

Information and Communication Technology (ICT) and Employee Performance: Relationship

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Abstract

This paper aimed to gain an insight about the relationship between Information and Communication Technology (ICT) and employee performance at Private Management Colleges in the Kathmandu District. Descriptive analysis was used to explore the dimensions of academic performance. To conduct this research, a quantitative methodology was employed. Questionnaires was the main instrument used for the data collection. The study restricts to the private management colleges and institutions only. A Total of 45 teaching faculties of Kathmandu district were selected for the study to explore the use of ICT in relation to the employee performance. Individual consent was taken for ethical consideration. Mean, Standard deviation and Correlation was adopted to measure the objectives. The findings showed that the role of ICT to uplift teaching and learning practice at Private Management College seems to be substantial in the current scenario. The performance of faculty members in private management colleges in the sense of efficiency of work ($r=0.612^{**}$, $p=0.00$), planning the work ($r=0.632^{**}$, $p=0.00$), creativity and innovation ($r=0.547^{**}$, $p=0.00$) and making effort ($r=0.454^{**}$, $p=0.02$) was significantly contributed by the use of ICT. ICT played a significant role to uplift the performance of faculty members of private management college of the Kathmandu district. All the results presented so far in the study have been found to be indicating strong and positive relationship between ICT and employee performance. Statistically, it can be concluded in one sentence that if one point changes in ICT, it can bring 4 to 6 times positive changes in employee performance. In the future, the researcher should also investigate the impact of workforce diversity on team performance.

Keywords- College, Employee Performance, Faculty, ICT, Kathmandu

1. Introduction

1.1 Employee performance

Performance evaluation aims to assess the strengths and weaknesses of employees and motivate them, which are crucial factors affecting employee performance. Therefore, organizations should focus on both aspects to enhance effectiveness. Performance measurement helps identify employees' strengths and weaknesses, encouraging them to enhance their performance (Vuong & Nguyen, 2022).

The study conducted by Agrawal and Singhal (2021) demonstrated that evaluating and promoting productivity and performance increases employee satisfaction and enhances their performance. Appreciation plays a vital role in boosting employee engagement at work. Ensuring employee happiness contributes to a company's performance and overall growth. Employers and management must understand what motivates employees to work hard and improve the organization's performance. The incentive system of an organization significantly impacts its productivity, as inadequate compensation can negatively affect employee actions and overall performance.

The study conducted by Dahkoul (2018) concluded that employees are a significant asset to the organization since they positively contribute to the achievement of organizational goals through their performance. As a result, organizations are constantly striving to improve their performance in order to achieve their goals. To that end, they must identify the characteristics that contribute positively to employee performance. Employees who are satisfied with their jobs are more likely to try to improve their performance, and their engagement at work assists them in improving their performance. Employee happiness, management standards, and trainings are significant determinants for employee performance; having a substantial impact on employee engagement, which eventually leads to employee performance.

Job performance is determined by an employee's motivation and aptitude, as well as how he or she responds to situational constraints and an unfavorable environment. This cannot be ignored since it causes behavioral disturbances, notably a decline in job performance. Employers are advised to take measures to motivate employees by enhancing work surroundings. Employee motivation improves job performance, and they attain the expected outcomes and goals of the employment. As a result, employer satisfaction is improving (Al-Omari & Okasheh, 2017).

Organizations nowadays recognize the significance of employee performance and consider it a determining factor for success. The management's mission is to efficiently and effectively utilize available resources, bringing people together to achieve corporate goals and objectives. Improving employee performance involves fostering motivation, creativity, job satisfaction, and creating a comfortable work environment (Thao & Hwang, 2015).

Employees who are happy with their jobs have a positive attitude about their jobs. Satisfied workers are more concerned about the given targets, work quickly, work free of errors and omissions, loyalty and commitment to the job, less dependability, suggest new ideas, tend to improve knowledge, willing to accept more responsibility, obedience of rules and regulations, less absenteeism, and effort to retain in the current job. Positive attitudes will improve the quality and quantity of employees' performance. As a result, such a circumstance is beneficial to an organization. As a result, if firms are more concerned with employee work happiness, better results can be predicted, because the relationship between satisfaction and performance is positive and significant. Managers should pay greater attention to this issue in order to increase performance (Pushpakumari, 2008).

