.

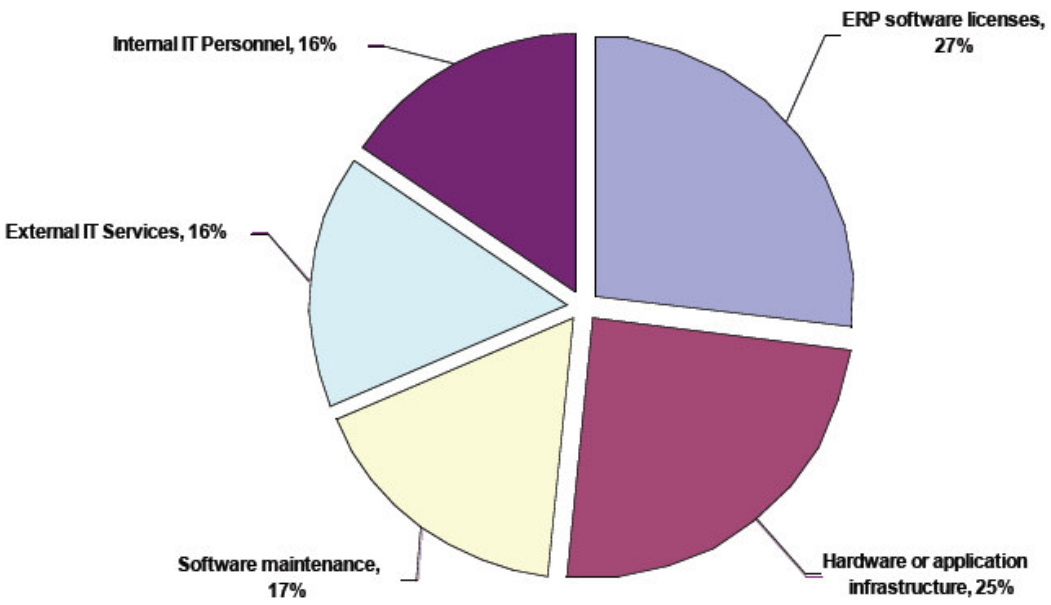

Figure1.4 **Spending Allocation on ERP Investments 2006**
(Source: IBM – United States, 2007)

The current trend on ERP applications is become increasingly complex. The ERP vendors are keep on finding solutions to cover all aspects of enterprise information management and niche areas in particular. Besides, integration of additional features to improve enterprise management is building the complexity. They (ERP vendors) have the tendency to incorporate more and more function into their software to accommodate new business challenges. The reason behind the trend is because there is no one system which can suit all the business requirements. According to the Aberdeen Group research, organizations are found to use 43.8% of the overall modules available in ERP, as per shown in the Table 1.1 below (Plexus, 2006). The utilization rate is not even reaching half of the available module. With this, it is predictable that there might be a possibility that the enterprise information is

still handled partially by another legacy system or manual processes. Therefore, ERP vendors are moving towards the software integration with other software.

Implementing an ERP product involve huge financial outflow and effort because it collaborate together the entire business functions. Coupled with the complexity of the industry requirement and business process change, implementing an ERP has never been easy. Hence, the implementation of an ERP system can be considered as a tool for knowledge transfer of best practices from the industries, which requiring a significant resources, commitment and changes across the entire organization (Moon, 2007).

Table 1.1

ERP Module Adoption Rates **(Source: Plexus, 2006)**

Technology Solution Area	% Implemented
General Ledger	93%
Account Payable	93%
Account Receivable	92%
Fixed Assets	43%
MRP (Material Requirements Planning)	79%
DRP (Distribution Requirements Planning)	23%
MPS (Master Production Scheduling)	19%
Forecasting and Demand Planning	37%
Human Capital Management	49%
Order Management	80%
Project Management	17%
Shop Floor Control	56%
Purchasing	94%
Inventory Control	92%
After Market Service (e.g. Field Service/Depot Repair)	13%
Engineering Change Management	28%
Enterprise Asset Management (EAM)	6%
Supplier Collaboration/Scheduling	14%
Event Management	5%
Workflow Technologies	18%
Sales and Marketing	42%
Product Configuration	20%
Payroll	24%

1.1 Background of study

There are many organizations have implemented the ERP system in the past few years. With the enormous amount being invested into the ERP, the organizations would expect to benefit from the technology through the effective usage on the system (Amoako-Gyampah, 2007). In view of the complexity of ERP software, the users often face a difficulty in communicating the requirements to the ERP consultants during the initial stage of the implementation. As a result, users often having difficulty in using the ERP system because of its unfamiliarity towards the operational logic of the system (Park, Suh, and Yang, 2007).

