

Enterprise Resource Planning (ERP) System and User Performance (UP)

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Abstract— World of Information Technology (IT) is improving with the widespread innovation and Enterprise Resource Planning (ERP) systems are one of them. At the user level, the debate regarding contribution of ERP systems to performance still exists, because users utilize these systems and assess the actual benefits and its impact on them. With prior research mainly focuses on success and failure factors and other technical aspects, therefore, this paper aims to shed light on the ERP systems literature regarding its impact on user performance by reviewing the relevant studies. The study will enable the researcher to understand the state of art about the role of user in terms of performance with the proposition that users can evaluate the benefits of these systems in the organizations where ERP systems are already implemented or in the stage of implementation. Lastly, the study provides limitations and suggestion for future research.
Keywords: Enterprise Resource Planning (ERP) Systems, User Performance (UP), Review, ERP Success

I. INTRODUCTION

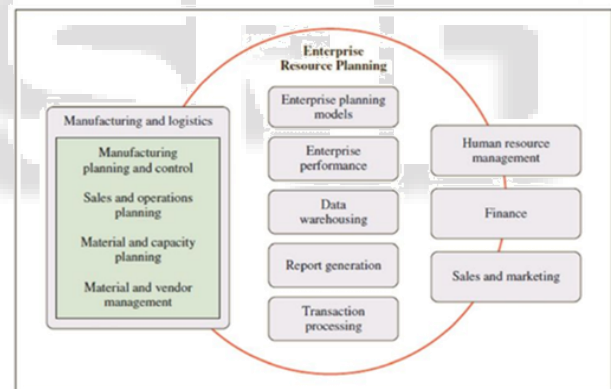
ERP was 1990 by Gartner, but its roots date to the 1960s. Enterprise Resource Planning system are business management, comprising of a set of comprehensive software designed to integrate and manage all business functions within an organization, these set include applications for human resource, financial and accounting, sales and distribution, project management, material management, supply chain management (SCM). Davenport (1998) described the strengths and weaknesses of using Enterprise Resource Planning (ERP). Since the time of that article, there has been growing interest among researcher and practitioners how organizations implement and use ERP systems. ERP systems are designed with the quest to improve productivity by enhancing an organization's ability while generating accurate and timely information across the enterprise and all its supply chain. Keeping in view the benefits and functionalities of these systems, business organizations are investing in information systems to improve performance (Ifinedo, Rapp, Ifinedo, & Sundberg, 2010) and turning to ERP systems to deal with changing environment and overcome limitations of legacy system Despite the enormous advantages associated with ERP systems, organizations tend to avoid it, due to the complex implementation process and higher failure rate.

A. User Performance:

The various studies are conducted to identify critical factors affecting ERP system implementation success in post-implementation phase are focusing on industrial surveys, individual cases studies and covered other research issues. A few studies focuses on evaluating performance in ERP systems implementation phase.

II. SCOPE OF STUDY

ERP has a huge scope & help in fulfillment of various business needs: Production Department: It includes Engineering, bills of material, scheduling, capacity, workflow management, quality control, cost management, manufacturing process, manufacturing projects, and manufacturing flow. Supply chain management: It includes inventory, order entry, purchasing, and product configurator; supply chain planning, supplier scheduling, inspection of goods, claim processing, and commission calculation. Financials: It includes general ledger, cash management, accounts payable, accounts receivable, and fixed assets. Projects: It includes costing, billing, time and expense, activity management. Human Resources: It includes human resources, payroll, training, time & attendance, and benefits. Customer Relationship Management: It includes sales and marketing, commissions, service, customer contact and call center support. Data Warehouse: It includes several self-service interfaces for customers, suppliers, and employee. Look at the following diagram for further clarification:



A. Objectives

- Providing a software map of business functional activities, improving accuracy rate of results, increasing flexibility of operation and improving productivity.
- It is a composition of software modules assisting company owners to achieve their goals at faster rate implementation of ERP for an organization is done on the basis of company requirements.

III. LITERATURE REVIEW

Huang and Yasuda (2016) conducted a survey to investigate ERP research phases and aspects in recent years. The study divide found literature in three phases: pre-implementation, implementation and post-implementation. By examining the data, the implementation has lesser attention that pre-implementation and implementation phase. Further, in the post-implementation phase the topics under discussions with more attention are: Critical success / failure factors, Real benefits, Business process reengineering, ERP selection

criteria, ERP impact, change management, implementation strategy and system/organization performance evaluation at organization level and user satisfaction with less attention. However, none of the studies focuses on user performance with ERP context, thus making this area worth to explore.