1.2 Information and Communication Technologies (ICT)

The study conducted by Xu and Jiang (2022) was to determine the effect, mechanism, and boundary conditions of ICT use on the job outcomes of new generation teachers. Teacher efficacy mediates the association between ICT use and job happiness, and mistake aversion culture reduced the favorable relationship between ICT use and teacher efficacy. According to the findings of this study, one of the expected results of ICT utilization and the fit of new generation instructors is job satisfaction. This study contributes to the literature on ICT effect by investigating the mechanism and boundary conditions of how ICT use influences work outcome.

The study conducted by Kayode et.al. (2019) revealed that availability of ICT facilities, in-service training, and restraints all had a major impact on the efficacy and job performance of staff in both institutions. The recommendation stated that personnel should receive ongoing ICT training in order to gain new abilities in the use of ICT devices. The government should offer the required infrastructures such as electricity supply, Wi-Fi for internet connectivity, and a favorable environment for employees to be effective and efficient in their job performance, which will drive them to develop their ICT abilities.

At the moment, information and communication technology (ICT) have an impact on every element of human life. They are prominent in the workplace, business, education, and entertainment. Furthermore, many individuals see ICTs as change agents, bringing about changes in working conditions, information management and exchange, instructional methods, learning approaches, scientific research, and access to information and communication technology. A well-designed teacher training program is required to meet the demand of today's teachers who wish to learn how to effectively use ICT in their classrooms (Ratheeswari, 2018). The Internet is now a 24-hour 'teacher' and one of the most important sources of crucial knowledge. The introduction of the Internet greatly altered our educational system; excellent usage and retrieval of Internet material would bring value to education. The way the government has neglected humans as a result has considerably raised the necessity to provide new educational instruction, such as E-learning. It is now possible to adjust the content and

delivery of instruction to the needs of students because to advances in information and communication technology (Abubakar & Salmanu, 2018).

The rapid advancement of computer technology has had tremendous impact on the entire human race. The twenty-first century is a knowledge-based civilization. We provide knowledge to students using a variety of mediums, including formal, informal, non-formal, and online systems. We should highlight the relevance of Information and Communication Technologies (ICT) in online systems of teaching and learning or e-learning through the online system (Kaware & Sain, 2015).

2. Research Objectives

1. Perception of the faculty members about Information and Communication Technology (ICT).
2. Perception of the faculty members about Employee Performance.
3. Relationship between Information and Communication Technology (ICT) and Employee Performance.

3. Research Hypothesis

Ho1: There is no significant relationship between ICT and Efficiency at work.

Ho2: There is no significant relationship between ICT and Planning the Work.

Ho3: There is no significant relationship between ICT and Creativity and Innovation.

Ho4: There is no significant relationship between ICT and Making Efforts.

4. Conceptual Framework

Information and Communication Technology (ICT) and its role is taken as independent variable in this study. The Role of ICT is summarized with the following elements such as communication system, web based resources, mobile phones and devices and access to ICT resources. The dependent variable i.e. employee performance includes the efficiency at work, planning the work, creativity and innovation and making efforts. The figure below presents the conceptual framework that summarizes the relationship between ICT and employee performance.