In respond to the familiarization issue above, the organizations need to fork out additional substantial amount before and after the implementation to educate its employees for preparing them for the proper and practical use of ERP. When the implementation is not well executed, this has become a reason why many implementations have failed to meet the expectation because of lack of attention to prepare its employee to use the system (Hong and Kim, 2002). Hence, the organizations will be facing a risk to write off the entire investment in ERP and re-implement the ERP.

Even though there are some cases where the ERP is successfully implemented, the usage on the system is however very minimal. The situation might be attribute to the system flow which might be too rigid and impractical, or not compatible to a particular organization. For instance, the sales admin is required to perform extra steps in the system before able to view the outstanding sales order. And, coupled with familiarization issue, users will feel frustrated start reducing the usage, thus contributing to potential data discrepancy.

1.2 Problem Statement

Organization could spend a few years to implement the ERP system and used up hundreds of millions of dollar. The implementation cost of an ERP system is very expensive and complex. It may span up to three times as much money compare to the software cost itself depending on the range of services selected in the implementation packages (Al-Mashari, Al-Mudimigh, and Zairi, 2003).

Even though the implementation cost is substantially high, many implementations still have ended up with failure. Once the ERP system is implemented, it is difficult to revert back as the cost is extremely expensive. The issues faced are ranging from losing the capital invested on ERP to some portion of their business, and some even had lead to critical financial distress (Myerson, 2001; Nicolaou, 2004a). There are several cases where the implementation of an ERP package as planned had failed, namely Dow Chemical and Whirlpool (Davenport, 1998). Some cases involve a very high write off cost upon abandoned the ERP during or after the implementation (Nicolaou, 2004a). For instance, there are several substantial cases given by Myerson (2001), namely, Unisource Worldwide Inc., which wrote off $168 million as a result of abandoning the SAP implementation. Then follow by, FoxMeyer Drug went bankrupt in 1996 and has filed a $500 million lawsuit against SAP (Myerson, 2001). The microcomputer giant, Dell computer which had abandoned the SAP implementation following months of delay and cost overruns (Davenport, 1998; Myerson, 2001). According to a survey of 63 large Fortune 500 companies conducted by META Group in 1999, on average companies which implemented ERP system incurred a negative return of $1.5 million over a period of five to six years (Nicolaou, 2004a).

Therefore, implementing an ERP system required a careful exercise in strategic thinking, precision planning and negotiations with departments and divisions. It is anticipated

that there will be more issues occurred when the implementation of an ERP system does not consider the total business implications (Davenport, 1998). There are many reasons which had contributed to the ERP failures in the past. The most common constraints faced during the implementation is the integration and alignment with the people, process and technology (Davenport, 1998). This had caused the ERP to become rigid resulting from the integration constraints. As a result, the excepted benefits from the implementation were not met and it affects the organizational performance usage.

The main driver of an organizational performance is usage. Performance usage will lead to initial acceptance and more critically towards an IT continuance intention to use (Premkumar and Bhattacherjee, 2008). Usage and perceived usefulness have significance influence towards continuance intention to use the information system (Ifinedo, 2006). As for the electronic commerce system, some prior study has suggested that actual use of online system services determined the consumers' post-purchase intention (Qin, 2007).

As a matter of fact, the organization had spent a substantial amount of investment in ERP software cum implementation and maintenance. Hence, the continuous usage among all the users is crucial in ensuring the investments outflow is justifiable with the actual benefit achieved. The continuance intention is also able to distinguish the unnecessary risk from the financial perspective. Therefore, the users' performance usage is an important factor to determine the continuance intention of the ERP system. Park et al., (2007) found that the individual users' absorptive capacity is influencing the individual performance of ERP usage (Park et al., 2007). When the users fail to understand the information from the system, they are unable to get the utmost value from the system to increase their task performance. Subsequently, the usage rate in the system will probably become less dependent to the system. Eventually, the users might find it very difficult to perform their job using the system. As a

result, the intended benefit from the implemented ERP system is not achieved and probably will lead to discontinued or write off the investment of the ERP system.

