# Post Implementation Problems Faced by the Users in the ERP System

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*Abstract* **-** **Enterprise Resource Planning (E.R.P.) systems are becoming popular among institute of higher education. This study is oriented to the afterwards of the problems faced by the management and their support staff and students in respect of the issues related to the successful implementation of the educational ERP (e_ERP) software in the sector of the higher education institution (H.E.I.). This research study goes on to define the relationship between the different variables of the e_ERP system.**
*Keywords***: Enterprise Resource Planning (E.R.P.), educational ERP (e_ERP), Higher Education Institution (H.E.I.), Variables**

## I. INTRODUCTION

Enterprise resource Planning (ERP) systems are becoming very popular among universities/colleges and institute of higher education. The study is conducted to find out the problems faced by the management and their support staff and students in respect of the issues related to the successful implementation of the e_ERP software. The data has been collected from different respondents regarding the problems faced by them after the post implementation of an ERP system. The data has been analysed by using different statistical tools to show the association and the relationship between the different variables of the e_ERP system. This study summarises the data gathered for the investigation of the problems faced by the stakeholders.

## II. REVIEW OF LITERATURE

Kanaracus, C. (2010)[1] has described the E.R.P. as a general term for integrated systems that are used in data processing organizations. These systems connect business management and production processes, which are included in the production.

Donovan R.M. (2005)[2] has studied a typical educations ERP system usually supports student administration (enrolment, procedures and student enrolment, financial support for students, student data), teaching and non teaching staff management (monitoring of employees) and finance (accounting, fees payment, payroll, investments, budget). It is possible to include some other programme add-ons, e.g. assets management (contracts, subsidies, grants etc.) or for monitoring student and developmental services of institutions. The main advantages of ERP for educational institutions are:

King P. (2002)[3] has examined, according to Educause Center for Applied Research (ECAR) organisation is

1. Improved information access for planning and managing the institution.
2. Enhances workflow, increases efficiency and reduces reliance on paper.
3. Improved services for teachers, students and employees.
4. Tightens controls and streamlines processes and eases adoption of best business practices.
5. Lower business risks, increased income and decreased expenses due to improved efficiency.
6. Provides user-friendly web based interfaces.
7. Establishes a foundation for new systems and integrates existing systems.

Jawed S. Khan *et al.*, (2014)[4] has described the main advantage of ERP systems to improve access to accurate and timely information. As top level management want to understand Educational Institute's overall performance with existing systems, they may find many different versions of the truth. As ERP system creates a single version of the truth because everyone uses the same system

Murphy C. (2004)[5] describe the use of up-to-date information approaches (web technologies, mobile phones, on-line services etc.) is an additional advantage, not only for the administration within educational institutions but also for people who constantly interact with the institution (student, teachers, researchers etc.).

Willis and Willis-Brown, (2002)[6] The ERP system market is one of the fastest growing markets in the software industry. ERP systems are huge and complex systems and warrant careful planning and execution to ensure their successful implementation.

Nash, (2000)[7,8] has analysed an effective business strategy centers on an aggressive, efficient use of information technology; for this reason the ERP systems have emerged as the core of successful information management, and the enterprise backbone of the organization.

Sandoe *et al.,* (2001)[9] has studied that a successful ERP system will streamline processes within a company and improve its overall effectiveness, while providing a means to externally enhance competitive performance, increase responsiveness to customers, and support strategic initiatives. The benefits of ERP systems, once the pains of implementation are over, appeal to companies.

Ahed Abugabah *et al.,* (2010)[10] have studied that higher education institutions (H.E.I.) are persisting in the Information Systems (I.S.) era by adopting and implementing ERP system. The need to evaluate their benefits and impacts on organizations and individuals are increasingly essential. Employing Information Systems in this sector is very critical to its success and its efficiency of services as ISs are critical factors that affect staff, tasks and quality of services and outcomes.

Holland and Light (1999a)[11], Davenport (1998)[12], Appleton (1997)[13] have described that the Enterprise Resource Planning (ERP) systems dominate the IT landscape but have proved problematic when it is based on single vendor. For some organisations ERP systems are generally implemented to overcome the maintenance difficulties associated with custom developments as they offer a clean slate through a common data set and suite of integrated applications.

Price waterhouse (1996)[14] has analysed the Standard packages can increase development speed, reduce development staff requirement, and offer a constant state of the art IT capability through upgrades.

Burns (1999)[15]; Mabert *et al.,* (2000)[16]; Stratman et al. (2002)[17]; Vaughan (1996)[18] have studied that there are dozens of vendors of ERP systems. However, the top five ERP system vendors are SAP, Peoplesoft, Oracle, J.D. Edwards, and Baan. SAP has been recognized as the leader with more than 50 percent of the market.