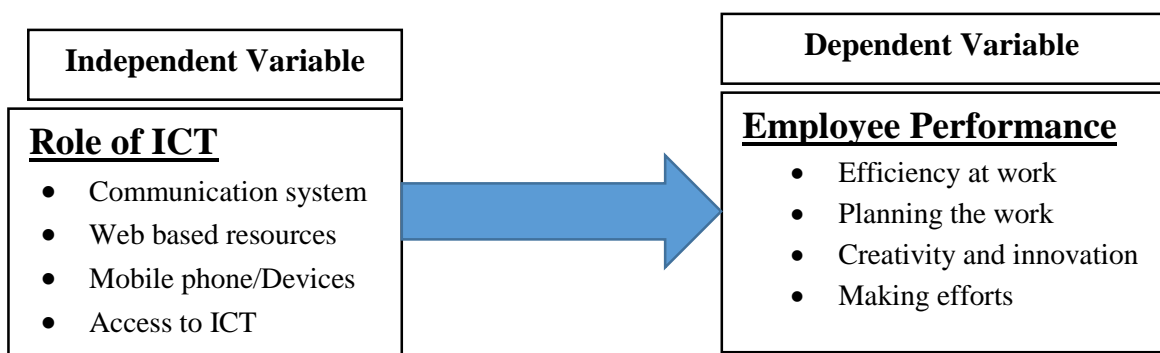


Figure 1 Conceptual Framework of the study

5. Methodology

The study is completely based on cross-sectional study. For this study, descriptive research method is used (Neupane & Dawadi, 2018) to find out the relationship between ICT and employee performance. The source of information is primary source and while collecting the information, the study has used quantitative study. The study consists of responses from forty five faculty members from various private management colleges of the Kathmandu district. A questionnaire was developed on the basis of Likert five-point scale, i.e., from 1 = strongly disagree to 5 = strongly agree. Reliability of the questionnaire used for the purpose of this study was assessed by Cronbach's alpha. Simple random sampling was used to select all respondents from private management colleges of Kathmandu district only. SPSS (Statistical Package for the Social Sciences) was used to analyze the raw data collected. As far as the research ethics are concerned, the study was informed to the respondents and the concern was taken before the questionnaires submission. It was also informed that all the sensitive personal information will be kept confidential and the collected data will not be used for any other purpose apart from this study.

6. Results and Discussion

This study presents and discusses the results obtained from reliability analysis of the data collection instruments. The statistical analyses presented in this article were done using statistical software package (SPSS).

6.1 Perception in ICT

The study has measured the perception of respondents towards the use of ICT. There were 13 variables used to measure the perception. Basically, the variables focused on whether the communication systems facilitates easy access to information crucial for employee performance, how access to web-based resources makes learning of new concepts in the profession easier hence increasing productivity and performance. Also how the introduction and access to ICT in the College has increased employee performance and productivity.

Statistically, the study generated the total values of perception by using the compute command of SPSS then calculated the total mean value of perception. For this section, the respondents were provided questionnaires to find out their perceptions about ICT and the result obtained is given in the figure below.