1.3 Research Objective

The objective of the research is to study the effect of individual users' absorptive capacity on their performance when using ERP system. The absorptive capacity is consist of understanding, assimilating and applying the ERP knowledge. The study also examine whether perceived organizational support can moderate the relationship between the absorptive capacity of a user and his or her ERP performance usage. Eventually, the research enables us to find out whether the performance usage of an ERP will lead to user's continuance intention to use.

1.4 Research Questions

The research study plans to answer the following questions:

1. What are the dimensions of an individual user's absorptive capacity?
2. What are the relationships between the dimension of an individual user's absorptive capacity and his or her performance usage?
3. Is there any moderator affecting each dimension of an individual users' absorptive capacity on his or her task performance?
4. What is the relationship between individual user's performance usage and continuance intention to use?

1.5 Definitions of Key Terms

The following are the key words and phrases used in this research with is definitions in respect to this document.

i. Enterprise resource planning (ERP) – enterprise information system designed to integrate and optimize the business processes and transactions in a corporation (Moon, 2007).

ii. Information technology (IT) – is the study, design, development, implementation, support or management of computer based information system, particularly software applications and computer hardware (Wikipedia, 2008).

iii. Information system (IS) – is the system of persons, data records and activities that process the data and information in a given organization, including manual or automated processes (Wikipedia, 2008a).

iv. Absorptive capacity for understanding the ERP system (ACUN) – is the capability to acquire new knowledge at the initial stage (Park et al., 2007).

v. Absorptive capacity for assimilating the ERP system (ACAS) – is the capability to internalize the new knowledge into the task (Park et al., 2007).

vi. Absorptive capacity for applying the ERP system (ACAP) – is the capability to create new knowledge from the acquired external knowledge (Park et al., 2007).

vii. Performance usage of ERP system (PERU) – is the impact which includes improvement of task performance, productivity, efficiency, satisfaction and quality (Park et al., 2007)

viii. Perceived organizational support (POS) – is the behavior of individual belief regarding the management support (Coyle-Shapiro, Shore, Taylor, and Tetrick, 2004)

ix. Information system continuance intention (ISCI) – is an initial explanation for the acceptance-discontinuance anomaly(Bhattacherjee, 2001)

1.6 Significance of study

The significance of the finding from this study is important to complement towards the success of the ERP implementation. The IT managers will be able to understand the end users absorptive capacity in learning and applying the ERP system. It is because individual users are main factors in ensuring the smooth run of the system at the beginning. Getting to understand the relationship of the individual users' absorptive capability (understanding, assimilating and applying the external knowledge) and their performance of ERP usage is essential to ensure the success of the ERP implementation. It means that, if the users are able to understand the external knowledge of the ERP system well, they will become more well verse with the system flow and this will lead to the improvement in their assimilation capacity.

Subsequently, the users will be able to assimilate the knowledge they learnt and exploit it to create a new knowledge which will eventually apply it into their task performance. Hence, the users' ability to understand, assimilate and applying the external knowledge are influencing their performance on ERP usage. This absorptive capability will help to improve individual performance and eventually will enhance the organizational competency.

Besides, the finding will enable the IT managers in understanding the organizational support as a moderating factor which influencing the task performance of an individual user. This will enable IT managers to leverage on this in enhancing and maximizing the performance of the usage for the ERP. It is because the organizational support has influence

towards the relationship between the individual users' absorptive capacity and their task performance. The support or encouragement from the organizational to its employees towards education, learning and research and development will further spur the level of knowledge and skills in its employees. If the employees are knowledgeable, their absorptive capacity will also be improved. Eventually, this will lead to increase in performance of ERP usage.

Furthermore, the outcome of the study will enable the IT managers in determine whether the task performance of the ERP usage will lead to the continuance intention in using the ERP system. When the users task performance have improve upon using the system, their intention to further enhance or extend the usage will be great. This will reduce the chances of the ERP system to be abandoned or to the worst, the entire ERP system to be written off.