Eid Abbas (2017) conducted a study to make an attempt to evaluate the measure of user adaptation of ERP post-implementation on the benefits provide to end users by ERP systems. The study also examines the moderating effect of user experience with ERP system between the relationship of user adaptations with both effectiveness and efficiency of user benefits. The insignificance moderating effect of the user experience open avenues for re-investigation of this relationship and further investigation of the user adaptation in terms of user benefits.

Abugabah, Sanzogni, and Alfarraj (2015) made an effort to evaluate the impact of the information system on the performance of users by proposing a model comprising of the variables from Delone & McLean Information System Success model, Technology Acceptance Model (TAM) and Task Technology Fit (TTS). Their study found impact of quality factors information quality, system quality along with user characteristics factors on their performance, but the study lacks the inclusion of important factors of service quality and user satisfaction for a comprehensive evaluation.

Abu-Hussein, Abu-Hussein, Hyassat, Hyassat, Sweis, Sweis, Alawneh, Alawneh, Al-Debei, and AlDebei (2016) investigated ERP project's performance using project management factors that are effecting these projects. Four project management areas such as the human resource management, the communication management, the risk management and the time management. The findings focused on the importance of effective communication to improve trust between employees leading to exchange of information needed for ERP implementation success.

IV. RESEARCH METHODOLOGY

Primary data collected through well-structured questionnaire. Secondary data needed for the study collected from journals, books, websites and other references etc., A total sample of 100 respondents consists of each customers survey of Enterprise Resource Planning. These respondents were conveniently selected from Nagpur District. Convenience sampling is type of non-probability sampling we are used to collect the primary data and we are used to collect the data from the organization of the employees to aware from this system. For the purpose of analysis data were further processed by using statistical tools.

V. DATA INTERPRETATION

Sample size was 100 for every response

Characteristics	Percentage	Characteristics	Percentage
Gender	Total=100	How long was the implementation of the ERP system	Total=100
Male	44	6 to 9 months	60

Female	55	1 year to 3 year	15
		2 year to 3 year	12
		Over 3 year	13
Age (in years)	Total=100	Which department more adopting ERP system	Total=100
18-25	49	IT department	60
26-30	26	Finance department	22
31-40	10	Third party consultancy	12
Above 40	15		

Table 1: Profile of Respondents

Industry or Business sector belong to	Total=100
Business Services	53.9
Construction	14.7
Manufacturing wholesale/retail	11.8
Other	19.6
Organization use outside consultant to assist with ERP implementation	Total=100
Yes	74
No	26
The working culture has changed completely after implementation of ERP in organization	Total=100
Yes	83
No	17
The management keeps track of the activities in organization due to ERP implementation	Total=100
Yes	82
No	18
Business process restricting goals and task are clearly defined for increasing productivity	Total=100
Yes	78
No	22
The motivation for ERP implementation in organization	Total=100
Business/strategic	28
Technical	35
Functional	21
Cost saving and other financial reason	16
Frequently do experience problems with your application interfaces	Total=100
Almost all time	30
Frequently	35
Sometimes/a few times	15
Almost never	20
The ERP system fulfill your company's business strategy	Total=100
81-100	60
61-80	18
41-60	14
Below 40	08

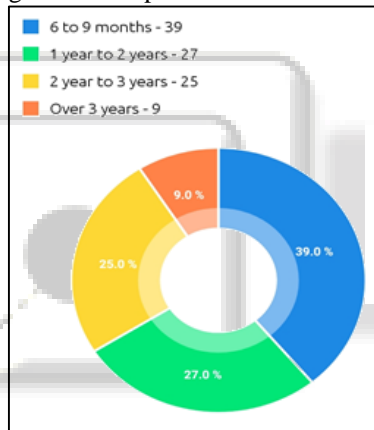
ERP system implemented or in the phase of implementation in your organization	Total=100
Yes	22
No	78

1) What is /was the motivation for ERP implementation in your organization?



