Original Research Paper

Impact of Information Technology Training on Staff Engagement and Productivity: A Study on Some Selected Commercial Banks in Chattogram City

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Abstract: This study aims to examine the effect of Information Technology (IT) training on the staff engagement and productivity of bank employees in Chattogram, Bangladesh. Extensive literature related to technological advancement, training, and employee performance were reviewed from the database and website to develop a conceptual model to check the effect. The relationship between the performance of the employee and IT training was measured by collecting and analyzing primary data. They have been processed using SPSS. Hypotheses are tested to determine the impacts. A total of 130 questionnaires were delivered to various banks where 100 of them were completed and returned. It is revealed from this study that IT Training does have a major impact on staff engagement and productivity after thoroughly evaluating the data. Furthermore, there is a considerable association between IT Training and employee effectiveness. According to the findings of this study, IT adoption through training has resulted in employee skill gains as well as a pleasant, supportive work environment, which motivates employees to support the vision and goal of their organizations.

Keywords: Information Technology Training, Staff Engagement, Productivity

Introduction

The banking area is a vital facet of the financial services sector in Bangladesh. The changing position of the work situation owing to the technological development makes the organizations face several challenges to harvest skilled and ardent personnel and remain capable to realize the organization's targets (Zahra *et al*., 2014; Ali *et al*., 2021). In the workplace, employee training is a program that helps people improve the quality of their jobs in existing positions. Employee training helps employees thrive and be more efficient in their roles, which in turn leads to better outcomes for the organization. In our present world of ongoing high-technology developments, technological innovation will continue to increase in the foreseeable future as well. In Bangladesh, the application of IT in the banking sector got a dramatic speed in recent years. Employee ADOPTION and subsequent usage of Information Technology (IT) are crucial for the effective use and execution of the technology. The Technology Acceptance Model (TAM) developed by Davis helps to understand why users embrace electronic technology (1989). Companies invest in employee training before the introduction of new technologies to increase employees' Knowledge, Skills, and Abilities (KSAs), as well as their overall growth. It can be confidently said that the effects of technological advancement on the psychology of employees are taken into consideration by their union. It is undeniable that employees who worked under both the old and new systems had fewer favorable views about their occupations and these attitudes extended across the organization as people grew less devoted and more likely to quit their positions. Because of this, firms must push employees to adopt new technology and give incentives for increased performance to remain competitive (Dauda and Akingbade, 2011). Modern technology is also purchased by businesses to increase staff productivity, job-task facilitation, communication, efficiency, and the efficacy of work management. However, research proving the positive impacts of information technology on human resource management suggests that the benefits of this trend (IT Integration and Implementation) outweigh the

drawbacks. The introduction of cutting-edge technology has transformed the method in which occupations are carried out nowadays. As a result of technology developments, employee performance improved, as did employee working effort and job completion time. Information Technology (IT) promises to increase staff productivity in the areas of time savings, cost-effectiveness, risk reduction, a guarantee of efficiency, and appropriateness of work. Technology innovation is critical not just for corporations and governments, but also for the overall health of a country. Companies can no longer function on technology that is out of date. It is revealed from many types of research that improved human performance occurs when individuals or workers use innovative technology for the advantage of the business and it facilitates compliance with ethical principles. Adapting to new technologies is difficult for individuals. Hence, training is required. To carry out this responsibility, training is the most popular approach and it has been utilized for many years all over the world. Because of the development of information technology, training took on a whole new dimension, allowing employees to increase their productivity in a more timely and exact manner. This study shows the impact of Technology Innovation Training (TIT) on Staff Engagement and Productivity in some selected commercial banks in Chattogram city.

Literature Review

It is important to have employee engagement for the success of any firm. Deci and Ryan (1985) conducted the most notable study on employee engagement (Berens, 2013). A dedicated and momentous job lets the employees recognize how valuable they are and how to get themselves engaged (Vandenabeele, 2014). A key component of Pallavi P. Kulkarni's presentation was an evaluation of research data related to the link between training and an employee's eligibility for benefits. Nitin Nayak, Vikas Nath, and Nancy Goel (2013), on the other hand, investigated the elements that influence whether or not Indian consumers embrace mobile banking services, with a particular emphasis on how the database of mobile banking service users may be expanded. In the case of mobile banking services, individuals may be more inclined to accept them if they are introduced to modern ideas. Also, of interest to Ms. Varsha Kuchara was finding how Internet banking users rated the quality of the service they got. Secondary data from a large number of publications, as well as primary data from chosen respondents using a structured survey, were collected and analyzed by the researcher using the descriptive technique. The results were then reviewed using the descriptive technique. Customers are happy with online banking services, according to research conducted by R Rajesh and A Palpandi (2015), even though they believe the