1.7 Organization of Remaining Chapters

This report consists of five chapters. Chapter 1 serves as an introduction to the research with touches some background of the study. It also highlights the problem statement, the research questions outlined to be answered, the research objective and the significance of the study.

Then, Chapter 2 which reviews the literature on the elements related to this research, the important constructs and variables. The development of the theoretical framework and the hypotheses will be defined subsequently under this chapter.

The methodology used for this research which consists of research design, variables, population, sample, questionnaire data, data collection and analyses are explained and put up in Chapter 3.

Chapter 4 outlines the demographic of the respondents, descriptive analysis and the statistical results.

The research concludes in Chapter 5 with the discussion of the results. The contribution and implication from the research are explained. Limitation is stated with recommendations for future research.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

The concept of Enterprise Resource Planning (ERP) has been growing tremendously in the late 90s. It then becomes a popular adopted system particularly among the manufacturing companies. Nowadays, ERP system adoption is not limited to giant companies but also to small and medium companies. This phenomenon is attributed to the highly competitive market environment in the ERP industry.

For the past few years, the ERP vendors had embarked to target for larger level of market segments by expanding their product functionality through internal development and acquisition, according to the IBM – United States (2007). The expansion of functionality among vendors had triggered an aggressive marketing of the ERP system. The trend of the marketing of the ERP system is not limited to product presentation and advertising, but road show, seminar, conference, workshop, training, proof of concept and etc. This marketing has indirect impacts which expose the end users' with the knowledge towards the ERP system. Thus, the end-users' knowledge towards the ERP system have been enhanced over years thru the exposure of the best industry practices and knowledge transfer from these ERP vendors.

In view of the dependency of the company operation to the ERP system for competitive advantage, the workforce requirements have been changed over time. The skill requirements for ERP related knowledge has become necessary in their hiring for ERP related positions. It is perceived by hiring a staff with an ERP experience will benefits the company in a way thru their performance of using the ERP system. Hence, the studies is seek to identify the relationship of individual users' absorptive capacity and theirs performance of

using the ERP system. The literature will identify the effects on how well the individual users understand this diverse knowledge in helping them out in their daily work tasks in relation to the ERP usage, and how this will lead them to continue to use further.

2.1 ERP Review

According to the ERP review by Moon (2007), there were various aspects have been covered under the ERP topic. Moon (2007) classified the journals reviewed from January 2000 until May 2006 under six major themes as per depicted in the Table 2.1 below.

Table 2.1

Number of published articles for each theme

Themes	Sub Themes	Number of articles
Implementation (137)		
	General	61
	Case Study	17
	Critical Success factors	15
	Change Management	11
	Focused stage in the implementation process	16
	Cultural (national) issues	17
Using ERP (44)		
	General	21
	Decision Support	4
	Focused function in ERP	11
	Maintenance	8
Extension (37)	-	37
Value (24)	-	24
Trends and perspectives (55)		
	General	48
	In a particular sector	7
Education (18)	-	18

Implementation theme was the most popular interest among researchers. Mainly, the implementation stage is the most critical part in the ERP adoption (Ramayah et al., 2007). It is because implementation stage is easy to do wrong but hard to do right. Furthermore, the implementation is risky in consideration of the amount of resources, effort and cost required to be put in throughout the duration of the implementation (Davenport, 1998). Besides being the most expensive in term of packaged software cost, there are also a substantial amount of cost is typically spent on, namely, consultation services to overcome the complexity during the ERP implementation (Nah et al., 2001). Yet, there are still many ERP implementations had failed despite a heavy investment had made on the system (Nicolaou, 2004b). Subsequently, there have been many researches being conducted to determine the factors which might important for the success implementation of the ERP. Besides, implementation strategies were also important to bring changes and contribute to the implementation success (Kuruppuarachchi, Mandal, and Smith, 2002). The main ideas regarded to the changes strategies are collaboration, communication, familiarization, complementary, and training.

The trends and perspective had drawn the second most popular theme. The articles are focusing on the areas, namely, best practices, perception, conceptual, governance, integration and etc. Therefore, the trend had indicated that the research aspect have started to focus on niche area for competitive advantage.