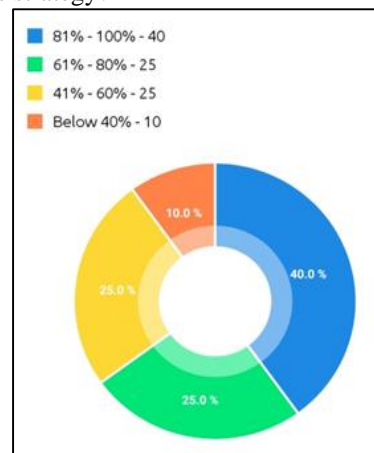
More technical 35% is the motivation for ERP implementation in our organization.

2) How long was the implementation of the ERP system?



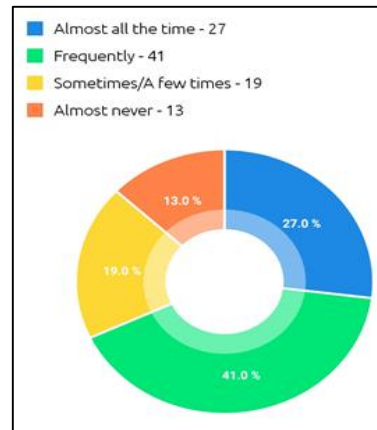
6 to 9 months the implementation of the ERP system is used 39% to others.

3) How much the ERP system fulfil your company's business strategy?

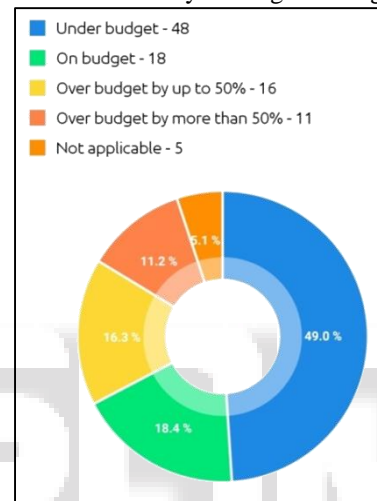


81% to 100% business strategy is fulfilling the ERP system of company.

4) How frequently do you experience problems with your application?

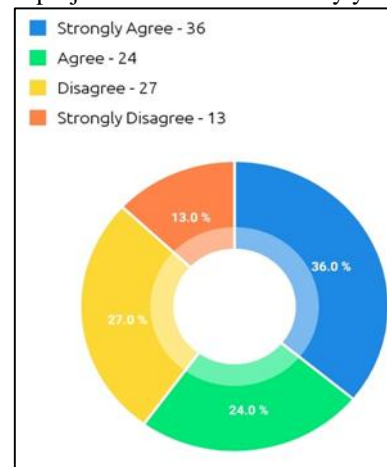


41% frequently experience problems with our application.
5) Did you complete ERP implementation in the organization was within your original budget?



Yes, under budget complete ERP implementation in the organization is within our original budget 48%.

6) The ERP project was worth the money you spend on it?



Strongly agree the money spend on the ERP project is 36%.

VI. FINDINGS

- Female respondents are showing interest to use ERP system than male respondents. Customer's age of 18year to 25year do more prefer ERP system implementation once in 6 to 9 months.

- IT department of the organization initiated the idea of adopting ERP system (60%). The industry or business sector belongs to (53.9%) business services. ERP system is (78.4%) implemented or in the phase of implementation in our organization.
 - Organization use 74% outside consultant to assist with ERP implementation. Business strategic was the motivation for ERP implementation in our organization.
 - The ERP system was fulfill the 81 -100% of our company business strategy. The more working culture has changed completely after implementation of ERP in organization.
 - Due to the ERP system business process restricting goals and task are clearly defined for increasing productivity and the management keeps track of the activities in organization due to the ERP implementation is more.
 - Under budget complete ERP implementation in the organization is within our original budget 48%.
 - Yes ERP system implemented or in the phase of implementation in our organization.
- [5] <https://www.researchgate.net>.
[6] www.google.com/forms.

VII. STUDY LIMITATION

The findings of the literature study, the structured methodological framework for comprehensive literature review and the conceptual framework identifying different areas of concern are to be useful for other researchers in their effort to obtain an overview of the evolution of the ERP research field and in positioning their own ERP research.

VIII. CONCLUSION

The utilization of Enterprise Resource Planning software allows companies to decrease the time it takes the company to get paid for its services after the sale. ERP systems increase productivity by integrating data and process across multiple departments and location which allow our company to move product faster, process orders quick, invoice customers more aptly and reconcile shipments sooner. Utilizing an ERP system allows access to a multiple of company information. The ERP system also tends to have more accuracy and relevancy because it all comes from multiple source not one sources.

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