

Sirohey, S. A. Hunjra, A. I. and Khalid, B. (2012). Impact of Business Process Automation on Employees' Efficiency. *Bulletin of Business and Economics*, 1(1), 1-12.



### **Impact of Business Process Automation on Employees' Efficiency**

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#### **Abstract**

Business Process Automation (BPA) is assumed to enhance organizational efficiency by decreasing level of effort and elimination of redundant processes and procedures. The study in hand is an analysis of impact by the BPA on the AGPR employees' efficiency. Five variables namely, New System Understanding, Adaptation to New Methodology, Response of Employees to Change, Conformity to Standards and Employees' Efficiency. A questionnaire comprised of 29 items was adapted for primary data collection. The population was of employees in AGPR and stakeholders like Ministry of Finance, the Controller General of Accounts and Line Ministries. The sample size was of 265 respondents. Descriptive, Pearson correlation and Regression Analysis has been applied through SPSS software for finding significant relationship and importance of BPA for employee's efficiency. The results of study have shown that all the processes which have been changed due to new system are in benefit of employees as well as masses and contributing towards good governance.

**Keywords:** Business Process Automation (BPA), New System Understanding (NSU), Adaptation to New Methodology, (ANM), Employees' Efficiency (EE), Conformity to Standards (CS), Response of Employees to Change (REC), AGPR, Good Governance

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## **I Introduction**

The most valuable currency of any organization is the initiative and creativity of its members. Business Processes Automation helps to increase the workers' productivity by decreasing efforts through centralization and standardization. Business Processes Automation is a practice of analyzing, documentation, optimization and then to automate the business processes. It is based on eliminating redundant procedures, restructuring human capital and deploying software applications in the organization. The employee's efficiency in this particular case should be considered the organizational achievement or in other words, the collective output of an organization. The change has been brought about during the process of transformation of manual system into computer based accounting system, with the help of SAP and NAM. Obviously this change has an impact on the efficacy of an employee.

If the employees' response to the new system or toward the change is affirmative and supportive, their efficiency level will increase. This may be judged by their response whether they are willing to accept and it is also to be investigated that adoption is by will or force and if by force, they have still some reservations or accepted it in good faith. Resistance to change is supposed to result in decreased employee efficiency. Previous research has shown that increase in cooperation and decrease in conflict improve both short- and long-term employees efficiency (McCormack & Johnson, 2010).

Another factor is adaptability. Adaptability stands for compliance in this study. Level of employees' efficiency is bound to increase if compliance of the system is infused among the staff for their day to day assignments/jobs. This study may be considered an attempt to study the perceptions measurement of the respondents. It is understood fact that Business Process Automation is done to enhance the efficiency and reduce the slag and redundancy. Efficiency of employees is comprises the actual productivity or results as measured against its projected outputs (Skrinjar & Vuksic, 2008).

With the advent of globalization, Pakistan had to open up its economy in 1990s. However, the financial systems and procedures specifically public sector were poor and could not meet the dynamic requirements of the new era. A sustained effort was necessary to revamp them and it was realized that the credibility and effectiveness of Government policies are dependent on accurate and comprehensive financial information (World Bank, 1996). In the wake of these circumstances, the BPA should be analyzed with reference to employee's performance and efficiency. The study in hand is focusing only on the employee's performance with perspective of Business Process Automation (BPA).

The Accountant General of Pakistan Revenues (AGPR) plays a key role in government financial management. AGPR is responsible for keeping the accounts of the federal governments, AGPR prepares the accounting information which are used by executive agencies for planning and programming purposes, and which forms part of the payments control process. The AGPR prepare government's accounts for the Federation.

The rationale behind adoption of new financial management systems and automation is to keep the stakeholders (management, legislature and general public) aware about the government activities and their financial impact. Many organizations have already demonstrated the power of Enterprise Resource Planning (ERP) systems to achieve such results. The accuracy of financial information is crucial for improved utilization of public spending. And there is a need to assess the role of Business Process Automation with respect to the efficiency of employees, which is the most valuable asset of any organization in achieving the organizational goal. The objective of this study is to evaluate the level of Business Process Automation in AGPR (How many module of SAP ERP has been implemented and to what extent.) and to assess the relationship between Business Process Automation and employee efficiency – is it positively related or negatively?