Usage is the third most popular theme for the ERP topic. It is mainly because huge amounts of cash outflow have been spent on the software and implementation services, the firms are expecting its employees to use the system extensively for good. As a matter of fact, the main objective after the ERP implementation is to ensure the users are using the system to achieve the objective as per outlined during the project initialization. From human behavioral perspective, there is an empirical study being conducted on the impact of behavioral intention

to use the technology in relations to the success of the implementation (Amoako-Gyampah, 2007). Then, the themes follow by the focus on extension of the ERP, value and education.

Hence, the implementation of IT project is a grey area and an integration of the concept and practices from theory into change management strategies will be useful (Kuruppuarachchi et al., 2002). In which, end users behavioral to accept and adapt a technology are influence by an organizational factors and change strategies, which will lead to the successful implementation of the technology (Amoako-Gyampah, 2007). Thus, a proper implementation is first step of business transformation which must incorporate training, procedures and technology to facilitate the usage of the infrastructure (Wier et al., 2005). It is because end users learning occurred during the change strategies like familiarization, education, and training on ERP system (Kuruppuarachchi et al., 2002; Park et al., 2007). Basically, this effort will help to enhance the individual users' absorptive capacity of knowledge of the system more effectively. Finally, the intended benefit and performance from the adopted system is crucial to ensure the system to be continued to subsequent used.

2.2 Absorptive Capacity

There are many studies have been conducted on the effect of absorptive capacity on the organizational performance through technology transfer, diffusion, adoption and implementation (Lee, Lee, and Lee, 2007; Lin, Tan, and Chang, 2002). The foundation concept to this factor, Cohen and Levinthal (1990) described firm absorptive capacities as "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends is critical to its innovative capabilities". The conceptual described that firm's absorptive capacity is builds on existing knowledge to accumulate new knowledge thru the process of learning and exploitation. Hence, the ability to acquire new information is

largely depending on firm's level of prior related knowledge to assist in assimilation and use of the new knowledge.

Eventually, the development of organization's absorptive capacity will depend on the absorptive capacities of its individual members in which they constitute in it (Cohen and Levinthal, 1990). Further redefine the concept, absorptive capacity for students is its ability to value, assimilate, and apply new knowledge from a learning alliance counterpart thru a relative absorptive capacity based on dyad-level construct (Lane and Lubatkin, 1998). To further explain it, the dyad-level construct was proposed instead of firm-level construct because learning would be more appropriate to occur in a group of two or more. Hence, the relative absorptive capacity would occur during the learning alliance counterpart conducting the knowledge-transfer of "prior knowledge" to the student thru training or education channel. The context is similar to the technology absorptive capacity which found to have a positive relations with technology transfer performance (Lin et al., 2002).

Then, Zahra and George (2002) re-conceptualized the original absorptive capacity as two dimensions, namely, "potential" and "realized". "Potential" absorptive capacity would consist of "acquisition" and "assimilation" while "realized" absorptive capacity contained "transformation" and "exploitation". The firm's would have the "potential" capacity to acquire and assimilate new knowledge; however, the firm might not have the "realized" capacity to transform and exploit the new knowledge for firm's performance. Furthermore, Zahra and George (2002) emphasized that the employees are the actual users of the knowledge, the usage of the firm's knowledge is important to employees. The same view also shared by Park et at., (2007) which stated that individual users' absorptive capacity has significant role during the process of knowledge-transfer from system consultants to the users (Park et al., 2007). The performance of knowledge transfer is positively affected by the

firm's absorptive capacity (Chen, 2004). Hence, the role of absorptive is important to influence the corporate culture which lead to the success of IT implementation and adoption of new technologies (Harrington, 2005)

Hence, individual's absorptive capacity is importance in improving their performance, particularly those with prior related knowledge and diversify background (Cohen and Levinthal, 1990; Lin et al., 2002).

2.3 Performance Usage of ERP

Once the organization successfully implemented the ERP, the more concerning agenda is center around the effective and efficient usage of the system which will lead to end user acceptance, performance and satisfaction (Moon, 2007). The usage plays an important key role in measuring the expected benefit is achieved. Amoako-Gyampah (2007) explained "the ultimate goal of manager when implementing an information technology is achieving the intended level of usage". In view of a substantial investment has been put up to implement the ERP system, the best possible system usage is highly anticipated to justify the investment (Moon, 2007). As a result, the end user performance in decision making will be enhanced if they are using the system in an intended and efficient way before the system is viewed as successful (Yi and Davis, 2001 as cited by Amoako-Gyampah, 2007).