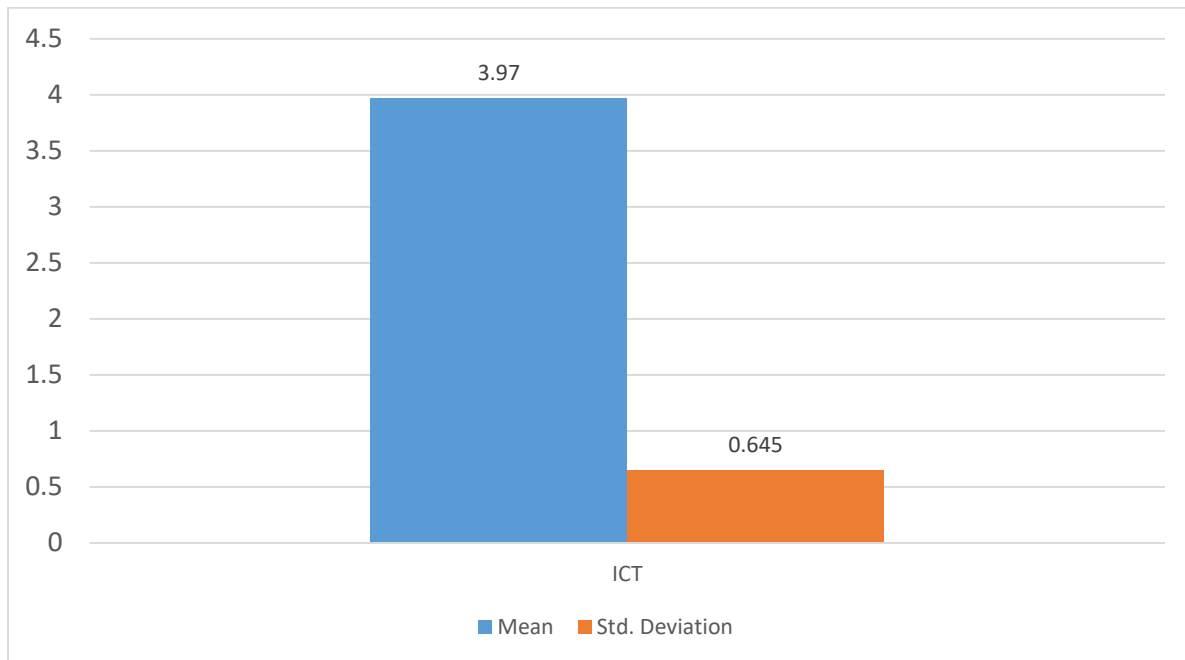


Figure 2: Perception of ICT

The results in fig. 2 shows the mean value is 3.97 which is greater than 2.5 average mean. It shows that there is high perception of ICT among the respondents. So based on the results, it can be concluded that employee performance can be significantly enhanced with the access and utilization of ICT resources.

6.2 Perception in Employee Performance

To analyze the perception of employee performance, the study has used four variables i.e. efficiency at work, planning the work, creativity and innovation and making efforts. Each variable has been studied and the results are discussed through the charts below.

6.2.1 Efficiency at work

To investigate the relationship between employee performance and efficiency at work, the respondents were questioned some major views regarding work efficiency in educational institutions. The main focus was to investigate the respondent's dedication, seriousness and ability to take responsibility. Also to find out professional and technical skill required to carry out the work efficiently and their level of satisfaction with the work in the organization. The result obtained is discussed in the figure below.

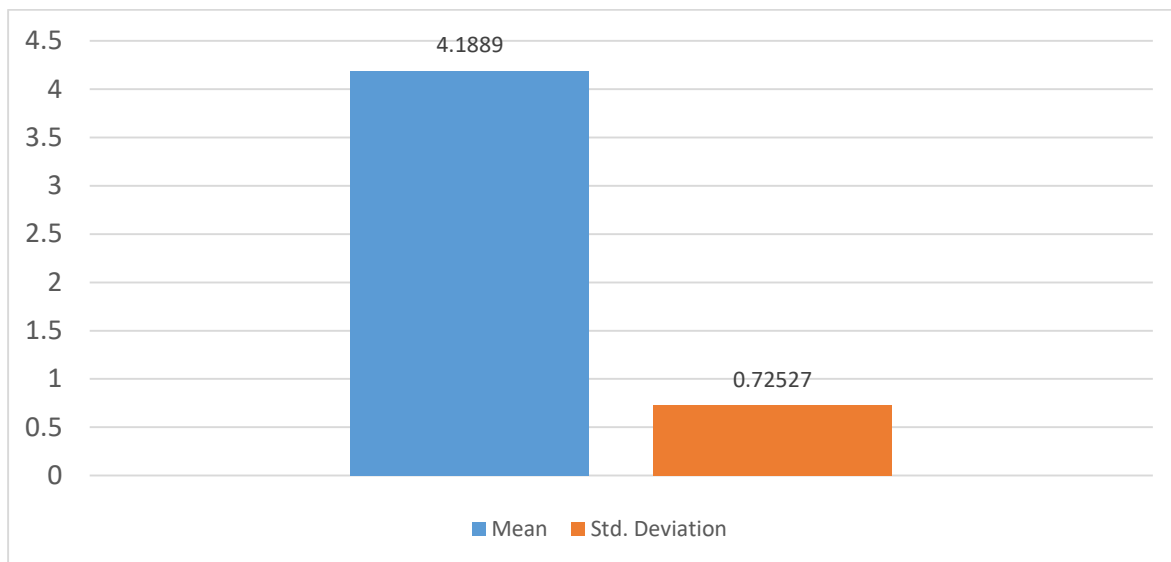


Figure 3 Efficiency at Work

The result in figure 3 of this study shows that there is positive relationship between employee performance and efficiency at work because the mean value is found to be 4.188 which is greater than 2.5 average mean. So, statistically on the basis of results derived, it can be concluded that employee work efficiently when they are satisfied with the work. The study also indicated that work efficiency of the employee increases when they feel dedicated and serious to take responsibility and possesses professional skill and technical knowledge required to carry out the work efficiently.