service may be improved. In this study, which was conducted in Southern Tamilnadu with 100 samples chosen from the general population, an open-ended questionnaire was employed to collect data. In a study conducted by the two researchers in the banking industry, Dr. Jyotindra M. Jani and Manish B. Raval looked into the productivity of bank employees by examining the financial statistics of the firm as well as profit per employee to determine how productive bank employees are. Four Indian Banks participated in the study. In addition, the F-test was employed to assess the estimated productivity ratios, and there revealed a statistically significant result.

According to Obeng and Mkhize (2017), the opinions of consumers and workers operating at the branch level of universal banks in Ghana have an impact on their decisions as well as the decisions of others in the banking industry. Additionally, they questioned them on their opinions on technological innovation in banking and discovered that 88% of consumers and 96% of employees agree with them on the matter. According to a poll performed by Bankrate, customers are eager to recommend their banks to others and employees believe it has a positive impact on the bank's profitability. According to the findings of their research, Sadr and Syed Mohammad Hossein discovered that internet banking had an impact on a bank's profit margin and Return On Equity (ROE) after three years, with the effect being the most obvious after three years. There will be a total of four banks from Asian nations participating in this investigation, all of which have been selected to do so. Management and practitioners would benefit from the findings of an investigation led by Md. Zahangir Kabir, and Jannatul Mawa, Md. Mostafizur Rahman, Sourav Paul Chowdhury, and Md. Jamal Uddin, which would assist them in understanding the importance of training assessment and providing adequate facilities for training transfer. A close-ended questionnaire was used to gather information from 120 bank workers regarding four elements and two hypotheses. The questionnaire was administered to 120 bank employees. It was necessary to conduct multiple regression analyses to determine the components' impact on the growth of KSA and the quality of work performance over time. Doucouliagos and Laroche (2002) researched employee relations utilizing the stochastic production frontier framework to determine whether or not employee relations have any influence on the efficiency and productivity of the organization for which they were working. The researchers chose French equipment manufacturing organizations as the subject of their inquiry and they discovered that, in contrast to the existence of unions, human resource management procedures increase the efficiency and productivity of the companies in question. Secondary sources, such as the annual report and accounts of six selected banks, as well as information obtained from bank employees, were used

to conduct the research conducted by Shehu Usman Hassan, Liyu Mamman, and Musa Adeiza Farouk on twenty-one Deposit Money Banks (DMBs) that are listed on the Nigerian Stock Exchange. According to the findings of their research, electronic banking products (such as e-mobile and ATM transactions) had a large influence on the performance of Nigerian banks; however, e-direct and SMS alerts had a less significant impact on the performance of Nigerian banks. Several recent studies, including one conducted by Rupanjali Nath, Kanika T. Bhal, and Geetika T. Kapoor, examined the variables that influence bank workers' attitudes regarding CBS. They were able to analyze data collected from employees working in public and commercial banks in Delhi's National Capital Territory through the use of structural equation modeling Techniques (NCT). The information was gathered from persons who worked at the State Bank of India, the Union Bank, the Bank of India, the ICICI Bank, and the Axis Bank The findings were published in the Journal of Business Research, according to the publication. Researchers Ravi Kumar Jain and Ramachandran Natarajan looked at four parameters (perceived advantages, perceived hurdles, perceived criticality, and perceived risk) to establish whether or not individuals are amenable to outsourcing their jobs. They discovered that the first three factors have a statistically significant impact on attitudes about outsourcing, while the fourth element has a negligible impact on such emotions, according to their findings. In a study done by Muhammad Imran, Nadeem Maqbool, and Huzaifah Shafique, the researchers looked at the influence of technological progress on employee performance. They conducted extensive research to reach their results, which included reading a large amount of literature. They made use of the SPSS 16 software program to analyze the information that had been obtained from workers. According to the analysis of the data collected from 100 respondents, technological innovation has a significant impact on both employee motivation and the training that employees get. Furthermore, employee motivation has a greater impact on performance than training does on the overall organization. In this study, Khaled Adnan Abed al Raheem Bataineh looked at the impact that successful training and development programs have on improving employee performance in the banking industry, using data from the Jordanian commercial banking sector.

