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Embracing Technological Advancements: Impact on Academic Performance of School Teachers in Kathmandu

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Abstract

This paper examines the effect of new technology adoption on employees' performance among school teachers in the Killagal-Nardevi area. In the study, technology adoption is an independent variable, and employee performance is a dependent variable. Adopting new technology on employees' performance focuses on time management and performance targets for individual employees. The study has used descriptive, relational, and casual research designs considering the research objectives. The study is based on 106 valid responses, 76 percent, of the questionnaire distributed. A total of 29 questionnaires were not returned, and 5 were invalid due to incomplete filling up of the questionnaire. The study is based on the results obtained from descriptive, and inferential tools namely mean, median, standard deviation, correlation, and regression analysis. According to the study's findings, technology adoption has a positive and significant relation to employee performance. Similarly, there is a positive and significant effect of technology adoption on teacher's performance. The study, therefore, concludes that as technology tends to be advanced, employee performance is enhanced. Future studies can be conducted considering the broader area along with other variables.

Keywords: Employee performance, schools, teachers, technology adoption.

Introduction

The surge in global competition has necessitated educational institutions to elevate standards of performance across various aspects, such as quality, cost, and productivity. This is achieved through the adoption of technology and the active involvement of highly committed employees (Datta, 2010). Technology integrates tools to facilitate the creation, utilization, and

exchange of information. Moreover, it serves as a mechanism to enhance the accessibility and precision of tasks. According to Baskaran et al. (2020), technology has become indispensable in every job within the work environment. It plays a crucial role in minimizing human errors, enhancing efficiency, and accelerating communication. Consequently, the value of products and services increases, leading to overall improvements in business processes (Nguyen et al., 2013).

The state of technology significantly influences the quality of services provided and has a profound impact on employees' lives beyond expectations. Technological advancements strongly affect employee performance (Nohria & Gulati, 1996), with innovations aimed at achieving a standardized and improved lifestyle. Motivating employees to embrace emerging technologies is crucial for successful integration into the organizational framework (Dauda & Akingbade, 2011).

The level of employee performance is a critical consideration for businesses (Datta, 2010), influencing staff attitudes towards their jobs and providing the organizational impetus for fulfilling tasks and commitments. The transition from old to new methods has resulted in a decrease in the workforce's commitment to the organization, necessitating businesses to incentivize the adoption of new technologies for enhanced performance (Dauda & Akingbade, 2011). According to Imran et al. (2014), ethical use of technology by employees can significantly improve their performance, highlighting the need to explore how industries cope with evolving technology to boost productivity.

As noted by Davidson and Chang (2004), investing in IT leads to reduced payroll expenses, increased employee productivity, and expanded market share. Employee engagement, reflected in positive attitudes, pride, belief in the organization, high vigor, dedication, and a willingness to exceed job requirements, is heightened when technology is effectively integrated into work processes. Engaged employees exhibit a strong sense of attachment to their job performance, while disengaged ones underperform (Al-Aulami, 2013).

Technology serves to alleviate employee workload, allowing them to focus on other projects and improving work processes for increased productivity (Gozi & Felicia, 2019). As a crucial factor in enhancing employee performance (Hitt et al., 1997), technological advancement is a key consideration. However, this research paper addresses a gap in the study related to employees' coping abilities during the training process for adopting new technologies. Successful technology adoption requires effective collaboration with human resources and other resources, as without proper execution, the ongoing adoption becomes challenging to follow through and adjust.

Therefore, undertaking this study becomes imperative to scrutinize the impact of technology adoption on employee performance. The primary aim of this research is to investigate the correlation between the adoption of technology and the performance of employees within educational institutes situated in a local area in Kathmandu.