One of SAP's major strengths includes the extensive capability of the software's functionality. Perhaps two of its shortcomings are the complexity of the system and the resulting implementation. It is widely used in industries such as chemicals and pharmaceuticals (process industries), and also in oil and gas industries. By making a huge and ongoing investment in research and development, SAP continues to strive for increased dominance of the ERP market.

J.E. Scott et al. (2002)[19] have studied that IT projects have a high failure rate. According to the Standish Group International, 90% of SAP R/3 ERP projects run late.

M. Cunningham (1999)[20] has a study of 7400 IT projects and found that 34% were late or over budget, 31% were abandoned, scaled or modified, and only 24% were completed on time and in budget

### III. METHODOLOGY

The Chi-square test used with one sample is described as a "goodness of fit" test. It can decide whether a distribution of frequencies for a variable in a sample is representative of, or "fits", a specified population distribution e.g. you can use this test to decide whether your data are approximately normal or not. With chi square, a value is calculated from the data using Chi Square procedures and then compared to a critical value from a Chi Square table with degrees of freedom corresponding to that of the data. If the calculated value is equal to or greater than the critical value (table value), the null hypothesis is rejected. If the calculated value is less than the critical value, the null hypothesis ($H_0$) is accepted.

The Chi Square ($\chi^2$) test is the most important and most used member of the nonparametric family of statistical test. It is employed to test the difference between an actual sample and another hypothetical or previously established distribution such as that which may be expected due to chance or probability. Chi Square can also be used to test differences between two or more actual samples.

Thomas (2003)[21], Creswell, (2003)[22] have studied that quantative research is used for examining the use of Educational ERP in the different institutions. Quantative research is a systematic, objective oriented methodology that mainly involves numerical data analyzing using statistical methods.

Hopkins (2000)[23] aims at determining or quantifying relationship between independent variables and dependent variables or outcome variables. Hence, quantitative research design is chosen as appropriate for doing this research. In this type of research, researchers have to be very careful while observing and measuring the data as personal involvement may hamper data purity.

Creswell (2003)[21] Quantative research involves utilization of predetermined instrument based questions for measuring performance data, observational data, attitude data and census data. Hence the outcome of using predetermined instruments or closed ended questions is quantifiable numerical information or statistical analytical data which offers precise measurement. Strongly advocates quantitative research techniques as it utilises unbiased observation, measurement survey and statistical techniques for developing knowledge relating to:

1. Testing or verifying theories or explanations.
2. Relating variables in hypothesis or questions.

### IV. OBJECTIVES OF THE STUDY

To formulate a conceptual framework for defining the relationship between the type of the software used and whether any problem is faced by the management, their support staff and students related to the no problem, site is slow and downloading. The objective of the study is as follows:
1. To try to find which type of the software is used and whether any problem is faced by the management and their support staff and students related to the site is slow, downloading and no problem.

### V. ANALYSIS AND INTERPRETATION

*A. Research technique*

The responded questionnaire was coded and the captured opinions were then subjected to further analysis by using

S.P.S.S. (Statistical Programme for Social Sciences) Software version 23 and AMOS for windows. AMOS is an added module of S.P.S.S. used for SEM or Path Analysis or Confirmatory Factor Analysis.

*B. Descriptive Analysis*

1. Types of software are a categorical variable with two response options: (1 = Customize ERP, 2 = SAP). Respondent were asked to comment on the following statement using two point scales: 1 = SAP, 2 = Customize ERP.

TABLE I TYPE OF SOFTWARE IS USED

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid SAP | 3 | 2.3 | 2.3 | 2.3 |
| Customize ERP | 129 | 97.7 | 97.7 | 100.0 |
| Total | 132 | 100.0 | 100.0 |  |

The above frequency distribution table (a) shows that majority of the colleges uses customize ERP software. 97.7% of the college uses customize ERP and 2.3% uses SAP.

2. Respondents were asked to tell that whether you are facing any type of problem in examination module by using four response options: 1 = Download, 2 = Site is slow, 3 = No, 4 = Not applicable).

TABLE II ARE YOU FACING PROBLEM WITH THE MODULE (EXAMINATION)

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid Not applicable | 6 | 11.1 | 11.1 | 11.1 |
| No | 1 | 1.9 | 1.9 | 13.0 |
| Site is slow | 23 | 42.6 | 42.6 | 55.6 |
| Download | 24 | 44.4 | 44.4 | 100.0 |
| Total | 54 | 100.0 | 100.0 |  |

The above frequency distribution table (b) shows that the students are facing a little bit of problem in the examination module of ERP software. The response of students about this module is as mention below:

1. Download: 44.44%
2. Site is slow: 42.59%
3. No: 1.85%
4. Not applicable: 11.11%

*Hypothesis Testing:* Slow site and downloading are major problems faced by students with regards to examination.