6.2.2 Planning the Work

One of the major focus of this study was to find out importance of planning the work in enhancing employee performance. The respondents were asked major views to investigate the relationship between employee performance and planning the work. The variables covered the questionnaires regarding the role of planning before starting its implementation in goal setting among the faculty members. It, also addressed the respondent's ability to plan the work and their focus on the completion of the work assigned automatically according to planned schedule. The result obtained is discussed in the fig 4 below

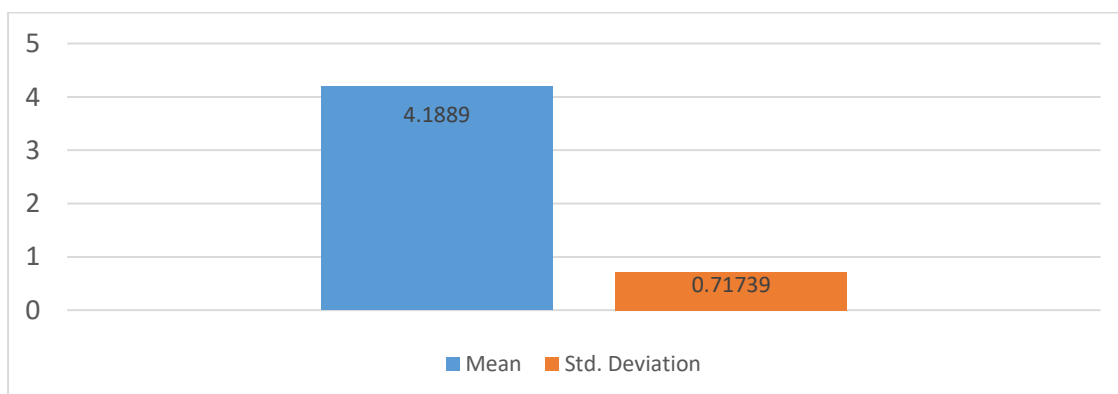


Figure 4 Planning the Work

The result of this study in figure 4 shows that there is a positive relationship between employee performance and planning the work. The results indicated the mean value is 4.1889 which is greater than 2.5 average mean. Therefore from the above chart, it can be established that employee performance can be increased when the employees does proper planning on time and focus on its implementation and completion within the deadline. Also based on the results it was found that planning the work before starting its implementation gives the respondents a sense of comfort and increases their ability to focus more for its successful completion.

6.2.3 Creativity and Innovation

The objective of this research is to investigate the relationship between employee performance and Creativity and Innovation. The respondents were questioned about key views which comprised of how careful and cautious they are in making changes in the working methods and staying away from repeating what others do in solving work-related problems. The respondents were also questioned the level of boredom they encounter in repeating the same procedures at work. Also, to find out their ability to put forward ideas and solutions rapidly to face work related problems.

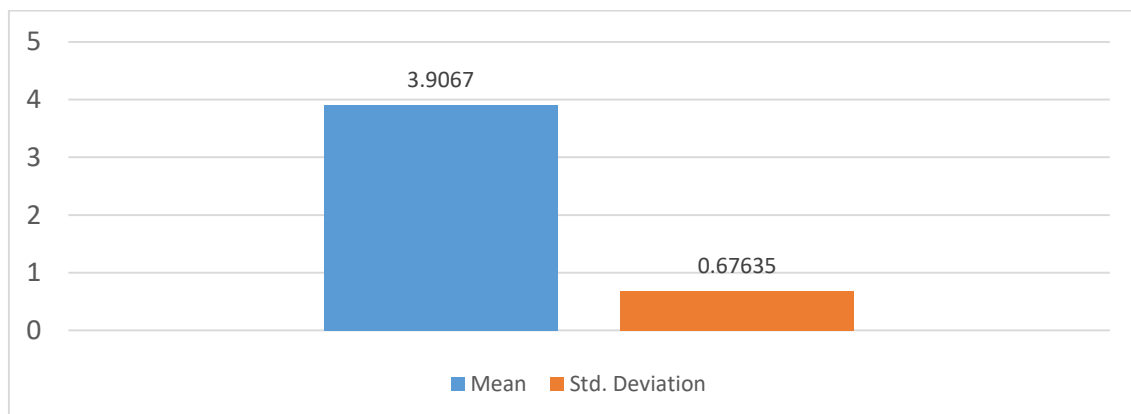


Figure 5 Creativity and Innovation

The result of this study shows that there is positive relationship between employee performance and Creativity and Innovation. The results indicated the mean value is 3.9067 which is greater than 2.5 average mean. From the results obtained in the above figure 5, it can be determined that creativity and innovation of the employees significantly enhances the performance of the employees at work. Their ability to express thoughts by putting creative ideas and solutions helps to strongly reduce problems and issues in the course of work.