## **II Literature Review**

ERP systems are programs that provide integrated software to handle multiple corporate functions including finance, human resources, manufacturing, materials management, and sales and distributions (Davenport, 2000). Business process reengineering activities are closely related with ERP implementation and organizations can standardize processes and implement the best practices to ensure quality (Ross, 1999). Bryjolfsson (2003) concluded that in developed countries, Information Technology might be a capable source of employee efficiency. Wieder et al. (2006) provided more insights into the acceptance of enterprise resource planning (ERP) systems and the influence on organizational efficiency.

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Hendricks et al. (2007) recorded the effect of investments in Enterprise Resource Planning (ERP) systems on a firm's long-term functioning and productivity tools such as earnings on assets and yield on transaction. Maroofi et al. (2011) presents results of firms that invested in ERP systems and the results reveal that ERP adopters demonstrate an improvement. There are positive changes but only three modifications are important at this level.

Ahmed (2008) emphasized that inappropriate method of training, too much centralized decision making, and non-involvement of stakeholders in implementation process, coupled with insufficient financial resources and logistics were creating hindrance in achieving the intended outcomes. Triandis (1979) developed a conceptual system which put forwarded the link between perception and performance with many factors such as culture and organizational elements, Chang et al. (2008) using the Triandis model as a conceptual foundation to know the reasons of ERP system adoption contended that a study couldn't decide the complete outcomes of the ERP implementation, however it helps to recognize the aspects for system triumph. The study concluded that Social elements, suitability and short-term results were the important ingredients affecting ERP. The nutshell of the study was that the creation of supportive organizational environment is essential, so the use of ERP might be enhanced at optimum level.

McNulty & Ferlie (2004) conducted a study of Business Process Reengineering (BPR) in the National Health Service, UK, to evaluate the experiment of carrying out a vigorous shift to a new form of process organization in a multifaceted Government entity. He concluded that there may be obstacles in achieving the goal of transformation in public sector and difficult to break the existing patterns, a rising expression of managed networks, partnership working and organizational revamp was clear. Lee (2004) had discussed Business Process Reengineering and IT investment and concluded that scholar's focus is on IT strategic value but practitioners' demand precise Information and Communication Technologies (ICT) assessment techniques to financially validate ICT investment. Lee (2004) in his study, stressed that many successful ICT ventures pointed out that organizational and management concerns should be tackled when ICT investments made. Since ICT may change the ways in which the business organization communicated with internal and external elements, business plan and procedures should be deliberated in the assessment process.

Caglio (2003) examined the role of management within an association due to the adaptation of ERP systems. An Italian medium size firm was selected for in depth study which has implemented the ERP system. The results of this study offer some noteworthy concepts on ERP effects. Caglio found that the reason to launch ERP in an organization was mainly technical in nature and the primary weak area of the firm was its outdated information system.

Rehman et al. (2011) evaluated the capacity building program success in achieving the desired results in Public sector specifically the Auditor General of Pakistan organization. Issues and challenges in the existing training management system had also been discussed. The study resulted in noteworthy success of the capacity enhancement at all levels but results also entailed a room for betterment. Effectiveness could be improved by addressing problem areas such as training design and delivery. The areas of improvement in design and delivery were measurements of aggregate error, planned accuracy, and reporting.

Nicolaou & Bhattacharya (2005) discovered the long-term fiscal functioning effects of ERP system for firms that have in past implemented ERP systems like SAP. The research is motivated by the non-clear studied results of near past evaluating impacts of ERP and by studies which displayed ERPs is modular and this may produce organizational performance gains or losses as a consequence of distinctive changes that might be initialized after the go-live stage. This article examined the changes that impact on ERP systems over a post-implementation time frame on firms' competency to cause long-run monetary productivity.

