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Impact of Technological Adoption on the Performance of Employees in Post Offices of Delhi

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ABSTRACT: The title of the dissertation is “The Impact of Technological Adoption on the Performance of Employees in the Post Offices of Delhi”. India Post is the government operated postal system-established in 1766- which works under Ministry of Communications. It has shown a paradigm shift after the India’s independence, the major change that have seen is that they have shift the traditional way of doing operations to the modern tech driven way. The objectives of the study are, first, to evaluate the impact of technological advancement on both employee performance and organizational growth. Second, to evaluates the availability and effectiveness of training and technical support provided to personnel following the adoption of new technologies. Third, to examines the influence of technology adoption on evolving employee roles, job satisfaction, and overall career progression within the postal department. The methodology of the study, for this study the primary data is collected from the post offices of the South Delhi, and by utilizing Chi-square tests and regression analysis as the primary statistical instruments the findings indicate that technological adoption has exerted a positive influence on employee performance and organisational growth but it does not show the positive impact on employee’ roles and job satisfaction. All in All, the study shows that the efficiency of the employees of the Post offices has been increased and also the customers are getting various benefits through new postal services and schemes.

I. INTRODUCTION

India Post, formerly known as Company Mail was first established in 1766, is the world’s largest postal system, which works under Ministry of Communications. India has around 1.65 lakh post offices across India, majority of which are in the rural areas. After the India’s Independence, postal department has shown the drastic changes in their operations and the services. The main objectives of the India Post are-

- Providing mail and communication services like speed post and parcels services.
- Providing financial and banking services like Post Office Savings Banks (POSB), India Post Payment Bank (IPPB) and many more.
- Giving E-governance and Digital services like offering Common service centre for Utility bill payments, PAN, Aadhar and Passport services especially in rural and semi urban areas.

II. LITERATURE REVIEW

Employee Adaptation, Work Environment and Management practices

Bhuvaneswari and Tamilarasi (2022) they find that the employees of post offices, especially the age group of 25-30, face challenges in using digital technologies which negatively affect their job satisfaction due to lack of training and infrastructure. S. Vijay Anand and M. Selvaraj (2012), also report that most of the demographic factors have limited influence on adoption of technology, except the income. Similarly, A. Kaur and P. K. Aggarwal (2024) studied that the training, remuneration, performance appraisal significantly influence job satisfaction and performance along with the growth opportunities. R. Dey and S. Mishra (2024) also highlight the importance of organisational support and positive work environment to improve employee’s efficiency.

Technology transformation and Operational challenges

K. Kavitha, Suma D and Mamatha A (2023) they studied that the adoption of new technologies like RICT, Darpan devices, etc., have helps in enhancing e-commerce and banking services but they face many challenges like high administration cost, lack of training, etc. A. Patil (2024) has found that digitalisation has improved customer satisfaction and convenience as most users get benefits from digital payment facilities and online tracking systems.

Despite these, there is a rural-urban gaps due to which rural customers experience lower satisfaction due to service disruptions.

Service Quality, Delivery Efficiency and Customer Satisfaction

J. Saha and T. R. Sarma (2023) they found a strong positive relationship between customer satisfaction and service quality, but they found no significant relation between India Post and Private couriers. R. Nagalakshmi (2015) they also highlight the minimal influence of social-economic factors on customer satisfaction. C. Birajdar and A. Joshi (2016) found the gaps in services in staff competency, service efficiency and complaint handling. Similarly, Rao and M. Nageswara (1996) highlights various issues like waiting times, lack of postal awareness and delays in the delivery times.

Need of the Study-

Based on the review of the literature, it is concluded that previous studies on the Post Offices have mainly focused on employees' performance and customer satisfaction. Since the technology adoption have brought the changes in organisational framework, range of services, and operational activities. So, there is need to study the impact of technology on employee's performance and evaluate the range of services and facilities provided to the customers by the Postal Department.

Objectives of the Study-

- To assess the impact of technological advancement on employee performance, organizational growth.
- To evaluate the availability and effectiveness of training and technical support provided to employees after the adoption of new technologies and challenges face by them.
- To examine the influence of technology adoption on employee roles, job satisfaction, and overall career growth in the postal department.