6.2.4 Making Efforts

The objective of this research is to investigate the relationship between employee performance and making efforts. The respondents were examined major views regarding the role of making efforts by the employees in performing their work. The respondents were examined whether being proud of one's work inspires them to put additional effort in their work or not and to

know their desire and preparedness to work outside official working hour. Most importantly, the variables focused to find out the role of college administration in motivating and stimulating the employees to make more efforts.

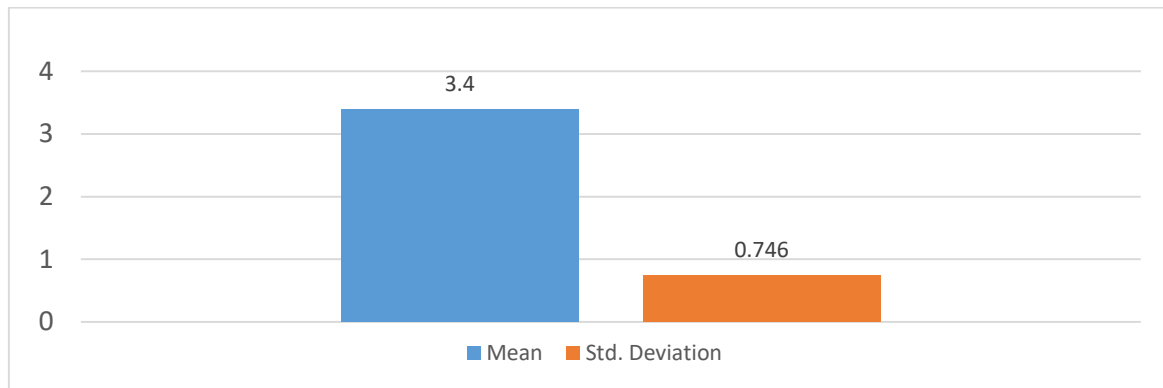


Figure 6 Making Efforts

From the results mentioned in figure 6 obtained above, it indicated the mean value is 3.4 which is greater than 2.5 average mean. Do, the result of this study shows that there is positive relationship between employee performance and making efforts. The results indicated that employees will put more efforts at work to increase their performance if college administration provides them additional benefits and increment in salary and wages. Also if the work performed by the employees gives them a sense of pride and enjoyment, then it motivates them to put extra effort and even work outside their official working hour.

7 Relationship between ICT and Employee Performance

Table 1 Relationship between ICT and Employee Performance

		Correlations				
		ICT	Efficiency at work	Planning the work	Creativity and Innovation	Making Efforts
ICT	Pearson Correlation	1	.612**	.632**	.547**	.454**
	Sig. (2-tailed)		.000	.000	.000	.002
	N		45	45	45	45
Efficiency at work	Pearson Correlation		1	.793**	.611**	.432**
	Sig. (2-tailed)			.000	.000	.003
	N			45	45	45
Planning the work	Pearson Correlation			1	.609**	.298*
	Sig. (2-tailed)				.000	.046
	N				45	45
Creativity and Innovation	Pearson Correlation				1	.399**
	Sig. (2-tailed)					.007
	N					45
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

There is significant correlation between each variables of ICT and employee performance because p-value of each relationship is less than 0.05 significant levels. The r-value is minimum 0.298 between planning the work and making effort and maximum 0.793 between efficiency at work and planning the work. The statistical result indicates that if there is 1 point change in one variable then it can bring the changes in another variables from minimum 0.298 to 0.793 times. So it can be concluded that there is significant correlation between all variables. The study has prepared the null hypothesis stating the relationship between ICT and efficiency at work. If we see the relationship between ICT and efficiency at work, the data presented in Table 1 shows that the r-value, and p-value between ICT & efficiency at work is 0.612, 0.000 respectively. The result reject the null hypothesis no. 1 because it has established the significant relationship between these two variables. So, it concludes that ICT can positively contribute to the improvement in efficiency at work of employees.