Literature Review

The Technology Acceptance Model (TAM), developed by Davis (1989), focuses on user perception rather than the nature of technological change or innovation. TAM comprises two key factors: perceived usefulness (PU) and perceived ease of use (PEU). Perceived usefulness relates to the user's perception of how certain systems or technologies can improve daily tasks, known as

performance expectancy (Pantano & Pietro, 2012). On the other hand, perceived ease of use is the user's expectation of the targeted system's usefulness and simplicity, referred to as effort expectancy (Davis, 1989; Kwon & Wen, 2010). Despite TAM's limited consideration of innovation specifics, it emphasizes user acceptance and ease of use. In this study, TAM is applied in the work environment of an educational institution, assessing teachers' perceptions through a questionnaire.

Examining technological change and employee performance in Nigeria's Lagos state manufacturing industry, Dauda and Akingbade (2011) evidenced the significant impact on the performance. Similarly, Imran et al. (2014) explored the impact of technological advancement on employee performance in the banking sector. Regression analysis of primary data revealed the significance of variables in influencing performance, emphasizing the need for businesses to encourage technology adoption. Abbas et al. (2014) investigated how technology modification affects employee adaptation, making work more accessible and comfortable. Rajakumaran (2014) studied the impact of information technology on employee performance in Sri Lanka's education sector, utilizing various statistical analyses.

Zhang et al. (2019) explored the influence of management and technological innovation on organizational performance. Baskaran et al. (2020) investigated technology innovation's impact on employee job performance in the Malaysian manufacturing industry, highlighting the positive effects of management and technological innovations. Parry and Battista (2019) studied the impact of emerging technologies on work and the role of the human resource function. Gozi and Felicia (2019) tracked technological and performance changes in the Union Bank of Nigeria, emphasizing the contribution to social infrastructural development.

Sapta et al. (2020) examined the motivation for improving performance through technology, organizational culture, and job satisfaction in rural banks in Bali. The study emphasized the role of technological adoption in merging and reorganizing knowledge for performance improvement. The adoption of technology, as defined by Imran et al. (2014), influences businesses' performance (Mumford, 2000), providing energy savings, environmental benefits, economic value, and overall organizational benefit. Technological progress, a crucial component for performance improvement (Hitt et al., 1997), enhances job productivity and employee task performance.

Employee performance, as outlined by Datta (2010) and Imran et al. (2014), involves the efficacy, quality, and efficiency of job responsibilities, linked to organizational dedication. Low commitment leads to low performance, while high commitment results in satisfactory performance. Employee performance encompasses task performance contributing to the organization's technical core and contextual performance (Borman & Motowidlo, 1997).

Research Methodology

The research has employed a quantitative approach in this study. As per the objective of this study, descriptive, relational, and casual research designs were adopted to deal with various issues raised in this study. Representing the population, samples are drawn according to the purposes. The sample size included all pre-primary, primary, and secondary school teachers in the Killagal-Nardevi area. The survey questionnaire has been designed to generate the primary data.

A total of 140 questionnaires were distributed and the response rate was 79 percent. Respondents were requested to complete the questionnaire and return it as soon as possible. After sorting, filtering, and cleaning the data, a total of 106 usable responses have been used in this study. The questionnaire includes questions of various forms, such as a 5-point Likert scale ranging from strongly disagree to agree strongly and multiple choice questions and yes/no questions. The questionnaire was categorized into general background-related variable-related information. The general background information was required to gather personal information. Likewise, the related variable-related questions were collected to gather information about a research topic. Based on the findings of the literature review, a questionnaire was developed so the instrument is reliable and valid since it anticipated the closely related questions and is relevant to the topic. In this study, correlation has been calculated for all sample responses on a Likert scale to determine the degree of the link between the dependent and independent variables. Similarly, regression has also been calculated for the responses provided in the Likert scale to investigate the impact of the independent variable on the dependent variable.

