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CAN THE SYSTEM, INFORMATION, AND SERVICE QUALITIES IMPACT EMPLOYEE LEARNING, ADAPTABILITY, AND JOB SATISFACTION?

Abstract

The quality dimensions of an information system, such as system, information, and service qualities, play a crucial role in determining the overall performance of an organization. These quality dimensions are significant as they can impact employee outcomes, which are key factors in determining whether an organization is able to achieve a competitive advantage in the market. The aim of this study is to explore the impact of quality dimensions on employee outcomes such as learning ability, adaptability, and job satisfaction. The research was conducted by distributing a structured survey questionnaire to 300 employees of 8 commercial banks at different management levels. The measurement and structural models were analyzed using Smart PLS. This study employed descriptive analysis to present a comprehensive demographic profile of both the organizations and the participants. Out of the nine hypotheses tested, seven were found to be significant. The findings of this study show that while all three quality dimensions (system, information, and service) of information systems positively affect employee learning, only system and information qualities positively affect employee learning, and as for job satisfaction, only system and service qualities play an important role. Therefore, implementing suitable information systems to improve employee outcomes in an organization, especially a financial organization, is paramount in this information age. This research contributes to understanding information systems, their implementation, and employee outcomes in an organization.

1. INTRODUCTION

In order to facilitate the execution of business processes and achieve goals, an organization employs different types of information systems. Effectiveness and efficiency are essential for smoothly functioning an organization's business processes. Organizations, therefore, started to apply information systems and technology toward that end. In the DeLone & McLean (2003) information systems success model, the authors have outlined three quality dimensions: system quality, information quality, and service quality that broadly characterize the information system measures. The authors provided multi-dimensional and interrelated tools to measure the success of information systems. One aspect is the effectiveness or impact the information has on the recipient. Another dimension is the semantic dimension,

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which evaluates the success of conveying the intended meaning. The information quality construct assesses semantic success, and the system quality construct assesses technical success (Rad et al., 2018).

DeLone and McLean (2003) defined system quality as focusing on the desired features of the system itself, including reliability, flexibility, response times, and user-friendliness as metrics. Information system shows the system's capability to perform the required tasks efficiently and effectively. DeLone and McLean (2003) defined information quality as the attributes of the information system outputs, including relevance, clarity, accuracy, complexity, currency, timeliness, and usefulness. Service Quality (SerQ), a tool created in the field of marketing, assesses the support staff's responsiveness, proficiency, empathy, and dependability.

Those three quality dimensions of an Information system can profoundly impact an organization in improving employee learning, adaptability, and job satisfaction. Information systems allow an organization to constantly grow and change in response to the market and technology. They cause the employees to become more flexible, enhancing their job satisfaction. Knowledge, one of the most valuable intangible assets, is essential to completing any task successfully. Employees are encouraged and rewarded in a learning organization for acquiring, creating, and sharing knowledge with others. Employee learning refers to the ongoing process of acquiring knowledge and skills while performing job tasks and responsibilities (Yoopetch et al., 2021). When employees interact, they should embrace change, adapt to change, and be prepared to acknowledge change (Zamir, 2019). In a constantly changing environment due to advancements in technology and shifting market demands, employees who have a flexible mindset and a desire to learn will have better opportunities to grow. Therefore, job satisfaction is crucial for organizational success. Implementing new technology will be successful only if employees have a learning mindset. Furthermore, organizations sometimes require employees to acquire new knowledge to adapt to changes, and a desire to learn can make this possible. When employees seek to expand their knowledge, it leads to job satisfaction and reduces turnover rates (Zamir, 2019). Learning and adaptability keep employees motivated and committed to their jobs. Information systems can enhance job satisfaction by increasing knowledge, market value, and job performance.

The aim of this study is to examine the effect of the three quality dimensions in the updated DeLone and McLean (2003) IS success model (system quality, information quality, and service quality) on employee outcomes such as learning, adaptability, and job satisfaction. The banking industry was chosen for this investigation due to its significance and because it is a significant player in information systems investments (Al-Hattami, 2021). Banks understand the importance of information systems for their growth and survival. May et al. (2013) identified four advantages of successful information systems implementation in organizations: reducing costs, improving products and services, enhancing organizational-client relationships, and realizing the systems' intended benefits. Thus, this study aims to address the following questions:

1. Can an organization's quality dimensions (system, information, and service) impact employee learning?
2. Can an organization's quality dimensions (system, information, and service) impact employee adaptability?
3. Can an organization's quality dimensions (system, information, and service) impact employee job satisfaction?