Similarly, the study has prepared the second hypothesis stating that there is no significant relationship between ICT and Planning the Work but it is rejected by the statistical value of correlation test. If we see the relationship between ICT and planning the work, the data presented in Table 1 shows that the r-value, and p-value between ICT & efficiency of work is 0.632, 0.000 respectively. So, the result reject the null hypothesis no. 2 because it has established the significant relationship between these two variables. As a result, it indicates that ICT can favorably contribute to the enhancement of planning the work of employees.

Now for the third null hypothesis stating that there is no significant relationship between ICT and Creativity and Innovation is rejected as well by the statistical value of correlation test. If we see the relationship between ICT and Creativity and Innovation, the data presented in Table 1 shows that the r-value, and p-value between ICT & Creativity and Innovation is 0.547, 0.000 respectively. So, the result shows a significant relationship between these two variables. As a result, it indicates that ICT can positively contribute to employee creativity and innovation. Finally the null hypothesis no 4 states that there is no significant relationship between ICT and making efforts. If we see the relationship between ICT and making efforts, the data presented in Table 1 shows that the r-value, and p-value between ICT & making efforts is 0.454, 0.002 respectively. So, the result reject the null hypothesis no. 4 because it has established the significant relationship between these two variables. As a result, it concludes that ICT can positively contribute to employee efforts.

The finding of this study is also supported by Dampana & Agbeyegbe (2017) stating that information and communication technology has increased the abilities of bank employees, consequently enhancing employee performance. The data also show that information and communication technology has introduced new procedures in all areas of banking, hence improving banking operations. The findings also demonstrate that information and communication technology is effective in bank operations. Based on the findings, the researcher proposed that banks improve their information technology to increase productivity,

and that the use of (ICT) in the banking sector should not be limited to cities alone; rural banking should also be enhanced.

It also lends supports to the study conducted by Siahaan, Gultom, & Lumbanraja (2016) indicating that utilization of ICT tools enables participants to achieve various outcomes. These include delivering high-quality output, performing technical tasks, exceeding expectations, accessing quality information for informed decision-making, responding effectively to diverse needs and emotions, thinking creatively, generating unique ideas, collaborating and adapting in a team, handling complex tasks, problem-solving through discussions with colleagues, and empowering employees to participate in decision-making for prompt work completion. Employee performance is crucial for both individual career development and company success. Improving employee performance benefits not only the company but also the employees themselves, as it can lead to better career advancement opportunities.

Finally it also validates the findings of Oghenekaro & Olakunle (2002) who found that the use of ICT tools increased employee performance by allowing participants to achieve the following: quality output, perform technical tasks, go above and beyond what is expected of them, have access to quality information that allows them to exercise good judgment by making sound and well-informed decisions, and respond appropriately to the needs and feelings of different people in different settings.

7.1 Hypotheses Summary

After the analysis of data, the following summary has been concluded.

Table 2 Hypotheses Summary

Hypotheses Summary	
Ho1: There is no significant relationship between ICT and Efficiency at work	Rejected
Ho2: There is no significant relationship between ICT and Planning the Work	Rejected
Ho3: There is no significant relationship between ICT and Creativity and Innovation.	Rejected
Ho4: There is no significant relationship between ICT and Making Efforts	Rejected

8 Conclusion and Recommendations

This study has concluded the importance of ICT in enhancing employee performance. Based on the findings, it is found that there is high perception of ICT among the educators. The study has concluded that for optimum employee performance, educator has to be ICT friendly in this present context. ICT played a significant role to uplift the performance of faculty members of private management college of the Kathmandu district. All the results presented so far in the study have been found to be indicating strong and positive relationship between ICT and employee performance. Statistically, it can be concluded that in one sentence that if 1 point changes in ICT can bring 4 to 6 times positive changes in employee performance.

Through the discussions and findings, the study would like to make few recommendations. Due to time constraints, cross-sectional approaches were used in this study. In the future, researchers should employ longitudinal techniques to produce successful outcomes. This study focuses on determining the impact of workforce diversity on individual employee performance; however, in order to provide useful results, the researcher should also investigate the impact of workforce diversity on team performance.

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