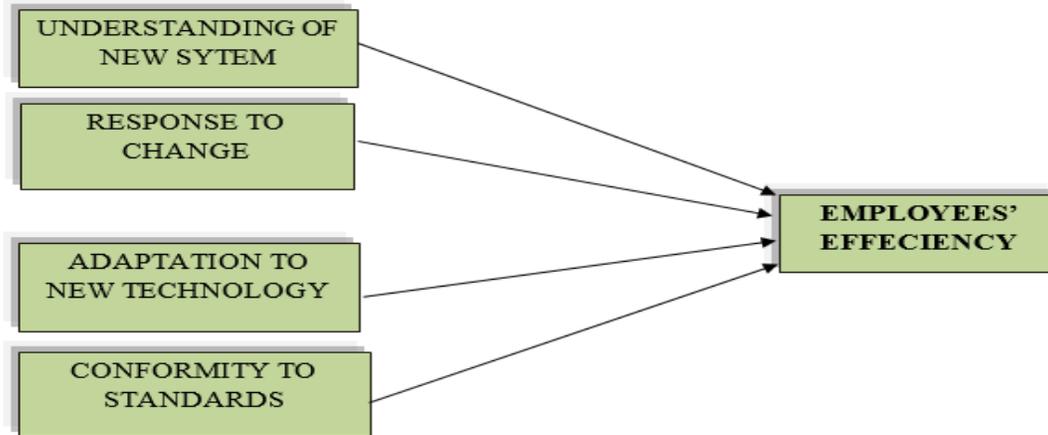
Scapens & Jazayeri (2003) concluded from a longitudinal case study of the SAP implementation in a large US Multinational based in Europe, The researcher argued that ERP package opened up, opportunities and assisted changes, which were taking place within the company. One of them was integration, Second, tight coupling of work practices and third was subsequent information in use for these practices; the fourth change was standardization, i.e. the standardization of business processes according to best practices, supported with the ERP system. All the above changes made possible implementation of best practices and centrality of decision making. Infact this study defined management accounting as organizational routine. One of the conclusion of this study points out that ERP systems improved practices and procedures of accounting.

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Workers efficiency may appear to be a spontaneous idea that is easily understood, but the complexity of current research still augments theoretical and practical deliberations. While this may emphasize the contemporary interest of this issue, it also calls for more and more deep research into BPA and employee efficiency. A general outline involving both Business Process Automation and measurement of workers efficiency would be a move forward in improving work practices studies.

## II.1 Theoretical Framework

Figure.1



The purpose of the study is to assess the impact of Business Process Automation on employees' efficiency. Based on literature review, it is hypnotized:

H1: There is a significant relationship between employees' understanding of the new system and their efficiency.

H2: There is a significant relationship between employees' response (resistance/acceptance) to change and their efficiency.

H3: There is a positive and significant relationship between employees' adaptability for new technology/system and their efficiency.

H4: There is a significant relationship between perceived conformity to standards of the system and employees' efficiency.

## III Methodology

A review of the literature was done relating to factors affecting employee's efficiency and business process automation, especially public sector employees with focus on developing countries including Pakistan. An empirical investigation was carried out to achieve the study objectives. Sekaran (2003) had noted that questionnaire method is a prominent method of information gathering, and scholars can get required primary data easily and quickly.

Primary data was collected through a questionnaire adapted from Ahmed (2008) modified where necessary due to differentiating research objectives and variables. After the data collection process the frequency distribution of the data was checked carefully and data was entered in SPSS. Data analyzed based on the rating by the respondents using mean value in the descriptive statistics and regression and correlation analysis has been applied to check the association and importance of the independent variables with employee's efficiency, subsequently data was interpreted with the help of tables and finally conclusion of the research was drawn and recommendations offered for future research.

There were five variables in this study. Four independent variables named as Understanding of the New System (6 items), Response to Change (6 items), Adaptability to new methodology/technology (6 items) and Conformity to Standards (5 items). The dependent variable was Employees Efficiency that was also being measured by 6 items. The scale was taken from the previous study of Ahmed (2008). In that study, five point Likert scale was used

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ranging from 1 – 5 where 1 is the least degree of concurrence and 5 is the highest degree of response. Statistical Package for Social Sciences (SPSS) was used to analyze the data.

Public sector employees dealing directly with the AGPR, Budget wing of the Ministry of Finance was the population for this study. Random sampling method was adopted for response gathering. For clear findings and correct analysis a huge sample size is needed, however taking into account cost and time factor, sample size was kept 300.

**Table-1: Sample size of the Study**

Organization	Distributed	Percentage (%)
AGPR	160	53
Ministry of Finance	30	10
Controller General of Accounts	50	17
Others	60	20
Total	300	100

A commonly accepted rule of thumb for describing internal consistency using Cronbach's alpha is  $\alpha \geq .9$  Excellent  $.9 > \alpha \geq .8$  Good  $.8 > \alpha \geq .7$  Acceptable  $.7 > \alpha \geq .6$  Questionable  $.6 > \alpha \geq .5$  Poor  $.5 < \alpha$  Unacceptable. The results of internal consistency of this research according to the table-2 is between good and excellent.