2. CONCEPTUAL MODEL: THEORETICAL BACKGROUND AND HYPOTHESES

Information systems are critical to addressing many of the challenges faced by businesses (Bokhari, 2015). As a leading technology, they are increasingly necessary to overcome obstacles and meet the demands of modern enterprises (Al-Frijat, 2014). Saarinen (1996) emphasizes the importance of information systems for success, and success can be defined as the degree to which the system contributes to meeting organizational goals and impacting organizational performance (Thong et al., 1996).

System Quality of an information system, as defined by Al-Mamary et al. (2014), is a measure of the information processed by the system. System quality, as stated by Gan and Balakrishnan (2017), also refers to the characteristics of the whole system, such as response time, completeness of functionalities, availability and reliability of the system, ability to handle a large number of user requests in a timely manner, minimal interruptions or bottlenecks, and robust security measures in place to prevent security risks. As Petter et al. (2008) stated, system quality is a desirable characteristic of an information system that involves ease of use, flexibility, reliability, ease of learning, intuitiveness, sophistication, and response time. Gorla et al. (2010) defined system quality as the quality of information system processing, which includes software and data components. It measures the extent to which the system is technically sound. When it comes to information system usage, perceived ease of use can be considered a method for improving an individual's performance. Information systems not only facilitate doing tasks but also significantly affects economic growth and productivity (Graham & Nikolova, 2013). Therefore, system quality is considered an important motivating factor for people to use their systems and derive any benefits essential for organizations to gain a return on their investment (Rai et al., 2002; Guimaraes et al., 2017). According to Mirazee and Ghaffari (2018), system quality refers to the ease, speed, multi-purposeness, and efficacy of information recovery and knowledge transfer.

Employee learning, as defined by Yoopetch et al. (2021), is a continuous process that takes place while employees are performing their tasks and responsibilities in their job descriptions and beyond. It can happen through everyday work activities or through more formal, externally led competence development programs. A supportive learning environment that allows for a combination of both forms of learning can enhance the development of knowledgeable practice. Organizations that encourage employees to acquire, create, and share knowledge among themselves are known as learning organizations. The knowledge an employee possesses is critical for building their core competencies and achieving their goals. In the service industry, an employee's knowledge is especially important since it is related to the company's customers, products, services, operational procedures, competitors, and colleagues, as noted by Kim et al. (2009). This study hypothesizes that:

H1: System quality (SQ) positively affects employee learning.

Employee adaptability is a key quality for today's workers in a dynamic work context (Jundt et al., 2014). Organizations increasingly face pressure to change and innovate due to economic instability, global competition, and technological advances (Baard et al., 2014). Researchers have recently begun to address this issue, realizing the growing importance of employee adaptability to changing work contexts. Theoretical and empirical evidence suggests that employee adaptability is an underlying tendency toward change based on cognitive, affective, and behavioral resources. However, these different aspects of adaptability should not be considered separate qualities but instead intrinsically interconnected with

reciprocal relationships. For example, an employee who is open to change (cognitive aspect) will be less afraid of change (affective aspect) and inclined to participate in the change (behavioral aspect): Conversely, an employee who is more anxious toward change (affective aspect) will be less open to change (cognitive aspect) and more inclined to avoid a change (behavioral aspect). Employee performance is classified as an indicator that measures how successful or unsuccessful an employee is at the workplace. Therefore, adaptive performance is a necessary construct that is used to measure adaptability in the workplace (Charbonnier-Voirin & Roussel, 2012). Additionally, research into the concept of employee adaptability has revealed that the specific aspects of adaptability can vary based on the role and responsibilities of a job (Charbonnier-Voirin & Roussel, 2012). As a result, it was hypothesized in this study that:

H2: System quality (SQ) positively affects employee adaptability.

