

Impact Study of Enterprise Resource Planning (ERP) in HRM Practices

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Abstract: The reason to conduct this research is to investigate the impact of Enterprise Resource Planning system implementation (independent variable) in Human Resource management practices (mediating variables) including recruitment and selection, training and development and compensation and benefits and then HRM practices impact on organizational productivity (dependent variable) in terms of employee's performance. Survey research method was taken for this explanatory research. Convenient sampling was used and a sample of 300 was taken out of which 201 responses were received. Questionnaires consisted on different items related to ERP product, HRM activities and organizational productivity. The response rate was 67%. The targeted respondents were the employees who are using ERP irrespective of their position or grades in those particular organizations. Structural equation modeling was used where regression analysis was done. Results shows the ERP implementation have negative relationship with recruitment and selection and also not showing relation with compensation and benefits but having positive relationship regarding training and development of organizational employees. Recruitment and selection shows negative relation whereas, compensation and benefits and training and development shows positive relationship with organizational productivity. Study limitation includes small sample size, time constraints and other human resource activities.

Key words: Enterprise resource planning • HRM activities • Organizational productivity

INTRODUCTION

Businesses are focusing to provide goods and services within a shortest possible time. Therefore they focus to implement different business applications having consistent and accurate data across units and ERP helps through 'common language' [1]. Enterprise Resource Planning system is complex as well as most demanding for the businesses [2]. Human Resource Management practices have strongly influence by this ERP system. If there is high level of system use, then it means that system is also linked with human resource management functions including merit based performances, hiring, selection, trainings etc. In Pakistan, there are technical or socio-technical factors which are critical for the success of the organizations in public and private sectors. Research shows that management support, change management, proper definition of the scope of the project, organizational process re-engineering and manpower of professional are the critical factors for ERP

success [3]. Companies are also showing their dissatisfaction level after implementing and using this system of ERP. This is not because of software installation but the problem is inefficient use by employees. Individual performance can be improved through post-implementation learning but this system is required continuous learning due to which employees show different attitudes [4]. All employees should be valued and organizations must retain and involve them in using this system, if not then, they face serious problems [5].

Objectives of this Research: The objectives of this study are:

- To find out the relationship of ERP implementation with HRM activities
- To investigate the relationship of HRM activities with organizational productivity in terms of employees where ERP system is working.

Literature Review: Enterprise Resource Planning software is very much effective in handling the different functions for manufacturing organizations such as material purchase and inventory handling, order tracking, data related to receivable and payables, warehousing, human resource management, production, transportation, ledger maintenance etc. Trainings are also help for the better understanding of the system [6]. Individual performance is in reality the actual performance of the individuals which are dealing and handling this system [7]. Employee's satisfaction with the system can enhance the organizational impact and information quality can increase the usefulness of the system [8]. Proper information delivery format, communication, customer focus activities, salary and better working conditions are also affect the employee's intention to leave or not [9]. Organizations which are high risk oriented are not much focusing on the short-term incentive and show poor performances as compared to those which have greater risk but they are giving importance towards more incentive [10]. HRM consist of activities like, hiring, training, development, compensations, benefits, record management, retirement etc. [11]. Education and trainings also affect the success and failure of ERP implementation. Those organizations, which used ERP without much more effort, they have low commitment to change and they did not actively participate in training of employees for proper handling. They have to bear high costs in trainings for those people who are reluctant. If employees are properly educated about what is expected from their side and also train them accordingly then failure results can convert into success [12]. All the human resource functions of the organizations when handled in an electronic way can give the access of information to the members using ERP software [13]. Users took long time to seek and adapt to new systems and productivity effects. If suitable trainings are not given to workers then due to lack of interest their satisfaction level will be low but innovation and service quality of work will enhance due to new system implementations [14]. Human Resource Management is dominant approach towards people management and many practitioners, academics, sociologist and psychologist gave and explained many theories about the Human and their behavior at work. In ancient societies mostly work was done through division of labor but it had biasness because of caste and power etc. but modern HRM aims to work with coordinated effort and identify and develop the best people for specific job irrespective of caste, power, gender or biasness [15]. When employees underutilize the

new information system it lowers the business's efforts in order to gain benefits from such implementations. Employees are unwilling and show resistance towards change and it is the commonly acceptable reason for system failure [16]. There is significant effect of Human Resource Management activities on the performance of organizations and productivity increases [17]. Organizational performance includes the increasing the product quality, satisfaction of the customers using the product, development of the new innovated product, ability to attract and retain the employees of the organizations and to enhance the relationship between management and these employees [18]. According to [19], there is significant effect of HRM activities and policies like recruitment, trainings, promotion, incentives, benefits, safety and health measures on organizational performance which leads towards organizational productivity. Moreover trainings and compensations are very much effective in perceiving the organizational performances [20].