**Table-2: Reliability Statistics**

Cronbach's Alpha	N of Items
.844	29

#### IV Data Analysis and Discussion

The chapter presents the primary data, collected through questionnaires, unstructured interviews, and observations of the researcher. These data has been organized, classified, and statically treated using SPSS and MS Excel. The presentation of data, analysis and interpretation has been made in the context of the problems outlined in introduction and literature. The main objective and motive was to measure the perception of workforce about the variables of research viz. New System Understanding, Adaptation to New Methodology, Response of Employees toward Change and Conformity to Standards with a dependent variable of Employee Efficiency.

**Table-3 Demographical Analysis**

Distributed	Retrieved	Retrieval Percentage
300	265	88.33

Out of 300 questionnaires distributed among the respondents, the researcher was able to retrieve 265 questionnaires, which made the retrieval rate 88.33%.

**Table-4: Frequency Distribution and Descriptive Statistics with respect to “Demographical Factors” (N=265)**

Measures	Frequency	Percentage (%)
<b>Gender</b>		
Male	245	92.5
Female	20	7.5
Total	265	100.0
<b>Age Group</b>		
20-30	71	26.8
31-40	102	38.5
41-50	59	22.3
> 50 years	33	12.5
Total	265	100.0
<b>Organization</b>		
AGPR	150	93.75
Ministry of Finance	47	94

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Controller General of Accounts	26	86.67
Others	42	70
Total	265	88.33
<b>Qualification</b>		
Matriculation	3	1.1
Intermediate	12	4.5
Bachelor	84	31.7
Masters	141	53.2
Other	25	9.4
Total	265	100.0
<b>Designation</b>		
Junior Auditor	16	6.0
Senior Auditor	102	38.5
Assistant Accounts Officer	42	15.8
Accounts Officer	30	11.3
Other	75	28.3
Total	265	100.0

Table-4 depicts the results of descriptive statistics of demographical variables with respect to frequency distribution and percentages, 245 males and 20 females participated. The frequency distribution with respect to age of the respondents. The respondents of age group 20-30 were 27%, age group 31-40 were 39%, age group 41-50 were 22% and age group more than 50 years were 12%. While analyzing the respondents with respect to age it is clear that a dominant portion of workforce interviewed is below 40 years and a minor portion is above 50 years.

The population of the study mainly comprised of AGPR, CGA and MOF staff. Feedback of government servants visiting AGPR for their payments claims and resolution of their issues was also obtained. The frequency distribution of the respondents given above in table-4 shows that out of total sample 88.33% respondents with breakup of 100% in AGPR, 94% Ministry of Finance, 52% Controller General of Accounts and 84% of other Government Employees visiting AGPR.

The frequency distribution of employees with respect to qualification shows that 53% respondents are post graduate, and 32% are Bachelors or equivalent qualification, it further shows that 1% respondents are Matriculate, while 5% are intermediate. A significant portion of respondents which is 9% possess higher than Masters qualification.

The frequency distribution of employees with respect to designation shows that 39% of the respondents are Senior Auditors. It may also be kept in mind that Senior Auditors are backbone of this organization and core activity of the organization which is pre audit of claims and initiation of cases, starts from their seat. 6% of the respondents are Junior Auditors. They are instrumental in punching the data into ERP system and keeping track of the claims. In AGPR, they are called mother of a section because all mail comes through them and routed to other sections through them. They keep, punch and pursue the records and correspondence. The supervisory role played in this organization by the assistant accounts officers which are 16% of the respondents and the branch officers, who approve/authenticate the payments against claims, are accounts officers which are 11% of the respondents. 28% of the respondents are others designations mostly belong to other ministries, Controller General of Accounts, and Ministry of Finance. They usually play the role of a bridge between AGPR and ministry concerned from they belong.