Results and Findings

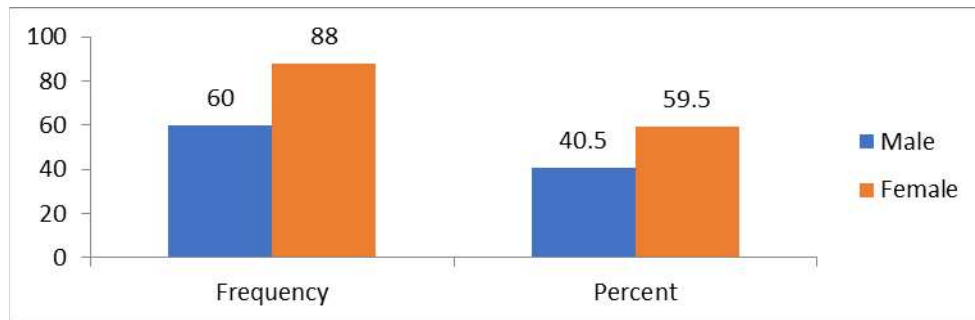
The results and findings of the study have been portrayed in the following tables and graphs. This part includes the results and findings based on descriptive as well as inferential analysis.

Gender of the Respondents

The figure explains the characteristics of respondents based on the gender category layer. Among the 106 students who responded, 51 were men, and 55 were women. According to the findings, males made up a smaller proportion of the sample than females. Female respondents made up 51.9 percent of the total, while male respondents comprised 48.1 percent. As demonstrated in *Figure 2*, there were no equal participation rates by gender.

Figure 2

Gender of the respondents



Satisfaction on Working with New Technology among Respondents

Employee satisfaction with new technology is essential to their performance. According to *Figure 3*, 4 respondents were dissatisfied and unhappy at work, whereas 102 respondents were content and happy with their jobs. 96.2 percent of instructors are satisfied with their working environment, whereas 3.8 percent are dissatisfied.

Figure 3

Satisfaction on Working with New Technology among Respondents

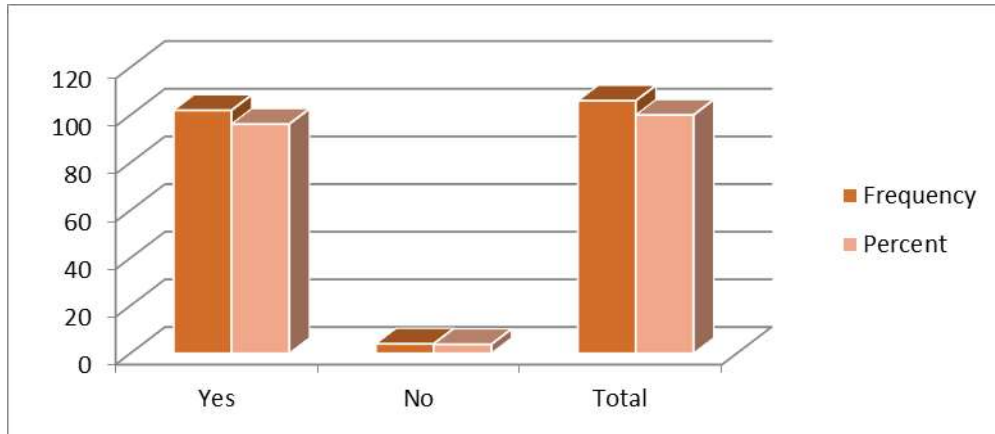


Table 1

Descriptive Statistics for all Samples

Variable/statistics	N	Mean	Median	STD
Technology adoption	106	4.27	4.39	0.46
Employee performance	106	4.31	4.44	0.48

Table 1 represents the descriptive status for the whole sample. The average value of the responding variable is higher than that of an explanatory variable. Similarly, with a value of 4.44, the median value is higher than the explanatory variable. Employee performance has the highest standard deviation, with values of 0.48.

