

Enterprise Resource Planning Systems for Service Performance in Tourism and Hospitality Industry

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Abstract Enterprise Resource Planning (ERP) Systems are amongst the most popular Information Technology (IT) software being adopted in organizations globally. Such systems offer strategic and operational improvements to firms. ERP system is an enterprise-wide information system designed to coordinate all the resources, information, and activities needed to complete business processes. An ERP system supports the business system that maintains a single database for a variety of business functions such as Manufacturing, Supply Chain Management, Financials, Projects, Human Resources and Customer Relationship Management. Now a day's ERP systems has been adopted by various organizations as part of their business growth strategies and play an important role for small scale and large scale industries to run all their major functional and process operations (Batada and Rahman, 2012). ERP systems have been implemented by different industries across the world both in production and service domains. Recently, service organizations have invested considerable resources in the implementation of Enterprise Resource Planning (ERP) systems to improve efficiency, cost effectiveness and quality of service operations of the various service industries. Tourism industry is one which is depended on integrated information network that plays a critical role in enhancing business success relationship. The tourism industry has evolved and modernized considerably. An important feature of an ERP is that it functions from a single comprehensive database for the entire organization, with real time connectivity between different functions and complete integration of front, mid and back office in the Tourism Industry. The integrated solution enables a tight financial control and reduced losses due to inefficient reconciliation, duplication of work, and possible delays. The present paper is to conduct a study on understanding the relevance and applications of the ERP systems in tourism from the supply side perspective incorporating the opinions of the decision makers/managers representing the key tourism organizations having higher applications of ERP systems. Further to relate the usability of the ERP systems with the output mechanism service performance has been taken as an output indicator for which consumers perceptions have been taken in the study. The study finally examines impact of applications of ERP systems on service performance with reference to Tourism and Hospitality industry.

Keywords: Enterprise Resources Planning Systems, Tourism and Hospitality Industry, Service Performance

INTRODUCTION

Enterprise Resource Planning (ERP) is one of the Information Technology (IT) tools which have drawn the attention of leading business strategists across the globe due to its capacity to offer strategic and operational benefits. Enterprise Resource Planning Systems (ERPS) ensure effective integrated application systems to support

accurate and reliable information networks. In fact, there are many advantages of implementing an ERP systems namely streamlining of the different processes and workflows, data storage and sharing, improved efficiency and productivity levels, better tracking and forecasting, lower costs, improved customer service etc. (Garg and Venkitakrishnan, 1999). An ERP system supports the business system that maintains a single database for a variety of business functions such

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as Manufacturing, Supply Chain Management, Financials, Projects, Human Resources and Customer Relationship Management. ERPS have become the de facto standard for large and mid-sized organizations to run all their major functional and process operations.

Understanding this premise ERP systems are being adopted by various organizations as part of their business growth strategies which has made ERPS implementation as one of the fastest growing functional tool in the information technology industry that intend to utilize ERP complementary technologies to extend the functionality of enterprise applications, including the Internet and telecommunication technologies to integrate technology system through the strategic partnership of ERP vendors. Major vendors in the ERP market include SAP, PeopleSoft, Baan, Oracle, Microsoft dynamic and J.D. Edwards that are the major competitors to provide effective integrated application system. In fact the strategic partnership of the ERP vendors play an important role for small scale and large scale industries across divers the sectors comprising both the manufacturing and service domains to run all their major functional and process operations (Batada and Rahman, 2012). Extending its scope from the production to service scopes its application have now been extended and found to be more useful across the diverse services sectors such as Banking and financial services, Educations, Health services and Tourism and hospitality services, This argument valid for the two reasons that services has a more economic relevance besides key role of information centric networks for delivering value to the customers. This has led the service organizations to adopt and invest considerable resources in the implementation of Enterprise Resource Planning (ERP) systems to improve efficiency, cost effectiveness and quality of service operations thereby to enhance service performance.

Of the difference service sets, tourism and hospitality industry is one which because of its perishability in nature is highly depended on integrated information network that plays a critical success factor in strategic inventory sales management. ERP systems support and addresses this challenge as it serves a single comprehensive database for the entire industry, with real time connectivity between different functions and complete integration of front, mid and back office in the Tourism Industry. The integrated ERP systems enables a control and reduced losses due to inefficient reconciliation, duplication of work, and possible delays that finally enhances the overall performances of the services to the consumers.

LITERATURE REVIEW

Enterprise Resource Planning systems has been described as business strategies and enabling software that integrate

manufacturing, financial and distribution functions to dynamically balance and optimize enterprise resources. ERP can enable enterprises to optimize their business processes and analysis capabilities for improved speed and efficiency (Gartner, 2004). ERP systems integrate inventory data with financial, sales, and human resources data, allowing organizations to price products, produce financial statements, and manage human, materials and financial resources (Markus, Tanis and Van Fenema, 1999 ; Vogt, 2002).