**Table-5: Frequency Distribution and Descriptive Statistics with respect to “New System Understanding” (N=265)**

Items	Disagree	Neutral	Agree	Mean	St. Dev
1-The management and staff fully understand the new system, and cooperate to make the system a success.	55	71	139	3.4113	1.03749
2-The legacy system was archaic and new one is simple and easy to	30	66	169	3.5509	0.84289

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operate and understand.					
3-With passage of time the sense of ownership of new system has increased at all levels of AGPR	24	42	199	3.8113	0.84065
4-The output of new system is accurate, comprehensive and reliable.	6	29	230	3.8642	0.87713
5-The new system is a problem creator and not a problem solver	217	40	8	2.3057	1.07351
6-The new system is not manageable and one day we may have to go back to the old system	189	47	29	2.0792	1.04326

The results of descriptive statistics of study variables are discussed with respect to mean score. In table-5, the data showing the analysis of the responses of the respondents in respect to "New System Understanding" in response to question 1, the mean value is 3.4113, which shows that the management and staff fully understand the new system, and cooperate to make the system a success. The mean value of second, third, fourth, fifth and sixth questions are 3.5509, 3.8113, 3.8642, 2.3057 and 2.0792 respectively.

**Table-6: Frequency Distribution and Descriptive Statistics with respect to "Response of Employees to Change" (N=265)**

Items	Disagree	Neutral	Agree	Mean	St. Dev
1-The existing planning at strategic and operational level will help achieve the modernization goals.	37	69	159	3.4604	0.95710
2-The new system has finally come to stay forever; the change is embedded, sustainable and successful.	37	76	150	3.5057	0.93792
3-The main problem in the system is that it is no longer capable to respond to changes, whatsoever	145	51	69	2.6000	1.09337
4-With new system the number of complaints of the General Public has decreased to a significant level.	35	41	189	3.6038	0.89484
5-The employees are not willing to go back for legacy system.	48	73	144	3.3585	1.05339
6-The new system has ended the discretionary powers and one cannot accommodate anyone at will	69	99	97	3.1208	1.08735

In Table-6, the data showing analysis of responses of the 265 respondents with respect to Response of Employees to Change. In response to question one the mean value of first statement is 3.4604, and second, third, fourth, fifth and sixth are 3.5057, 2.6000, 3.6038, 3.3585 and 3.1208 respectively. Majority of the statements are agreed by the respondents according to the mean values except second statement.

**Table-7: Frequency Distribution and Descriptive Statistics with respect to "Adaptation to New Methodology/Technology" (N=265)**

Items	Disagree	Neutral	Agree	Mean	St. Dev
1-The employees are now more willing to adapt to new system then they used to be in the past.	33	47	185	3.6189	1.02711
2-Adaptation to new methodologies owes more to the top management orders than to the willingness and acceptance of	68	61	136	3.2830	1.08672

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the employees.					
3-It has become easy to achieve target on given timelines with the introduction of new system.	30	26	209	3.8113	0.93858
4-Although the change was by force but now all the employees have accepted in good faith.	49	45	171	3.5434	0.99573
5-All the employees including supervisory officers are well versed in new system	97	51	117	3.1170	1.18285
6-The new system is complex and not easy to comprehend	168	37	60	2.4868	1.11158

In Table-7 the data showing analysis of responses of the 265 respondents with respect to Adaptation to New Methodology/Technology, response to first question, the mean value is 3.6189, showing employees are willing to adopt new systems. The mean values of other five statements are 3.2830, 3.8113, 3.5434, 3.1170, and 2.4868 respectively. And the result showing the agreed trend of respondents except sixth statement.

**Table-8: Frequency Distribution and Descriptive Statistics with respect to “Conformity to Standards” (N=265)**

Items	Disagree	Neutral	Agree	Mean	St. Dev
1-The new system is compliant to the international best practices.	71	85	109	3.1472	1.06113
2-All the reports generated through the new system are fully compliant of international standards.	51	97	117	3.2528	0.99632
3-Information Security Management System (ISMS) has been ensured and hacking of the system is not possible.	46	121	98	3.2302	0.91899
4-There are many loop holes in the new system.	135	67	63	2.6830	0.98353
5-The manual system was readily available and in hard shape. However There is no remedy if data is lost due to any natural or manmade disaster.	95	80	90	2.9396	1.05714

In table-8, the data showing analysis of responses of the 265 respondents with respect to Conformity to Standards, first question that the new system is compliant to the international best practices and standards, its mean value is 3.1472, which show maximum respondents are agreed with the statement. The mean values of second, third, fourth and fifth are 3.2528, 3.2302, 2.6830, and 2.9396 respectively. Response of this variable also showed a mixed result. This question has three parts one is the availability of system. The people who works on manual registers and in paper based environment will prefer manual system, and ultimately support the manual registers, they elusively considers that computer system will not be available instantly. The other part relates to the visibility. The information stored in hard shape can be touched, altered retrieved, and reshaped, but the information stored in database can be retrieved, maintained and changed by a person skillful in the computer operations. So the soft information for people without knowledge of the system will be meaningless. Although the response is positive to the research hypothesis but not significant due to reasons discussed above.