Table 2

Relationship between Variables for all Samples

Variables		Technology adoption	Employee performance
Technology adoption	Pearson Correlation	1	
	Sig. (2-tailed)		
Employee performance	Pearson Correlation	.677**	1
	Sig. (2-tailed)	(0.001)	

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

Table 2 shows the correlation analysis between technology adoption and employee performance which is conducted for the entire sample. As shown in the table, the correlation for all the samples between technology adoption and employee performance is observed to be positive and significant at 99 percent confidence level with a correlation coefficient of 0.677. The correlation analysis shows that independent variable technology adoption has a positive and significant relationship with employee performance.

Table 3*Impact of Variable for all Samples*

Coefficients _a	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F	Sig.	Adjusted R ²
	B	Std. Error	Beta					
(Constant)	1.276	0.325	0.677	3.922	0.001	88.134	0.0001	0.454
Technology adoption	0.711	0.076		9.388	0.001			

a Dependent Variable: Employee performance

Table 3 reveals the positive effect of technology adoption on employee performance. The effect is observed to be significant. The table shows that technology adoption is used as an independent variable and employee performance as a dependent variable. The tables show that the effect of technology adoption is found to be positive and significant at 99 percent confidence level. The coefficient with 0.711 of technology adoption shows that with the increase in technology adoption, there will be an increase in the performance of the employee. The F value is 88.134, and the significant value is less than 0.001. Thus, the regression model seems to be fit. The adjusted R² value from regression analysis is 0.454 indicating the explanatory power of technology adoption has a 45.4% variance on employee performance.

Discussion and Conclusion

As per the study findings, the relationship between technology adoption with employee performance is observed to be positive and significant at 99 percent confidence level with a correlation coefficient of 0.667. Hence, the study rejects the hypothesis that there is no significant relationship between technology adoption and employee performance because the p-value is less than 0.001. The impact of technology adoption is found to be positive and significant at 99 percent confidence level. The coefficient of technology adoption shows that an increase in technology adoption causes an increase in employee performance. This result is consistent with the findings of Sapta et al. (2020); Parry and Battista (2019); Zhang et al. (2019); and Pantano and Pietro (2012); The study identified the relationship between technology adoption in an organization and employee performance of the school teachers around Killagal-Nardevi area. Based on the findings of this study, there is a significant and positive relationship between technology adoption and employee performance. This is because technology adoption and actual usage increase both the quality and quantity of production. With the help of technology, employees can be creative, innovative, and updated with the information that helps them produce quality and quantity products.

Results obtained from data analysis revealed that there is a positive effect of technology adoption on employee performance. The study findings are compatible with Abbas et al. (2014), who observed that it has a significant impact on their performance as they can save time and have extra options for other additional activities. The effect was observed to be significant. In this study, if technologies are adopted in various methods to make the work easier the performance of employees will also increase. The result is consistent with (Imran et al., 2014) which observed a

positive relationship between technology adoption and employee performance and stated that the advancement of technology helps to reduce the workload of the employee and human effort. The result of the study by (Baskaran et al., 2020) also confirms a better understanding of the linkage between technology adoption and employees' performance.

The effect and relationship between technology adoption and employee performance among school teachers in the Killagal-Nardevi area were investigated in this study. The outcome of the study conveyed that adoption and real use of technology improve both the quality and quantity of output. Employees might be more creative, imaginative, and informed with the support of technology, which helps them develop high-quality and quantity products. To a greater extent, it was discovered that school employees were flexible with their use of technology. As well as the recommendation to adopt and use new technology was greater because school teachers were very satisfied with working with new technology. As per the result of multiple choice questions, technologies keep up with fresh information and put it to good use, which can also help to increase overall productivity. Similarly, technology helps to communicate more efficiently.

Technology adoption and employee performance are positive predictors of job performance, with technology adoption being the highest predictor. The finding of the study posits that technology is more important in influencing employee performance. The study shows that employee engagement enhances employee performance. Factors that motivate employees in different companies to accept technology should be conducted before introducing new technology. The findings of the study indicate that increase in technology adoption increases employee performance. However, if a large sample size with both the primary and secondary data were used, its outcome would be more beneficial and conformative; and hence this can be taken as the scope for the future studies.

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