To supplement the information gathered through interviews with workers of the Jordan Housing Bank for Trade and Finance, a secondary source of information was used to gain further information on the organization. The results of studies show that successful training and development programs aid employees in boosting the level of their technical abilities and competence, allowing them to execute the

duties allocated to them more efficiently and effectively while minimizing their chances of making mistakes. As proven in his study, F. T. S. Chan employs pairwise comparisons for assessing the importance of a large number of performance indicators in a given context. He cited the electronic industry as an example of an Analytic Hierarchy Process (AHP) approach that might be used to aid in decision-making and he provided illustrations to support his point. Roghanian, Rasli, and Gheysari (2012) stressed the importance of paying adequate attention to both sides of productivity (i.e., effectiveness and efficiency) in their study, which included a comparison and contrast of the definitions of these words. They found that both sides were important. They concluded that Drs. G. Tulasi Rao and T. Lokeswara Rao demonstrated how to efficiently hold out a large number of clients at a low cost through the use of technology-driven distribution routes for this presentation. To illustrate the use of technology-driven distribution routes, they used a case study from their previous work. To get primary data, a survey of the bank's clients and employees was conducted, while secondary data was gathered from publicly available sources.

The vast majority of financial institutions' customers have expressed pleasure with the technology solutions they have implemented. According to Shastri RV (March 2003), a liberalization policy paired with vigorous competition delivers the best outcomes in banking and that information technology plays a critical role in the decision-making process in the banking industry on the subject of enhancing client interaction, he spoke about the usage of ATMs, anyplace banking, the Internet and mobile banking, among other things. He also discussed the difficulties associated with the installation and execution of information technology. Following his research, he concluded that customer happiness should be the number one goal in all future information technology operations. It was decided to emphasize the innovative developments brought about by networked branches, according to Prabhakar (January 2004). All of the terms associated with the Indian banking industry come to mind when thinking about it: Automated Teller Machines (ATMs), technology-based payment and settlement systems, the Reserve Bank of India's technical strategy, and the use of variable interest rates in the Indian banking sector. It is his opinion that technological advancements will eventually eliminate the need for traditional brick-and-mortar banking institutions shortly.

Dos *et al.* (1993) investigated the relationship between information technology expenditure and profitability or stock value and concluded that the relationship was non-significant, indicating that information technology investment is not producing positive returns on investment. According to the findings of Avasthi and Sharma (2000-01), the more technological advances that occur, the more successful the banking industry becomes in the long run. Through the use of technology, banks were able to transform

their distribution networks into retail banking operations. A discussion of current difficulties facing the banking sector is included in this article as well. Makes several important observations, one of which is how advancements in information technology have an impact on the banking and financial industries. Additionally, it assists in dealing with rising competition while being on top of the latest trends.

Employee training is a program designed to assist employees to improve their performance in their current jobs. Even while most companies recognize the value of early job training and onboarding new employees, many fail to invest in ongoing training and development. Quality staff development keeps top talent while increasing earnings. In this tight labor market, superior talent is in high demand. Recruitment costs time and money. How you teach, develop, and engage personnel has a big impact on retention and development. But it's not simply retention. Effective employee development and training also benefit the bottom line. Some advantages of employee development and training are as follows.

a. Employee Retention

Unemployment is a leading factor in early retirement, according to a Harvard Business Review study. Employees are more loyal, engaged, and productive if they perceive firms are investing in their futures rather than simply their current jobs. People like to feel significant and capable. Employees who feel valued and are effectively taught to do their responsibilities successfully have reduced absenteeism and turnover rates.

b. Less Hiccup

Employee training prepares employees to avoid and respond to workplace mistakes and disasters.

c. Minimum Supervision

Employees that have received enough training are fully aware of their duties and expectations. They need less management, allowing your company to focus on more strategic operations.

d. Ensuring Long-Term Success

Leadership has a big role in every organization's success. Preparing and retaining employees for these jobs is critical. Employees with additional knowledge and abilities can help your firm grow. Strong employee development is vital to a company's success. But these initiatives don't just happen. They demand thorough planning and execution. The approaches listed below can help you build an employee training and development program that fulfills your corporate objectives.