The ERP usage is expected to improve the performance of decision-making on individual users by having to provide more timely and accurate enterprise-wide information (Poston and Grabski, 2001). Subsequently, the opportunity cost will be reduced as a result of poor information. However, a longer time frame is required for employees to co-invent through their own experiment and discovery, to find ways for the new system to support and improve on their individual work performance (Bresnahan and Greenstein, 1996 as cited by

Poston & Grabski, 2001). Similarly, Spathis & Constantinides, (2003) reported on the benefit obtained from ERP usage were increased user-friendliness of information systems, improved decision-making process, improved co-ordination between departments and improved decision-making process. Subsequently, it leads to improve accounting information system. As a result, the correct intended usage of ERP will lead to enhancement in task performance and contribute to end-user productivity (Mun and Kun, 2004).

Thus, the user would believes that using the system will enhance his or her performance (Premkumar and Bhattacherjee, 2008). In the Delone and McLean (D&M) IS Success Model, 'system use' and 'user satisfaction' are closely linked, meaning 'usage' will lead to 'user satisfaction' in a causal sense (Delone and McLean, 2003).

2.4 Perceived Organizational Support

The organizational support is essential to ensure the successful implementation of change upon ERP adoption (Aladwani, 2001). The organizational support is believed to be able to render and improve the users' self-efficacy belief (Bassam, 2006). Therefore, the individual perception of the organizational support will create a culture which would enhance the technology absorptive capacity by encouraging the adoption of different diffusion channel for external technology knowledge (Lin et al., 2002). Cohen and Levinthal (1990) suggested organizational support policies will be a positive model for behavior analysis for individual users.

An instance of the organizational support is shown in its management commitment, which is found to be critical to assist the performance of an international joint venture firm (Lane, Salk, and Lyles, 2001). In the similar context, the senior management support on IT functions was found to have close relationship on the ERP success which lead to

organizational performance (Law and Ngai, 2007; Ngai, Law, and Wat, 2008). Perceived organizational support is capable in moderating the relationship between politics perceptions and job satisfaction, performance, affective commitment, and job induced tension (Hochwarter, Kacmar, Perrewe, and Johnson, 2003). As a result, the perceived organizational support will lead to improving of learning from external knowledge throughout the duration of understanding, assimilating and applying. Hence, this will contribute to their performance when they applying it to their work tasks.

2.5 IS Continuance Intention

Perceived usefulness is found to have direct influence on intention to use IT (Davis, Bagozzi, and Warshaw, 1989). Delone and Mclean (2003) explained attitude as "intention to use" and behavior as "use". Initial use is an important indicator of IS success and it does not necessary lead to the desired managerial outcome unless the use is continues (Bhattacherjee, 2001). In another context, Delone and McLean (2003) explained that "user satisfaction" is closely related to "use". The theory further expanded and supported by Premkumar and Bhattacherjee (2008) who explained that customer satisfaction with actual usage of the product is the determinant of their IT continuance intention under the Expectation Disconfirmation Theory (EDT) and Technology Acceptance Model (TAM).

Similarly Qin (2007) also posited that consumer satisfaction which derived from Expectation Disconfirmation Model (EDM) is influencing the consumer's repurchase continuance intention. Once the consumers accepted the information system for the online shopping , they would have the intention to further continue use of the IS (Qin, 2007). In the updated D&M IS Success Model, Delone and McLean (2003) explained that a positive "use" experience will lead to greater "user satisfaction" in a causal relationship, thus influencing

and reinforcing subsequent use or "intention to use". In the environment where usage is mandatory, "perceived ease of use" is significantly influencing "user satisfaction" and lead to IS continuance intention, under the Post Acceptance Model (PAM) (Sorebo and Eikebrokk, 2008)

2.6 Theoretical Framework and Hypotheses

2.6.1 The Model

The model used for this research is shown in the Figure 2.1, adapted from the research model from Park, Suh and Yang (2007). Park et al. (2007) studied the perceived absorptive capacity of individual users in influencing theirs performance of ERP usage and it is moderated by organizational support. The absorptive capacity outlined consists of understanding the ERP systems, assimilating the ERP systems and applying the ERP knowledge.