Recruitment and selection in any organization is helpful in determining the decisions about which candidate is suitable and who will get the employment offer and for this, there is the need to create and maintain a better fit between organization, teams, employees and working environment [21]. Literature suggest that there is no agreed rules and dimensions for measuring ERP system performance in better way but ERP system gives significant change towards organizational success and it is measured with the evaluation of the employees who are actually using this system [22]. Employees always find ways to do work with least resistance and through this electronic way of working they access the easy rout of handling the tasks [23].

Research Gap: Past studies focused on the training and development and also the soft issues but very few researches was conducted regarding HRM practices in reference to Pakistan. HRM activities are not up to the mark and organizations are using ERP system for other purposes but the impact study for HRM activities was not considered much, although they know that employees are the real assets for any organization.

Theoretical Framework

Research Model: In this study, the research model is based on the conceptual model of Lodhi *et al.*, 2012. It is consisted of different variables such as independent, dependent and mediating variables. In order to see the impact of ERP success or failure,

hypotheses are developed with their relationships. ERP system implementation is independent variable, dependent variable includes organizational productivity in terms of employees and mediating variables are recruitment and selection, training and development and compensation and benefits.

H1: ERP implementation positively influences the recruitment and selection process of organization.

H2: Recruitment and selection process positively influences the organizational productivity.

H3: ERP implementation is positively influenced the trainings and development of employees.

H4: Training and development positively influenced the organizational productivity.

H5: ERP implementation is positively influence the compensation and benefits of employees.

H6: Compensation and benefits positively influence the organizational productivity.

MATERIALS AND METHODS

Data Collection Methods: Survey research method is used for conducting the research and it is valid method in order to see the user’s perceptions and satisfaction. For this study, organizations from Pakistan were selected in which HRM activities are done through ERP system. The focus was to collect the data from organizations which are operating in Pakistan and having different activities which need to be analyzed. For data collection five organizations are selected which includes Nestle Pakistan Ltd, Engro Foods Ltd., Mobilink, LUMS University and Orient Company Ltd. These organizations were contacted and questionnaires were distributed in printed or hard copy among employees of the organizations who are not only using this ERP system but also directly influenced by these HRM activities. These questionnaires were collected back through posts from respective organizations. Demographic information was also collected.

The sample size is 300 employees of five different organizations. Items which were used in this design are based on likert scale having range of strongly disagreed to strongly agree. This instrument design is also based on

the study of Plessis and Frederick, 2012; Cho *et al.*, 2011; Ghebregiorgis and Karsten, 2007; Majumder, 2012; Batada and Rahman, 2012. Questions are also developed from Chang *et al.*, 2008; Calisira and Calisirb, 2004; Nurul Absar, 2010; Petrescu and Simmons, 2008; Shahzad, 2008; and Kinnie *et al.*, 2005. Total 22 items having likert scale were developed based on the previous researches. It took almost 2 weeks to collect the data from the organizations.

Data Analysis Methods: Structural equation modeling was used and for this data was firstly entered in SPSS® 16 software and then the data was analyzed using AMOSE-18. Path analysis was used in order to see the relationships between independent, mediating and dependent variables. It provides the more effective and direct way to analyze the complex relationships between variables of different kinds. The analysis made through collection of data, model estimation and evaluation. The reliability was measured for variables.