Employee training methods include: (a) One-on-one education and assistance. Managers or experienced employees can mentor and coach less experienced employees. For example, a software super-user can educate or inform on a certain software platform. (b) Classroom training has a place in today's industry. According to Statista, employees preferred instructor-led or classroom training over coaching and hands-on learning. (c) Online courses. The COVID-19 pandemic has boosted the appeal of online education, such as on-demand video courses. With the pandemic, the World Economic Forum expects investments in education technology to climb from $18.66 billion in 2019 to over $350 billion in 2025. (d) App-based digital training choices. Walkthroughs, chatbots, and context-based advice may all be provided automatically within an app. Employees may get hands-on, specialized training without human monitoring by utilizing digital training technologies. They all have advantages and disadvantages, which is why most staff training programs use a mix of methods rather than just one.

Best Practices and Strategies for Employee Training play a vital role in employee engagement in workplaces. Training programs differ depending on the company and the workers. Some best practices are: (a) Personalize the training's content and format to meet the individual's needs to further enhance engagement and morale; (b) Use digital training solutions like digital adoption platforms to increase training outcomes and the digital employee experience. (c) Set quantifiable training goals that include employee happiness, workplace safety, and corporate communication; (d) Track the program's efficacy and change as appropriate to maximize its long-term value. Training employees is a long-term commitment with risks and rewards. This perspective allows managers and business leaders to make the best judgments possible while planning and implementing projects.

Objectives

a) To investigate relations between IT training and service delivery time reduction
b) To find out the relationship between IT training and cost-effectiveness
c) To identify the relationship between IT training and risk minimization
d) To examine the relations between IT training and efficiency of bank employees

Methodology

To assess the impact of IT training on bank employees, a survey questionnaire is developed from the literature review and experience of the author. The survey questionnaire was pre-tested with 10 respondents. After necessary modification and correction, the survey questionnaire was distributed to 130 IT officers of six

selected commercial banks by systematic random sampling in a randomized block design within Chattogram metropolitan city of Bangladesh.

As shown in Fig. 1 among the respondents 57 (57.5%) are male and 43 (42.5%) are female with the age group 25 or fewer years being 15% (15 respondents), 25-40 years is 72.5% (73 respondents) and more than 40 years is 12.5% (12 respondents). Collected responses of the questionnaire from respondents' necessary corrections are made for errors and coded into MS Excel 2010 and IBM SPSS Statistics 20 for further analysis. KMO test and Chi-square test methods are used to verify the data and test the hypothesis.

Hypothesis H1: There is a relation between IT training and service delivery time reduction
Hypothesis H2: There is a relation between IT training and cost-effectiveness
Hypothesis H3: There is a relation between IT training and risk minimization
Hypothesis H4: There is a relation between IT training and the efficiency of bank employees

These Hypotheses are predicted from the conceptual framework as follows as shown in Fig. 2:
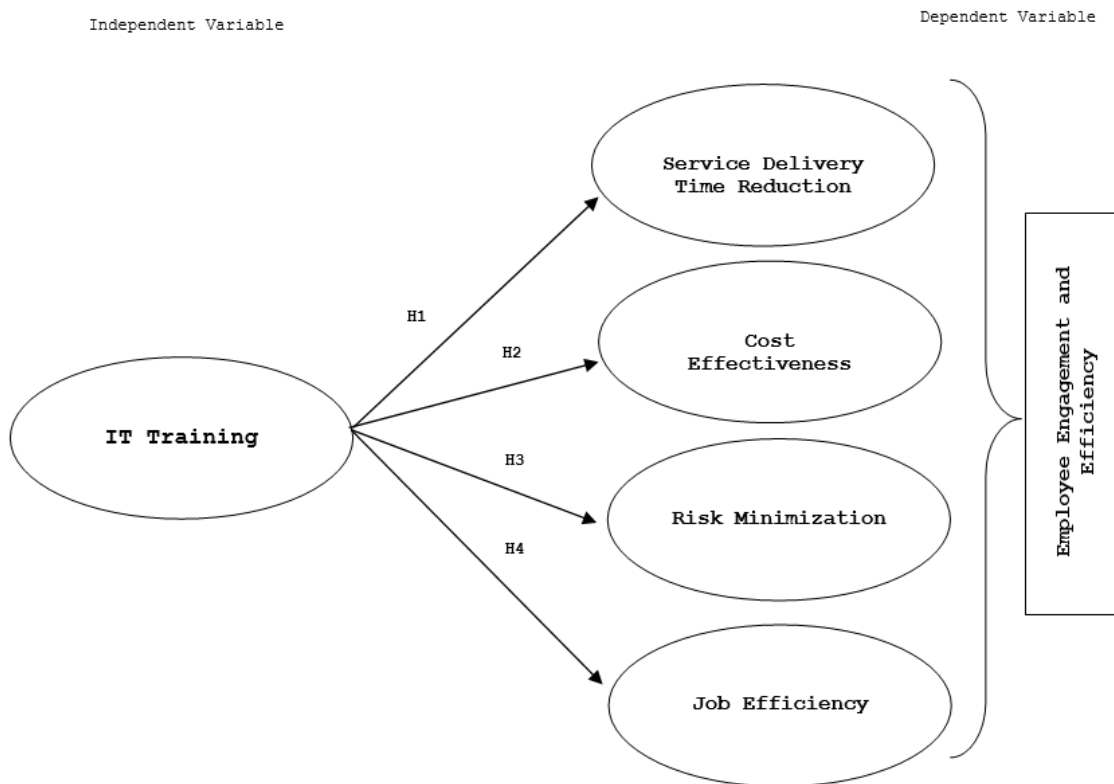