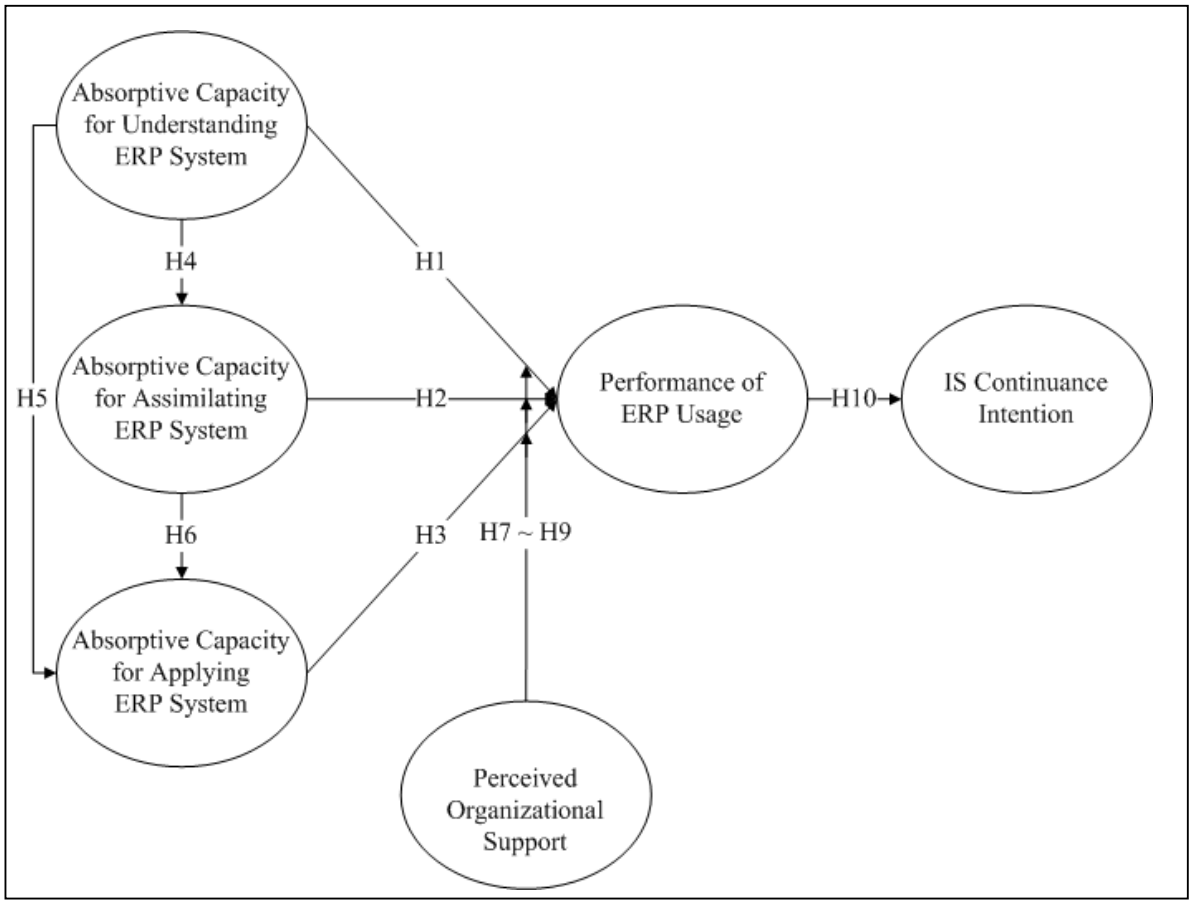

Figure 2.1 **Research Framework**

In this study, the framework is extended with a variable which is an outcome of the study, namely, IS continuance intention. It is believe that individual users' absorptive capacity in understanding ERP system, assimilating ERP system and applying ERP system can influence their ERP performance usage, hence it lead to the continuance intention to use the information system. As for this study, individual users' performance usage is important in determining their continuance intention.