Demographic Items		Frequency	Percent
Gender	Male	140	69.7
	Female	61	30.3
Total		201	100
Age	Up to 25 Y	33	16.4
	26-30 Y	86	42.8
	31-35 Y	57	28.4
	36-40 Y	16	8.0
	41-45 Y	9	4.5
	Total	201	100
ERP Experience	Under 5 Y	84	41.8
	5-6 Y	44	21.9
	6-7 Y	45	22.4
	Above 7 Y	28	13.9

Empirical Results: Frequency table of demographic variables shows the percentages of the respondents regarding gender, age and ERP experience. In this research, out of 201 respondents, there were 140 males and 61 females. Respondents of having age between 26- 30 were 86 which were the highest in respondents while 57 were having the age of 31-35. ERP experience data shows that highest response rate was 84 who have experience of less than 5 while 44 have 6-7 years of Experience which was almost same in regard to the Respondents having 5-6 years experience.

	Descriptive Statistics		
	N	Mean	Std. Dev.
ERP Implementation	201	4.1277	.57422
Organizational Productivity	201	4.0746	.54718
Recruitment and Selection	201	3.6849	.57332
Training and Development	201	3.9975	.48146
Compensation and Benefits	201	3.6103	.62361

Descriptive statistics shows mean and standard deviation. Mean of ERP implementation was 4.1277, organizational productivity 4.074, recruitment and selection 3.68, training and development 3.99 and compensation and benefits 3.61.

Hypothesis Testing Results: Statistics related to model fit is shown through RMR, GFI, AGFI and CFI. Where RMR value is 0.02, which is acceptable because it should be less than 0.05. GFI is higher than threshold 0.9 which is good because in this study its value is 0.976 and Goodness of Fit Index is significance and acceptable. AGFI is also 0.909 which meets the Adjusted Goodness of Fit Index threshold i-e 0.9. In this study, AGFI and GFI are closer to each other.

Model	MR	FI	GFI	FI
Default Model	.020	.976	.909	.850
Saturated Model	---	---	---	1.000
Independence Model	---	---	---	0.000

Regression Weights			Estimate	S.E.	C.R	P-Value
Recruitment and Selection	<---	ERP Implementation	-.002	.071	-.023	.982
Compensation and Benefits	<---	ERP Implementation	.124	.076	1.624	.104
Training and Development	<---	ERP Implementation	.233	.057	4.084	***
Organizational Productivity	<---	Recruitment and Selection	-.099	.062	-1.590	.112
Organization Productivity	<---	Compensation and Benefits	.218	.057	3.802	***
Organization Productivity	<---	Training and Development	.315	.074	4.250	***

Training and development relationship is present with ERP implementation system and the estimates in regression weights are also highlighting that it is .233 and p-value is less than 0.5 which accept the hypothesis through structural equation modeling.

Further, training and development is also showing the relationship with organizational productivity with estimate 0.315 and p- value less than 0.5 which proves the hypotheses. It also clearly is showing that training and development is positively related to the organizational productivity.

CONCLUSION

This study was basically conducted to see the impact of ERP on Human resource activities. Data was taken from

ERP implementation is not showing any relationship with recruitment and selection. The estimate of it is .002 while critical ratio is .023 and p-value is .982 which rejects the hypothesis through regression weights. Recruitment and selection is also not showing any relationship with organizational productivity because its estimate in regression weights is 0.099 and p-value 0.112 which reject the hypothesis that recruitment and selection is not positively influence the organizational productivity for those organizations where ERP system is implemented and used by the employees for managing HRM activities.

ERP implementation impact towards compensation and benefits is not showing any relationship because its estimate is 0.124 while its p- value is 0.104 which is higher than expected and it reject the hypothesis that ERP system implementation is positively influence the compensation and benefits of the organizations where it is used.

While on the other hand, compensation and benefits relationship with organizational productivity is showing that estimate is 0.315 and p-value is less than 0.5 which accept the hypothesis that compensation and benefits are positively influence the organizational productivity in terms of employee's satisfaction and in terms of non-financial benefits.

five different organizations based on Quantitative research. 300 sample size was taken based on convenient sampling. Data was analyzed through SPSS and AMOSE where structural equation model was prepared. Findings showed that recruitment and selection was not showing relationship with ERP and organizational productivity. ERP has no relation with compensation and benefits but this mediating variable shows the relation with organizational productivity. But ERP implementation shows positive relation with training and development and this mediating variable shows positive relation with organizational productivity.

Limitation of the Study: The study about ERP has some limitations because of small sample size and limited time to get the information from organizations. Research is based

on quantitative research and not focusing towards qualitative research. All other HRM activities which can be handled with this ERP system were not the focus of this research.

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