*Statistical Test:* One Sample chi square test.

*Variables and Measurements:* Respondents were offered three problems with reference to examination were asked to select one.

$H_0$ = Examination problems do not differ in frequencies.

$H_1$ = Examination problems significantly differ in frequencies.

*Level of Significance:* $\alpha = 0.05$

TABLE III CHI-SQUARE TEST FREQUENCIES

| Examination | | | |
|---|---|---|---|
|  | Observed N | Expected N | Residual |
| No | 1 | 16.0 | -15.0 |
| Site is slow | 23 | 16.0 | 7.0 |
| Download | 24 | 16.0 | 8.0 |
| Total | 48 |  |  |

TABLE IV TEST STATISTICS

| Examination | |
|---|---|
| Chi-Square | 21.125[a] |
| df | 2 |
| Asymp. Sig. | .000 |

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 16.0.

## V. CONCLUSION

Since the p value (0.000) is less than 0.05 the null hypothesis is rejected. Hence it is concluded that examination problems significantly differs in frequencies.

From the frequency table it can be seen that no problem has the frequency count of 1, site is slow has a frequency count of 23 and download has a frequency count of 24. Hence it can be concluded that the major problem faced by the student is site is slow and download. Finally, it is concluded that there is a relation exist between these variables (site is slow, downloading and no problem).

## REFERENCES

[1] Kanaracus, C. (2010). Biggest ERP Failures of 2010. *InfoWorld. 12*(28).
[2] Donovan R.M. (2005). Successful ERP implementation the first time. Process improvement.
[3] King P. (2002), The Promise and performance of Enterprise Systems in Higher education, Respondent Summary ECAR Respondent Summary 2002.
[4] Jawed S. Khan & Irfan J. Shaikh (2014). Problems of Implementation ERP in Educational Institutes: A Case Study, *Allana Management Journal of research/ January – June*. 040 – 050.
[5] Murphy C. (2004), ERP: The Once and Future King Campus Computing, Campus technology syllabus Media Group 2004.
[6] Willis & T. A. Willis-Brown. (2002). Extending the value of ERP, Industrial Management and Data Systems *102* (1/2), 2002, p. 35.
[7] Nash, K.S. (2000a), A really bad bet for drug distributor, *ComputerWorld*. 36.
[8] Nash, K.S. (2000b), Companies don't learn from previous IT snafus, *ComputerWorld*, 32-33.
[9] Sandoe, K., Corbitt, G. & Boykin, R. (2001), Enterprise Integration, Wiley, New York, NY.
[10] Ahed Abugabah, Louis Sanzogni (2010), Enterprise Resource Planning (ERP) System in Higher Education: A literature Review and Implications. *International Journal of Human and Social Sciences. 5*(6), 395-399.

[11] Holland, C. & Light, B. (1999a). A Critical Success Factors Model for ERP Implementation. *IEEE Software*. *16*(3), 30-36.

[12] Davenport, T.H. (1998), Putting the Enterprise into the Enterprise System, Harvard.

[13] Appleton, E.L. (1997), How to Survive ERP, Datamation, March, pp. 50-53.*Business Review*, *76*(4), 121-131.

[14] Price Waterhouse (1996), Price Waterhouse Information Technology Review 1995/1996, Price Waterhouse, London.

[15] Burns, M. (1999). ERPs: a buyers' market. *CAmagazine*. *132*(7), 37-45.

[16] Mabert, V.A., Soni, A. & Venkataramanan, M.A. (2000). Enterprise resource planning survey of US manufacturing firms. *Production and Inventory Management Journal, Second Quarter*, 52-8.

[17] Stratman, J.K. & Roth, A.V. (2002). Enterprise resource planning (ERP) competence constructs: two-stage multi-item scale development and validation. *Decision Sciences*, *33*(4), 601-28.

[18] Vaughan, J. (1996). Enterprise applications. *Software Magazine*, *16*(5), 67-72.

[19] Scott J.E. & Vessey I. (2002). Managing risks in enterprise systems implementations, *Communication of the ACM. 45*(4), 74–81.

[20] Cunningham M. (1999). it's all about the business, *Information 13*(3), 83.

[21] Thomas, M. (2003). Blending Qualitative and Quantative Research Methods in Thesis and Dissertations Thousand Oaks, California Crown Press, Inc. A Sage Publication Company.

[22] Creswell J. (2003), Research Design: Qualitative, Quantative and Mixed Method Approaches (2nd ed.). Thousand Oak, CA: SAGE Publication.

[23] Hopkins W. (2000), Quantative Research Design. *Sportscience*, *4*(1). Retrieved from http://www.sportsci.org/jour/0001/ wghdesign. Html.