Fig. 1: Methodology

Fig. 2: Conceptual framework

Analysis

Reliability

Reliability is a characteristic of test scores which refers to their consistency and accuracy It can also be defined as the degree to which results and conclusions are reproducible in experiments or studies. That's one of the examples of a useful tool, which has to be carefully and properly handled to have the highest degree of effectiveness. A commonly accepted rule of thumb for describing internal consistency is as.

High repeatability of all subscales of the questionnaire was identified through the intra-class correlation coefficient presented in Table 1 which indicates a high consistency of the questions (as Cronbach's alpha >0.88). Moreover, the test is significant, as a significance value, Sig<0.05.

The following tests were done to test reliability and internal correlations among the components.

In Table 2 reliability is tested which is found to be 0.888 Table 3 ANOVA is done to test the variations among the components.

Principal Component of Factor Analysis

This group consists of 4 different factors i.e., (X1-Money, X2-Time, X3- Risk, X4- Efficiency of training on IT in the banking sector) as shown in Table 5. Firstly, we have to check the sampling adequacy by KMO & Bartlett test, given below in Table 4

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy shows the proportion of variance in our variables caused by the aforesaid causes. Since 0.81, factor analysis may be beneficial to our data. Now we have found how much variance is accounted for by these Principal Components as shown in Table 6.

Total Variance Explained

Only cases for which the Existing IT system is standard w.r.t IT training = Strongly agree are used in the analysis phase.

From the Table of Total variable explained and Scree Plot, we can say almost 90% of the total variance of automated financial reporting are explained by 03 factors X1- Money, X2- Time, and X3- Risk and hence will exacted them for explaining the variance of automated financial reporting, typically as $(Y = 8.95=B1*X1+1.10=B2*X2+0.76=B3*X3)$

Now, will check the significant relationship or association of IT training of banks with the above-mentioned factors with the help of the Chi-square significance test along with cross-tabulation presented in Table 7.

In the cross-tabulation (Table 8) most of the responses occurred in Agree and Strongly agree with level subject to training 'yes' which is approx. 75%. But from the crosstabulation alone, it's impossible to tell whether these differences in IT training of banks in terms of money are real or due to chance variation. To confirm the significance of variation we are using the Chi-square test as follows.

The Chi-square test was conducted to see if the two variables were statistically related which is shown in Table 9. It was utilized to assess the impact of IT training on the factor of money, taking into account the officials' relevant field training. With a significant value of 0.035 (0.07-for two-tailed test) at a 5% level of significance with df-9, the hypothesis is rejected hence indicating that there is a substantial relationship/association between IT training in banks and money. Moreover, we can check the association or relationship between variables from Pearson's R and Spearman's Rank correlation. Here we see that our interest in variables is positively correlated.

In the crosstabulation (Table 4, Appendix) most of the responses occurred in Agree and Strongly agree on level subject to training 'yes' which is approx 75%. But from the crosstabulation alone, it's impossible to tell whether these differences in IT training of banks in terms of time is real or due to chance variation. To confirm the significance of variation the researchers have done the Chi-square test as follows.