Process improvement is critical to the success of any organization in today's market. It is vital for any organization to correctly identify the processes which need an improvement initiative. The process improvement journey involves, identification of key performance indicator, aligning enterprise resource planning system to key performance indicator measurement parameters, identify performance target, development of performance plans, benchmarking. All these factors are critical to measure process improvement and therefore, it needs to be weighed against the best in the industry operating in a similar organization environment (Majumadar, 2008). The process improvement journey starts with ERP system deployment and deploying an ERP system is the cure to all process improvement worries. An ERP system enables an organization to integrate all the primary business processes in order to enhance efficiency and maintain a competitive position (Shehab et al., 2004). Many studies have shown the benefits of ERPs, ranging from improving productivity (Hitt et al., 2002) decision support benefits (Holsapple & Sena, 2005) and integration benefits of various information systems .

ERP system provides the enterprise-wide solution to deliver many benefits such as low operating costs, improved customer service, enhanced business operations and thereby enabling process improvement. Law and Ngai (2007) find that user satisfaction of ERP and business process improvement positively impacts the organizational performance. The organizational context is influencing the actual information quality, while the user satisfaction will be influenced by the quality of the information that the ERP system produces (Abugabah and sanzogn, 2010; DeLone and McLean, 2003). Information quality will be measured in terms of accuracy, timeliness, completeness, relevance, and consistency. According to Gupta (2000) the main benefits of ERP implementation are reduction of inventory and improved communication with suppliers and customers and the effect of Enterprise Resource Planning (ERP) Systems on business performance and also identify the important contributing factors for the relationship between ERP systems and business performance. The results indicate that in general many benefits in business performance were achieved after implementing the ERP as reported by the business users, but have also shown that a few benefits previously linked to ERP were not fully achieved. This indicates the positive

contribution of ERP systems on business performance (Elragal and Al-Serafi, 2011). Similarly several other research studies have identified various important benefits the ERP systems bring to organizations. O'Leary (2000) stated that an ERP system integrates of the majority of the business processes and allows access to the data in real time. Furthermore, ERP improves the performance level of a supply chain by helping to reduce cycle times (Gardiner et al., 2002). There are also some intangible benefits that an organization may enjoy by implementing an ERP systems including, better customer satisfaction, improved vendor performance, increased flexibility, reduced quality costs, improved resource utility, improved information accuracy and improved decision-making capability (Siriginidi, 2000).

Batada and Rahman (2012) measured ERP systems performance and found that customer satisfaction increased after implementation of ERP systems. ERP was found to save costs (Amabile, 1998; Huang et al., 2009; Kang et al., 2008; Loh et al., 2006; Wieder et al., 2006) facilitate business processes (Gattiker & Goodhue, 2005) and provide better information management (Federici, 2009). Operational aspects like lead time can also be shortened by utilizing ERP systems (Cotteleer & Bendoly, 2006; Gupta et al., 2004; Kang et al., 2008). According to Velcu (2007) faster fulfillment of customer orders can be achieved using ERP systems. Gupta et al. (2004) and Matolcsy et al. (2005) also agree that ERP systems provide more customer satisfaction by reducing time of delivery of products. By using an ERP system, order cycle times can be reduced, which might lead to improved throughput, customer response times and delivery speeds (Cotteleer and Bendoly, 2006; McAfee, 2002). ERP in the electronic markets serves as the information processing function to generate and exchange information among suppliers and customers. This electronic transfer of information goods can reduce the cost of paperwork and processing requirements of all the parties involved. Thus, from the above literature review the following assumptions are postulated:

H1: Application of Enterprise Resource Planning Systems has a significant impact on process improvement.

H2: Application of Enterprise Resource Planning Systems has a significant impact on service performance.

RESEARCH GAP AND RESEARCH PROBLEM

A large number of research studies on Enterprise Resource Planning systems have been conducted in banking, telecom, and health and education sector besides many on manufacturing sectors. Rather a less emphasis from the research perspectives has been focused on Enterprise Resource Planning systems in tourism and hospitality industry.

An empirical underpinning in this area shows that there are very few research studies which have been conducted on the relationship between Enterprise Resource Planning systems and process performance and few studies have focused on impact of Enterprise Resource Planning systems on service performance. Moreover, all the research studies on ERP systems have been conducted in the developed economies (Genoulaz, 2005) and very less number of research studies has been conducted in the developing economies like India. Therefore an attempt through this research has been made to study the relevance and application Enterprise Resource Planning systems in Tourism and Hospitality Industry.