Hypothesis of the Study-

- **H₀:** There is no significant impact of adoption of technology in employee efficiency and performance.
- **H₀:** There is no significant impact of technology adoption in the enhancement of organisational growth.
- **H₀:** There is no availability of effective training to all the employees working in the post offices.
- **H₀:** There is no influence of technology on employees' roles, job satisfaction.

III. RESEARCH METHODOLOGY

- **Secondary Data-** The secondary sources of the data is collected form the official website of the India Post and also from other government websites.
- **Primary Data-** The primary data is collected from the employees working at the post offices at different posts through the Questionnaire method and analyse the collected data the statistical tools used are Regression, Multiple Regression and Chi-Square.

IV. TABLES**Table 1**

	Gender of the Respondents		
	Frequency	Percent	Cumulative Percent
Female	5	4	4
Male	121	96	100
Total	126	100	

Out of 126 respondents 96% were males and 5% were females.

Table 2

	Age of the Respondents		
	Frequency	Percent	Cumulative Percent
18-25	1	0.8	0.8
26-35	15	11.9	12.7
36-45	67	53.2	65.9
45+	43	34.1	100
Total	126	100	

Out of 126 respondents 0.8% belongs to the 18-25 age category, 11.9% belongs to 26-35 age category, 53.2% belongs to 36-45 age category and 34.1% belongs to 45+ age category.

Table 3

No. of years employees					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	1	.8	.8	.8
	5-10	6	4.8	4.8	5.6
	10-15	30	23.8	23.8	29.4
	15-20	64	50.8	50.8	80.2
	20+	25	19.8	19.8	100.0
	Total	126	100.0	100.0	

Out of 126 respondents 0.8% have the experience of 0-5 years, 4.8% have the experience of 5-10 years, 23.8% have the experience of 10-15 years, 50.8% have experience of 15-20 years and 19.8% have experience of 20+ years.

Hypothesis Testing

Table 4

Model	Component	Sum of Squares	DF	Mean Square	F	Sig.	B	Std. Error	Beta
1	Regression	2.099	1	2.099	32.725	0	—	—	—
	Residual	7.952	124	0.064	—	—	—	—	—
	Total	10.05	125	—	—	—	—	—	—
	(Constant)	—	—	—	—	0	2.301	0.29	—
	Tech_adoption	—	—	—	—	0	0.446	0.078	0.457

H₀: There is no significant impact of adoption of technology in employee efficiency and performance. The Regression Analysis was conducted to evaluate the impact of technology on employee's efficiency. The result stated the significant relationship between technology adoption and the employee's performance as the ANOVA table shows the significance level of 0.000 which is less than 0.05 and in the Coefficient table the value of Beta is 0.457 which shows the moderate positive impact and the significant level is less than 0.001 which shows the significant impact. Hence, it shows the significant relationship between the adoption of technology and the employees efficiency performance. So, the null hypothesis is rejected.

Table 5

Model	Component	Sum of Squares	DF	Mean Square	F	Sig.	B	Std. Error	Beta
1	Regression	1.003	4	0.251	2.282	0.064	—	—	—
	Residual	13.297	121	0.11	—	—	—	—	—
	Total	14.301	125	—	—	—	—	—	—
	(Constant)	—	—	—	—	0	2.381	0.615	—
	Tech_efficiency	—	—	—	—	0.038	0.27	0.129	0.211
	Training	—	—	—	—	0.095	0.17	0.101	0.154
	Tech_support	—	—	—	—	0.725	0.028	0.08	0.032
	Work_Impact	—	—	—	—	0.946	-0.008	0.125	-0.007

H₀: There is no significant impact of technology adoption in the enhancement of organisational growth. The Multiple Regression analysis was conducted to test the impact of technology adoption in the organisational growth. The result stated that the ANOVA table shows the significance of 0.064 which is greater than 0.05 which is not significant and the Correlation table shows the significance in the case of Technology efficiency where beta is 0.211 and the p value 0.38 which is less than 0.05 but in other case, i.e., training, Technology support, and work impact does not show any significance as their significance levels are 0.95, 0.725, 0.946 which is more than 0.05. Therefore, this regression model does not collectively signify the variations in organisational growth. So, the null hypothesis will be accepted and it is concluded that the technology adoption does not show any significant impact on enhancement of organisational growth.