Here we used to test the significance of the influence of the factor automated financial reporting of banks over the factor time considering influencing factor as training received on the relevant field by concerned officials. From the Table 10, it is clear that with the significant value of 0.06 (0.12 -for the two-tailed test) at a 5% level of significance, the hypothesis is accepted and it is concluded that there is a relationship/association between the training on IT in Bank and time but not significant with d.f -9. Moreover, we can check the association or relationship between variables from Pearson's R and Spearman's Rank correlation. Here we see that our interest in variables is positively correlated.

In the cross-tabulation from Table 11, most of the responses occurred in Agree and Strongly agree with level subject to training 'yes' which is approx.75%. But from the crosstabulation alone, it's impossible to tell whether these differences in IT training of banks in terms of risk are real or due to chance variation. To confirm the significance of variation we are using the Chi-square test as follows.

An important influencing element in this study was training acquired by concerned authorities in a relevant subject. Table 12 shows that the hypothesis is accepted with a significant value of 0.15 (0.30 for two-tailed tests) at a 5% level of significance and that there is a link between IT training in banks and risk at d.f -12. From Pearson's R and Spearman's Rank correlation, we see that our interest in variables is positively correlated. In the cross-tabulation (Table 13) most of the responses occurred in Agree and Strongly agree to level subject to training 'yes' which is approx 74%. But from the crosstabulation alone, it's impossible to tell whether these differences in IT training of banks in terms of Efficiency are real or due to chance variation. To confirm the significance of variation we are using the Chi-square test as follows.

Here, the factor automated financial reporting of banks over the factor efficiency considering influencing factor as training received on the relevant field by concerned officials. From Table 14, it is clear that with the significant value of 0.045 (0.09 -for the two-tailed test) at a 5% level of significance, the null hypothesis is rejected and it is concluded that there is a significant relationship/association between the IT training and efficiency with d.f-12. From Pearson's R and Spearman's Rank correlation, we see that our interest in variables is positively correlated.

Table 1: Scale of reliability test

Cronbach's alpha	Internal consistency
$0.9 \le \alpha$	Excellent
$0.8 \le \alpha < 0.9$	Good
$0.7 \le \alpha < 0.8$	Acceptable
$0.6 \le \alpha < 0.7$	Questionable
$0.5 \le \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Table 2: Reliability statistics

Cronbach's alpha	Cronbach's alpha is based on standardized items	N of items
0.888	0.875	38

Table 3: ANOVA with Cochran's test

		Sum of squares	Df	Mean square	Cochran's Q	Sig
Between People		375.772	97.000	3.874		
Within People	Between Items	9590.779	37.000	259.210	3120.559	0.000
	Residual	1553.432	3589.000	0.433		
	Total	11144.211	3626.000	3.073		
Total		11519.983	3723.000	3.094		

Table 4: KMO and bartlett's test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.819
Bartlett's Test of Sphericity	Approx. Chi-square	452.858
	Df	78.000
	Sig.	0.000

a. Only cases for which existing IT system is standard w.r.t IT training = Strongly agree are used in the analysis phase

Table 5: Extraction method: Principal component analysis

Component	Initial eigenvalues		
	Total	% of Variance	Cumulative %
1	8.958	68.906	68.906
2	1.102	8.478	77.384
3	0.767	5.904	83.288
4	0.252	1.937	95.789

Table 6: Component score coefficient matrix

	Component				
	1	2	3	4	5
Money	0.088	0.067	-0.556	0.035	-0.578
Time	0.097	0.136	-0.451	0.145	-0.129
Risk	0.089	0.313	0.031	0.489	0.490
Efficiency	0.101	-0.273	-0.037	0.139	-0.212

a. Only cases for which existing IT system is standard w.r.t IT training = Strongly agree are used in the analysis phase

Table 7: Chi-square tests

Training		Value	Df	Asymp. Sig. (2-sided)
No	Pearson Chi-square	10.544[a]	12	0.568
	Likelihood ratio	12.413	12	0.413
	Linear-by-linear association	2.158	1	0.142
	N of valid cases	26.000		
Yes	Pearson Chi-square	15.831[b]	9	0.070
	Likelihood ratio	11.364	9	0.252
	Linear-by-linear association	7.994	1	0.005
	N of valid cases	74.000		

a. 19 cells (95.0%) have expected count less than 5. The minimum expected count is 0.12
b. 12 cells (75.0%) have expected count less than 5. The minimum expected count is 0.11