OBJECTIVES OF THE STUDY

An understanding of the above proposition has led the researcher to conduct a study on understanding the relevance and applications of the ERP systems in tourism from the supply side perspective incorporating the opinions of the decision makers/managers representing the key tourism organizations having higher applications of ERP systems. Further to relate the usability of the ERP systems with the output mechanism service performance has been taken as an output indicator for which consumers perceptions have been taken in the study. The study finally examines impact of applications of ERP systems on service performance with reference to Tourism and Hospitality industry.

RESEARCH METHODOLOGY

The present research is empirical in nature where in detailed attempt is made to study the concept and applications of enterprise resource planning in tourism and hospitality industry. The three online travel service companies namely Makemytrip.com, yatra.com and Cleartrip.com operating in select cities of north India have been taken as the representatives of the tourism industry due to the fact that investments on ERP systems in these organizations is found to be relatively higher than the other travel companies. The selection of these companies is also justified on the basis of higher applicability of ERP systems and the higher market share of these travel companies. Two set of respondents with appropriate sample design i.e. managers and consumers have been selected to respond to ERP application and service performance respectively. Therefore, two different data instruments have been used in the study with interval scale for recording measurements.

Data was collected using a self-structured questionnaire, using a convenience sampling technique. A convenience sampling technique was used to directly engage people

who were using online travel agencies services. A total of 200 respondents (100 employees of online travel agencies and 100 customers who were using online travel agencies services). Thus, the sample size was 200.

DATA ANALYSIS AND RESULTS

Hypotheses tests

The correlation was run to see the relationship between Application of ERP systems and process improvement, Application of ERP systems and services performance. Results revealed a few significant relationships. First, Application of ERP systems correlated significantly with process improvement, $r(100) = 0.764$ Application of

ERP systems, on the other hand, was found to correlate significantly $r(100) = 0.722$

Next, Two regressions models were run to test the hypotheses. A regression was run because it allowed the simultaneous analysis of the impact of multiple independent variables (application of ERP systems) on the dependent variables (process improvement). By running this form of analysis, it allowed a better picture of how multiple variables were affecting and interacting with the dependent variables.

The first regression was run to see the impact of Application of ERP systems on process improvement. The model was significant in accounting for variance in process improvement with an Adjusted R-square = 0.579. Within the regression model, Beta = 0.764, $p < .05$. Thus, H1 was supported (see Table).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.893	.234		3.813	.000
	Application	.750	.064	.764	11.711	.000

a. Dependent Variable: process

The second regression was run to see the impact of application of ERP systems on service performance. The model was significant in accounting for variance in service

performance with an Adjusted R-square = 0.517. Within the regression model, Beta = 0.722, $p < .05$, Thus, H2 was supported (see Table).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.189	.238		5.002	.000
	Application	.672	.065	.722	10.345	.000

a. Dependent Variable: servicenn

The findings from the research show that concept of ERP system has found to be highly relevant in tourism and hospitality industry from the perspective of the managers representing these select organizations. The application part of the ERP has also shown higher degree of applicability with regard to customer data base, problem identification,

better employee software interface, real time information, on time delivery of services, process improvisation, better product development, decision making, inter-departmental communication, data accuracy, system accuracy, response time, revenue and profit management etc. In fact, the managers were found to be highly satisfied with the ERP support

systems in performing their roles and them highlighted that ERP systems have enhances their productivity. The analysis of service performance from the consumers perspective reveals that the service performance with regard to these organizations is found to be higher in terms of product quality, service quality, better customer experience, up-to-date information, regular feedback, delivery as assured, effective and real time information at 24 hrs, ease in the travel process etc. The inter organizational comparison of the ERP systems applicability and service performance revealed significant difference with Makemytrip.com having higher level of ERP applications and higher service performance. Finally the findings on the basis of cause effect relationship revealed that Enterprise Resource Planning systems significantly impacts service performance.

IMPLICATION OF THE STUDY

The research shows the higher degree of dependence and relevance of ERP systems in tourism industry. Interestingly it has been seen that ERP plays a critical role in enhancing service performances. As pointed out by some of the managers working in these organizations that ERP support systems helps in performing their managerial roles and they highlighted that ERP systems have enhanced their productivity and operational efficiency leading to the overall organizational success. Thus, the findings of the study addressing the above discussed limitations can become a strategic policy document in addressing issues related to the OD interventions, business success strategies, Talent management, attraction and retention of both internal and external customers, marketing and positioning strategies to be competitive and sustainable in the volatile business environment.

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