**Table-9: Frequency Distribution and Descriptive Statistics with respect to “Employees Efficiency” (N=265)**

Items	Disagree	Neutral	Agree	Mean	St. Dev
1-The training provided is relevant and linked to the efficiency level of the employees.	59	55	151	3.4075	1.13482
2-The new system has improved work	23	43	199	3.8189	0.90308

practices and enhanced efficiency levels.					
3-The transitional phase of new system has passed and now the employees are improving the output of the new system.	16	41	208	3.8943	0.80491
4-Due to new system the communication of financial information has become more effective.	17	31	217	3.9660	0.84990
5-The quality of service has improved with new system i.e. it takes lesser time to dispose of cases of pension, GP Fund, and other contingency payments.	14	29	222	4.0377	0.85640
6-The automated system has brought about a positive change in the working environment.	16	20	229	4.1019	0.88816

In table-9, the data showing analysis of responses of the 265 respondents with respect to Employee Efficiency. In response to first question, the mean value is 3.4075 and second, third, fourth, fifth and sixth mean values are 3.8189, 3.8943, 3.9660, 4.0377 and 4.1019 respectively. Maximum respondents are going in the favor for increasing employee's efficiency through training, new systems adoption, improved quality of services and automated systems.

**Table-10: Showing Overall Correlation of Data**

Variables		NSU	REC	ANM	CS	EE
NSU	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	260				
REC	Pearson Correlation	.413(**)	1			
	Sig. (2-tailed)	.000				
	N	260	260			
ANM	Pearson Correlation	.456(**)	.437(**)	1		
	Sig. (2-tailed)	.000	.000			
	N	260	260	260		
CS	Pearson Correlation	.449(**)	.369(**)	.377(**)	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	260	260	260	260	
EE	Pearson Correlation	.301(**)	.195(**)	.205(**)	.175(**)	1
	Sig. (2-tailed)	.000	.002	.001	.005	
	N	260	260	260	260	260

\*\* Correlation is significant at the 0.01 level (2-tailed).

The correlation between independent variable New System Understanding (NSU) and dependent variable Employee Efficiency (EE) is 0.301 (30.1%) shows the positive relationship between these two variables. It can be concluded that correlation between these two variables is significant and positive. The correlation among the independent variables, Response of Employees to Change (REC), Adaptation to New Methodology (ANM), Conformity to Standards (CS) and dependent variable EE are 0.195 (19.5%), 0.205 (20.5%) and 0.175 (17.5%) respectively. It is evident that the correlation among the rest of variables is positive but weak and not significant.

**Table-11: Regression coefficients, standard errors in parentheses, t-values in brackets and p-values in italic:**

Constant	New System Understanding	Response of Employee to Change	adaptation to New Methodology	conformity to Standards	R-Square	F-Statistics
0.339	0.450	0.324	0.252	0.068	0.446	52.363

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(0.247)	(0.076)	(0.069)	(0.065)	(0.063)	
[1.369]	[5.890]	[4.697]	[3.854]	[1.086]	
0.172	0.000	0.000	0.000	0.279	0.000

Dependent Variable: Employee Efficiency

The results argued that model is more significant ( $p < 0.05$ ) that also show significant relationship among determinants of employees' efficiency that are more independent variables ( $R\text{-Square} = 0.446$  and the  $F\text{-value} = 52.363$ ) and  $R\text{-Square}$  depicts fitness for model and independent variables may also account 52.363% variation in the dependent variable. When variables are evaluated individually, there is significant ( $p < 0.05$ ) as well as positive relationship among variables that are associated to employee efficiency. The std-error provides information concerned to data. Therefore, overall model is more significant and individual based variables are less significant but positive with dependent variable. The main results concerned to regression analysis that independent variable have also positive and significant association with Employee's Efficiency. The main results validate study hypothesis (H1) that establish that significant association among Business Process Automation and their Employee's Efficiency.