Table 8: Symmetric measures

Training			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
No	Interval by Interval	Pearson's R	-0.294	0.153	-1.506	0.145[c]
	Ordinal by Ordinal	Spearman Correlation	-0.351	0.197	-1.834	0.079[c]
	N of Valid Cases	26				
Yes	Interval by Interval	Pearson's R	0.331	0.129	2.976	0.004[c]
	Ordinal by Ordinal	Spearman Correlation	0.297	0.107	2.640	0.010[c]
	N of Valid Cases	74				

a. Not assuming the null hypothesis
b. Using the asymptotic standard error assuming the null hypothesis
c. Based on normal approximation

Table 9: Chi-square tests

Training		Value	Df	Asymp. Sig. (2-sided)
No	Pearson Chi-square	13.251[a]	12	0.351
	Likelihood Ratio	13.402	12	0.341
	Linear-by-Linear Association	2.128	1	0.145
	N of Valid Cases	26.000		
Yes	Pearson Chi-square	13.905[b]	9	0.126
	Likelihood Ratio	10.896	9	0.283
	Linear-by-Linear Association	5.798	1	0.016
	N of Valid Cases	74.000		

a. 19 cells (95.0%) have expected count less than 5. The minimum expected count is 0.12
b. 11 cells (68.8%) have expected count less than 5. The minimum expected count is 0.05

Table 10: Symmetric measures

Training			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
No	Interval by Interval	Pearson's R	-0.292	0.150	-1.494	0.148[c]
	Ordinal by Ordinal	Spearman Correlation	-0.276	0.198	-1.404	0.173[c]
	N of Valid Cases	26				
Yes	Interval by Interval	Pearson's R	0.282	0.133	2.492	0.015[c]
	Ordinal by Ordinal	Spearman Correlation	0.273	0.100	2.403	0.019[c]
	N of Valid Cases	74				

a. Not assuming the null hypothesis
b. Using the asymptotic standard error assuming the null hypothesis
c. Based on normal approximation

Table 11: Chi-square tests

Training		Value	df	Asymp. Sig. (2-sided)
No	Pearson Chi-square	8.830[a]	12	0.717
	Likelihood ratio	9.647	12	0.647
	Linear-by-linear association	0.370	1	0.543
	N of valid cases	26.000		
Yes	Pearson Chi-square	13.868[b]	12	0.309
	Likelihood ratio	10.500	12	0.572
	Linear-by-linear association	3.335	1	0.068
	N of valid cases	74.000		

a. 20 cells (100.0%) have expected count less than 5. The minimum expected count is 0.23
b. 15 cells (75.0%) have expected count less than 5. The minimum expected count is 0.11

Table 12: Symmetric measures

Training			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
No	Interval by Interval	Pearson's R	-0.122	0.206	-0.600	0.554[c]
	Ordinal by Ordinal	Spearman Correlation	-0.132	0.213	-0.651	0.521[c]
	N of Valid Cases	26				
Yes	Interval by Interval	Pearson's R	0.214	0.130	1.856	0.067[c]
	Ordinal by Ordinal	Spearman Correlation	0.193	0.110	1.666	0.100[c]
	N of Valid Cases	74				

a. Not assuming the null hypothesis
b. Using the asymptotic standard error assuming the null hypothesis
c. Based on normal approximation

Table 13: Chi-square tests

Training		Value	Df	Asymp. Sig. (2-sided)
No	Pearson Chi-square	11.830[a]	12	0.459
	Likelihood Ratio	15.244	12	0.228
	Linear-by-Linear Association	0.535	1	0.464
	N of Valid Cases	26		
Yes	Pearson Chi-square	18.870[b]	12	0.092
	Likelihood Ratio	11.640	12	0.475
	Linear-by-Linear Association	5.684	1	0.017
	N of Valid Cases	74		

Table 14: Symmetric measures

Training			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
No	Interval by Interval	Pearson's R	-0.146	0.233	-.725	0.476[c]
	Ordinal by Ordinal	Spearman Correlation	-0.333	0.214	-1.732	0.096[c]
	N of Valid Cases	26				
Yes	Interval by Interval	Pearson's R	0.279	0.130	2.466	0.016[c]
	Ordinal by Ordinal	Spearman Correlation	0.223	0.112	1.937	0.057[c]
	N of Valid Cases	74				

Conclusion

A highly effective means of fostering innovation across all departments and at all levels to position an organization for long-term success is 'information technology training'. It encompasses both enhancing the creative potential of individuals and developing their understanding of the organization's innovation practices. When an organization innovates its processes, it saves time, money, and other resources, giving it a competitive edge over its competitors. It also helps to stimulate staff engagement, increase retention and reinforce the objectives of the organization.