Table 6

Test	Value (Table 1)	Sig. (T1)	Value (Table 2)	Sig. (T2)	Value (Table 3)	Sig. (T3)	DF
Pearson Chi-Square	42.52	0	32.513	0	9.51	0.023	3
Likelihood Ratio	10.368	0.016	10.138	0.017	5.402	0.145	3
Linear-by-Linear Association	5.17	0.023	8.339	0.004	0.536	0.464	1
N of Valid Cases	126	—	126	—	126	—	—

H₀: There is no availability of effective training to all the employees working in the post offices. After applying the cross tabulation in the two variables between the age and the availability of the training, the study has found that in the chi-square table the level of significance level is 0.000, 0.000 and 0.023 in the three variables which is less than 0.05. So, the Null hypothesis will be rejected as there is the significant association between the different age group of people and the availability of training provided to the employees in the post offices.

Table 7

Model	Component Predictor /	Sum of Squares	DF	Mean Square	F	Sig.	B	Std. Error	Beta
1	Regression	3.267	8	0.408	4.134	0	—	—	—
	Residual	11.655	117	0.099	—	—	—	—	—
	Total	14.922	125	—	—	—	—	—	—
	(Constant)	—	—	—	—	—	0.712	0.597	—
	Technology has reduced errors and improved work accuracy	—	—	—	—	—	0.305	0.051	0.513
	Adoption of technology increased overall efficiency and productivity	—	—	—	—	—	0.055	0.076	0.064
	Technology advancement improved overall performance	—	—	—	—	—	0.084	0.053	0.165
	Technology makes it easier to manage tasks	—	—	—	—	—	0.131	0.059	0.192
	Automation reduced manual workload	—	—	—	—	—	0.095	0.065	0.145
	Adequate training provided to adopt technology	—	—	—	—	—	0.084	0.052	0.094
	Training improved understanding and system usage	—	—	—	—	—	0.125	0.063	0.21
	System outages/downtime affected productivity	—	—	—	—	—	0.055	0.077	0.153

H₀: There is no influence of technology on employees' roles and job satisfaction.

After applying the Multiple Regression tool to analyse the hypothesis, the study shows that in the ANOVA table the significance level is 0.000 which is less than 0.05 so it shows that the overall the regression model is statistically significant. And by interpreting the Coefficient table, the study shows that only the two independent variables that are the training efficiency and meeting performance targets shows the strong positive and direct impact on the employee's

roles and job satisfaction, rest all the other independent factors does not show the positive impact on the job satisfaction. So, we will accept the null hypothesis, since all the independent variables does not impact the dependent variables.

V. FINDINGS AND CONCLUSION

It is found from the results shows there is that the majority of employees working in the post offices are 35+ year of age who have the job experience of 15-20 years. After doing the analysis of the hypothesis the study shoes that the technology adoption has shown the significant impact on the employees' performance and increasing their efficiency and by getting efficient training, the post offices have shown the overall growth. Moreover, the adoption of technology does not fully provide the job satisfaction as there are many things in which things which doesn't collaborate in providing the job satisfaction.

VI. SUGGESTIONS

As per the research study, it is suggested that though the technology has positively impacted the employee's performance and efficiency, and helps in enhancing the overall organisational growth but still there is need to strengthen training program by introducing hands on practical training, enhancing technical infrastructure by establishing dedicated support teams at regional level and also there are some gaps in the use of technology so there is need to focus on adopting the new technologies so as to minimize the paper work as much as possible which helps in increasing the efficiency of the employees and providing the full satisfaction to them.

This will not only help the employees but also gives the better experience to the customers. So, by continuous monitoring on small things will helps us to move towards the Digital and paperless India.

VII. SCOPE FOR FURTHER RESEARCH

Since research is a continuous process, no research study is complete as new activity. Hence, the scope for further research for this study is that only lower-level employees working in the postal department have been taken into consideration and second only South Delhi is taken for collecting the responses and there are various other factors on which the further research can be done like the services provided to the customers like the Banking services, Insurance policies, etc.

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