The critical value of "t" is 3. If the result of t-test is greater than 3 than the hypothesis ( $H_1$ ) is accepted and the null hypothesis ( $H_0$ ) is rejected. The t-value of New System Understanding (NSU) is 3.280 which is greater than 3 so it's proved that there is significant relationship between employee efficiency and understanding of new system. However rest of the values of other independent variables like Response of employee to Change (REC), Adaptation to New Methodology (ANM) and Conformity to Standards (CS) are 0.892, 0.860, and 0.325 which is less than 3, means that the null hypothesis of remaining variables are accepted. In simple words there is no significant relationship between employee efficiency and REC, ANM and CS. The results of above table prove the three hypotheses and reject the one hypothesis on the bases of t-values.

#### IV.1 Major Findings and Discussions

Several studies conducted earlier on the impact of Business Process Automation of private, public-private partnership or selected industry of the public sector projects. The factors new system understanding, adaptation to new methodologies and response of employees to change as determined in the present research, have been supported by Ahmed (2008) in his study. In respect of first variable i.e. New System Understanding (NSU) though the respondents are found generally in agreement with the propositions made in questionnaire, yet they identified certain problem area such as inappropriate method of training, too much centralization of decision-making, non-involvement of key stakeholders in decision making process and, finally, lack of financial incentive. A sizeable portion of the respondents believe that the sufficient awareness and clear understanding of the vision and goals of BPA are not disseminated. Such knowledge could remarkably improve the working and efficiency of employees. About the other variable Response of Employees to Change, (REC) the interviewees believed that, there is still some resistance on the part of those who are lacking skills in IT and struggling for existence although the initial resistance decreased to a large extent.

The third variable namely Adaptation to New Methodology, the respondents are agreed in general that, the employees are more willing to adapt to new methodologies and technology, with the passage of time, but they believe that the role of the financial incentive is crucial in this process. Majority of staff, in good faith finally accepted the change for maximize the success probability (Chan et al., 2004), whether implemented by force or by choice.

The fourth independent variable, Conformity to Standards (CS) also showed mixed results. Most of respondents remained neutral or responded negatively. Again a need arises to inform them about international best practices and further training about international standards especially International Public Sector Accounting Standards (IPSAS). One of the reason for being neutral is lack of awareness about International Standards.

#### V Conclusion

The implementation of ERP is not handled to all intents and purposes. A top-down methodology adopted as a replacement for adopting a bottom-up, participative strategy for change management, which left the operational staff and end users still fearing the change. The stakeholders are more willing to adapt to new methodologies, with the

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passage of time. It is also observed that there is yet lack of efficient interaction and coordination among the management and functional staff of AGPR. Respondents in unstructured interviews revealed that they are out of loop even at the stage of making functional specifications. And resultantly, the functionality developed by consultants needs many modifications when becomes operational in production server. Requirement of high level of technical skills and expertise, too much centralization of decision making are contributing towards resistance level of employees. Dependence upon consultants hired from market and perceived preference given to them by the AGPR management also an element of resistance in staff of AGPR.

Traditional style of dependence on hard data and lack of trust on system generated information are also contributing in resistance level of employees and hesitation of staff for adoption of new systems, techniques and methodologies. Without theoretical foundation and in absence of staff consultations, the management is bound to depend on external resources like consultants and corporate firms for implementation of ERP and adoption of new systems. They are not sympathetic with that particular organization but they advise only that prescription that promote their own interest. This study highlighted many issues, which will be considered by the managers, such as need of involvement of staff in all phases of Business Process Automation and impact analysis due to augmentation of new technologies and methodologies. Up gradation of knowledge and tools is also essential part and a necessary prerequisite for continuous improvement.

The new system is resisted at minimum level, if the entire program is communicated to the users effectively and accepted by them at planning level. Keeping in mind this approach, forthcoming activities of system upgrade should be shared with staff well ahead of time. Decentralization of decision making, rational transfer of controls and authorizations and financial incentive to the change agents can reduce the dissatisfaction level among the employees of staff. This will result in improved employees' efficiency. More focused and hypothesis testing studies should be conducted to dig out the impact of ERP adoption relating to the efficiency and productivity of organization.

In this study, only three organizations have been considered as population size which is concerned with implementation of new system. But still a number of the public sector organizations can be taken as the population size to identify the additional impacts and benefits of SAP ERP implementation. For instance line ministries which are indirectly beneficiaries of the system, Audit Department who can do the system based IT audit, and our multilateral donor such as World Bank and IMF. Thus, there is a dire need of future research to explore more public sector entities expending the population size to the entire public sector.

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