

Implementation Of Erp And Its Impact On The Performance Of The Employees Of Higher Education: An Empirical Study On Technical Institutions Of Odisha

Sunil Kumar Mishra¹, Dr. Atul Dattatrye Newase², Pritidhara Hota³

¹Assistant Professor, Nalanda Institute of Technology.

²Professor, Dr. A. P. J. Abdul Kalam University.

³Assistant Professor, Global Institute of Management.

ABSTRACT:

The efforts of the organizations to improve their efficiency are remarkable. But improvement will be more prominent if supported by the technological factors. The introduction of the ERP has brought forward a significant change in the development of the efficiency of various organization. The research focused on the impact of ERP on the performance of the employees of higher education technical institutions. Looking into the views of 218 respondents (employees) of technical institutions from all the districts of Odisha, the results of the paper revealed that there has been a significant positive impact on the performance of the employees. The most significant contribution in improving the quality of the employees is the service quality improvement.

KEY WORDS: ERP, HEIs, Quality Improvement.

INTRODUCTION:

The higher education technical institutions have a significant role in the process of the nation building. These are the institutions where application of basic knowledge converts in to the reality. In this perspective the efficiency and effectiveness of these institutions are highly essential. The efforts of these organizations to improve their efficiency are also remarkable. But improvement will be more prominent if supported by the technological factors. Odisha as a state is situated in the east coast of India with 30 districts. As far as the boarder is concerned this state shares its boarders in the north side by Jharkhand, north-east side by West-Bengel, Bay of Bengel in the east, south and west bordered is shared by Andhra Pradesh and Chhattisgarh respectively. Bhabaneswar is the capital of Odisha and Odia is its official language. In odisha there are one central university, twenty two state universities; three deemed universities, nine private universities. Mostly the technical institutions are run under the affiliation of Biju Patnaik University of Technology, Odisha. The introduction of the ERP

has brought forward a significant change in the development of the efficiency of various organizations. This paper tries to explore the role of the ERP and its various aspects towards the improvement of the employee's performance in the higher education technical institutions.

LITERATURE REVIEW:

(Goldstein & Katz, 2005) in their publication on Academic Analytics: The Uses of Management Information and Technology in Higher Education note that HEIs right from 1980s, to cater to the needs of their administrative functions, have incurred huge costs to the tune of hundreds of millions of dollars, to enhance information access. The study carried out at 380 HEIs to determine the results delivered by the selected strategies.

(Zornada & Velkavrh, 2005) observed that post computerization of various functions of higher education Institutions, the vendors of ERP started finding business opportunity there and positioned their solutions. However, the implementations these solutions whose development could be traced to the knowledge acquired from business scenario, failed to meet the requirements of higher education sector in many cases.

(Okunoye, Frolick, & Crable, 2006) describe ERP systems to be acknowledged for incorporating multiple doings performed within a composite business. However, across all types and size of organizations existing in the modern era, the enterprises are considering ERP solution as their typical information system. The authors, in this paper, considered ERP implementation in the higher education institutions; the authors conclude the research indicating that the study could contribute to associated body of knowledge, enabling stakeholders to assimilate composite nature of ERP selection process and the related dynamics of the organization.

(Rabaa'i, Bandara, & Gable, 2009) observed that adoption of ERP systems by higher education institutions (HEIs) has shown an increase in past few decades, due to several environmental factors. Although there has been a continuous increase in ERP adoption by HEIs across the globe, the technical institutions of Odisha remains far behind due to lack of awareness among employees.

(Bologa, Bologa, & Sabau, 2009) in their research paper on "Success factors for higher education ERPs" through extensive review of literature, authors have identified a few key factors influencing implementation of ERP implementation initiatives in universities. As the literature shows evidence of multiple studies on ERP implementation has been already performed in industry, the researcher considered implementation of ERP in university as a specific case of that from industry. The purpose chosen for the study by the researcher, therefore, was to prepare a list of key factors which influence implementation of ERP in university set-up. Considering implementation of ERP systems in higher education as a specific case, the researchers use method of direct interview and identified critical differences in a few factors with respect to the HEI set-up. These factors included, structure of

communication, involvement of the management, organization, competences of the implementation team, communication between departments, training imparted to users, partnership with suppliers & customers, and consultants.

(Sabau, Munten, Bologa, Bologa, & Surcel, 2009) revealed that ERP solution for higher education, may be used to integrate processes and enhance efficiency of university in Romania and attempted to examine their application in the universities there. The authors, using a SWOT methodology and suggested universities that the processes of identifying an ERP solution required them to compare their existing processes with the one offered by the ERP solution and chose the best fit.

(Abugabah & Sanzogni, 2010) showed a basis for identification of the benefits of ERP system as relevant to higher education from various stand points with special focus on the users of ERP. The paper is organized into two section, one including ERP literature in higher education in general, and the other discussing ERP literature as applicable to higher education in Australia.

(Sullivan, 2010) find out as how the HEIs maximize the benefits from the ERP systems. The study used a mixed approach including a questionnaire and qualitative study and analysed the collected data within and across target HEIs. The findings of the study indicated that irrespective of the size of the institution, the pot- implementation experiences across the target institutions were similar in nature.

RESEARCH GAP

The literature that has been studied for this research represents the importance of ERP implementation on the performance of the organization and its customers. But what is lacking is the study of the impact of ERP on the performance of the employees specifically the employees of the technical higher education institutions. This gap in the research inspires to take on this research article.

OBJECTIVES OF THE RESEARCH

To carry out the research the following objectives has been taken up.