Increasing employee training options will boost motivation. This study also recognizes staff development through effective training programs as a fundamental human resource function in the banking business. These plans are in charge of improving the bank's personnel performance through capacity building. Employees who are developing have the abilities and knowledge required to accomplish their responsibilities. Their satisfaction will boost the bank's production and profitability. Effective training and development programs improve employees' technical abilities. This equips them to handle the task assigned to them. This reduces errors and avoidable blunders in the work. This project's information helps bridge the gap between present and projected employee performance.

Additional research on this topic can be undertaken in the future with a bigger sample size on various types of banks, including state-owned commercial banks, private conventional banks, specialized banks, and foreign commercial banks. There is also plenty of scopes to determine the generalizability of the findings beyond the targeted area. Independent studies can be conducted on the influence of long and short-term technology innovation training on staff engagement and productivity.

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Author's Contributions

Md. Shahnur Azad Chowdhury: Conceived and designed the experiments and performed the analysis.

Md. Shariful Haque: Designed the conceptual framework as well as taken care of English command. Revised the abstract and introduction as paper review comments.

Nazneen Jahan Chaudhury: Contributed to analysis and prepared the tables and figures.

Serajul Islam: Contributed to developing the literature to support the hypotheses.

Md. Rizwan Hassan: Contributed to conclude and developed policy implications.

Syed Mohammad Hasib Ahsan: Contributed to checking the overall draft and added compliments where necessary.

Ethics

This is an original research paper and no part of this article is published elsewhere. Each of the co-authors contributed significantly to the paper.

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Appendix:

Table 1 (appendix): Use of IT in bank * money * training

Training	Money	Total	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
No	Use of IT in Bank	Disagree	0	0	1	1	2	4
		Neutral	0	0	0	0	3	3
		Agree	0	0	0	1	7	8
		Strongly agree	2	1	1	3	4	11
		Total	2	1	2	5	16	26
Yes	Use of IT in Bank	Disagree	1		0	2	1	4
		Neutral	0		1	4	3	8
		Agree	1		1	20	19	41
		Strongly agree	0		0	6	15	21
		Total	2		2	32	38	74

Table 2 (Appendix): Automated financial reporting of banks * efficiency * training

Training	Efficiency	Total	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
No	Use of IT in Bank	Disagree	1	1	0	0	2	4
		Neutral	0	0	0	1	2	3
		Agree	0	0	0	2	6	8
		Strongly agree	3	1	1	4	2	11
		Total	4	2	1	7	12	26
Yes	Use of IT in Bank	Disagree	1	0	0	2	1	4
		Neutral	0	0	1	4	3	8
		Agree	1	1	0	19	20	41
		Strongly agree	0	0	0	8	13	21
		Total	2	1	1	33	37	74

Table 3 (Appendix): Use of IT in banks * risk * training

Training	Risk	Total	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
No	Use of IT in Bank	Disagree	0	1	1	1	1	4
		Neutral	0	0	0	1	2	3
		Agree	0	0	1	5	2	8
		Strongly agree	2	1	1	4	3	11
		Total	2	2	3	11	8	26
Yes	Use of IT in Bank	Disagree	1	0	1	1	1	4
		Neutral	0	0	1	6	1	8
		Agree	1	2	6	17	15	41
		Strongly agree	0	1	2	8	10	21
		Total	2	3	10	32	27	74

Table 4 (Appendix): Use of IT in bank * time * training

Training	Time	Total	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
No	Use of IT in Bank	Disagree	0	0	1	1	2	4
		Neutral	0	0	0	0	3	3
		Agree	0	0	0	2	6	8
		Strongly agree	3	1	0	2	5	11
		Total	3	1	1	5	16	26
Yes	Use of IT in Bank	Disagree	1	0		1	2	4
		Neutral	0	0		3	5	8
		Agree	1	1		13	26	41
		Strongly agree	0	0		2	19	21
		Total	2	1		19	52	74