- a. To study the existing status of the ERP implementation in the Technical Higher Education Institutions in Odisha.
- b. To study the impact of the ERP on the performance of the employees of the technical HEIs.

DATA ANALYSIS AND INTERPRETATION:

For this research data has been collected from the primary sources in the form of structured questionnaire. The data has been collected from 218 respondents associated with higher education technical institutions.

The most important part of the research has been discussed in this section. The impact study of the variables representing the implementation of ERP on the Individual employees has been discussed. To study this impact multiple regression analysis has been applied.

Prior to the application of the multiple regression. The test of normality of each variable has been done. The variable has been calculated by taking the average of all the responses of the questions belonging to one category. The mean value of these questions is treated as the independent variable and dependent variables. The test of normality results has been presented below.

Table- 5.1: Normality test of the Variables

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
OI	.107	218	.000	.977	218	.001
OC	.085	218	.001	.939	218	.000
SQ	.089	218	.000	.977	218	.001
IQ	.079	218	.002	.983	218	.009
II	.116	218	.000	.975	218	.001
a. Lilliefors Significance Correction						

Source: Calculated from primary data

The test of normality has been done by using the Kolmogorov-Smirnov test and Shapiro-Wilk test. The normality test result of the variables at their original value has been presented in table – 5.1. As revealed from the results that in both the tests the p-values of all the variables are less than 0.05. This led to the rejection of the null hypothesis. Thus, it is concluded that the variables at their original values are not normal.

In this condition when the variables at the original values are not normal then we have to convert them into normal by taking the logarithm of the original values. The log converted data of all the variables are again tested for normality. These logs converted variables are tested for Kolmogorov-Smirnov test and Shapiro-Wilk test along with the descriptive of the data were calculated to find the skewness of the data.

Table-5.2: Normality Test (descriptive) of Log converted variables

		Statistic	Std. Error
OC Normal	Variance	.080	
	Std. Deviation	.28287	
	Skewness	.035	.165
	Kurtosis	-.281	.328
SQ Normal	Variance	.064	
	Std. Deviation	.25386	
	Skewness	.091	.165
	Kurtosis	-.080	.328

OI Normal	Variance	.082	
	Std. Deviation	.28549	
	Skewness	.064	.165
	Kurtosis	-.138	.328
IQ Normal	Variance	.064	
	Std. Deviation	.25215	
	Skewness	.064	.165
	Kurtosis	-.203	.328
II Normal	Variance	.063	
	Std. Deviation	.25029	
	Skewness	.004	.165
	Kurtosis	-.256	.328

Source: Calculated from primary data

From table 5.2 it is observed that for all the five variables the skewness is very less the range is from 0.004 to 0.091. This reflects that that are not very scattered. The variance and the standard deviation of these data are also very less. Hence, it is concluded that the variables are near normal.

Table- 5.3: Normality test of the Log Normal Variables

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
OC Normal	.065	218	.026	.987	218	.045
SQ Normal	.063	218	.035	.992	218	.277
OI Normal	.061	218	.045	.991	218	.199
IQ Normal	.067	218	.019	.990	218	.134
II Normal	.103	218	.000	.983	218	.110
a. Lilliefors Significance Correction						

Source: Calculated from primary data

The normality test results of the log normalised variables as presented in table 5.3 reveals that the Shapiro-Wilk test results that all p-values are more than 0.05. This indicates that the log normalised variables are normally distributed. This makes use confident that we can use this data for the further statistical data analysis.

Table- 5.4: Model Summary of Regression Equation

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.713 ^a	.598	.085	.23940
a. Predictors: (Constant), IQ Normal, OC Normal, SQ Normal				

Sources: Regression output

The regression results taking the impact on the individuals as the dependent variable and the changes in the internal quality, organisational culture and the service quality as the independent variables shows various results as shown in table – 5.4. This table gives the r-square value of 0.598. This indicates that the independent variables have an impact to the extent of 59.8% on the dependent variable.

Table- 5.5: ANOVA of the Regression Analysis

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.329	3	.443	7.731	.000 ^b
	Residual	12.265	214	.057		
	Total	13.594	217			
a. Dependent Variable: II Normal						
b. Predictors: (Constant), IQ Normal, OC Normal, SQ Normal						

Sources: Regression output

The table – 5.5 presents the ANOVA results of the regression equation. The p-value of the ANOVA is 0.000 which less than 0.05. This indicates that the model is significant and the regression equation is reliable and trustworthy.

Table- 5.6: Coefficients of Regression Equation

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.277	.050		5.511	.000
	OC Normal	.131	.058	.148	2.262	.025
	SQ Normal	.164	.069	.167	2.395	.017
	IQ Normal	.155	.069	.156	2.234	.027
a. Dependent Variable: II Normal						

Sources: Regression output

Table- 5.6 presents the relative importance of the independent variable that influences the performance of the employees. The table reveals that all the independent variables are significant with the p-values less than the 0.05 mark. Again, the detail observation proved that out of all the three independent variables the service quality has the highest beta value indicating that this variable is the most important variable that has helped to increase the performance of the employees.

CONCLUSIONS:

The analysis of the data collected and the interpretation of the results of the analysis lead to the conclusion that the implementation ERP has definitely helped the organization improve its service quality, the organizational culture and the quality of information flow in the higher education institutions. The further investigation into to the matter of the influence on the employees of this organization it is revealed that there has been a significant positive impact on the performance of the employees. The most significant contribution in improving the quality of the employees is the service quality improvement.

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