Job satisfaction, on the other hand, is defined as "the extent of positive emotional response to the job resulting from an employee's appraisal of the job as fulfilling or congruent with the individual's values" (Dicke et al., 2019). Job satisfaction captures an individual's overall evaluation of their perceptions and experiences relative to job fulfillment at the workplace (Cho & Park, 2021). Past research in the IS field suggested that job satisfaction is essential for employees using IS in terms of the desired results (Bala & Bhagwatwar, 2018). Therefore, the third hypothesis of this study is:

H3: System quality (SQ) positively affects job satisfaction.

As for the second quality dimension of information systems, as outlined by DeLone and McLean (2003), Huh et al. (1990) defined information quality as accuracy, completeness, consistency, and currency. Accuracy is an agreement with an attribute about a real-world entity, a value stored in another database, or an arithmetic computation result. Completeness is defined with respect to some specific application and refers to whether all of the data relevant to that application are present. Finally, consistency is an absence of conflict between two datasets, and currency refers to up-to-date information. Jiang et al. (2021) defined information quality as users' subjective judgment of whether the information characteristics meet their needs and intended use. Wang et al. (1995) measured information quality in terms of accessibility, usefulness, comprehensibility, and credibility. They proposed a framework to depict information quality according to four factors, including intrinsic, accessible, contextual, and expressive, each consisting of various dimensions of information characteristics. Cheung et al., (2009) identified the dimensions of relativities, timeliness, correctness, and comprehensiveness as the key measures of information quality. Information quality refers to the traits of the outputs generated by a system in regards to various aspects such as relevance, understandability, accuracy, conciseness, completeness, currency, timeliness, and usability (Petter et al. ,2008). This study will delve deeper into the examination of information quality in terms of its impact on employee outcomes. The focus of the research will be on how the quality of information, in terms of its relevance, understandability, accuracy, complexity, currency, timeliness, and usability, affects the learning, adaptability, and job satisfaction of employees. Therefore, this study is going to test the following hypotheses:

H4: Information quality (IQ) positively affects employee learning.

H5: Information quality (IQ) positively affects employee adaptability.

H6: Information quality (IQ) positively affects job satisfaction.

The information system department acts as a service unit for various users in the organization, and organizational sources depend on how well the IS services are delivered (Gorla et al., 2010). The primary use of SERVQUAL, as stated by Pitt et al. (1995), as modified for IS service quality, has typically been related to the delivery of information services by IS department. This is because IS services delivered on time and have an error-free performance by the IS unit will result in timely and efficient decision-making, leading to better internal organizational efficiency. According to Petter et al. (2008), service quality is the quality of service or support the IS department provides across all its services regarding responsiveness, accuracy, reliability, and empathy of the support staff system users receive. A knowledgeable IS specialist is paramount to aligning better IS services with organizational goals. Support staff who can maintain good communication through courteous interactions with business units, have users' best interests at heart and understand the users' needs could increase profitability and better anticipate customer demands (Gorla et al., 2010). Grant (1989), Reicheld and Sasser (1990) also found in their studies that delivering quality service is a prerequisite for business success that leads to customer loyalty, higher profitability, lower cost, and higher revenues. Al-Hattami (2021) conducted a review of various literature pieces, which revealed that the relationship between service quality and user satisfaction as well as system usage can vary depending on the context in which it is being evaluated. Some studies found that service quality has a positive impact on both user satisfaction and system usage in various fields such as virtual learning, knowledge management and hospital information systems. However, there are other studies that have shown that service quality doesn't have an impact on user satisfaction and system usage. In some cases, the effect was found to be mixed and inconclusive. In light of this analysis, this study will examine the significance of the following hypotheses:

H7: Service quality (SeQ) positively affects employee learning.

H8: Service quality (SeQ) positively affects employee adaptability.

H9: Service quality (SeQ) positively affects job satisfaction.

The conceptual model is derived based on DeLone and McLean's (2003) information system success model and Zamir's (2019) work on the effect of knowledge sharing and knowledge capture on employee outcomes. As Figure 1 shows, the system, information, and service qualities are the exogenous variables that might influence employee learning, adaptability, and job satisfaction.

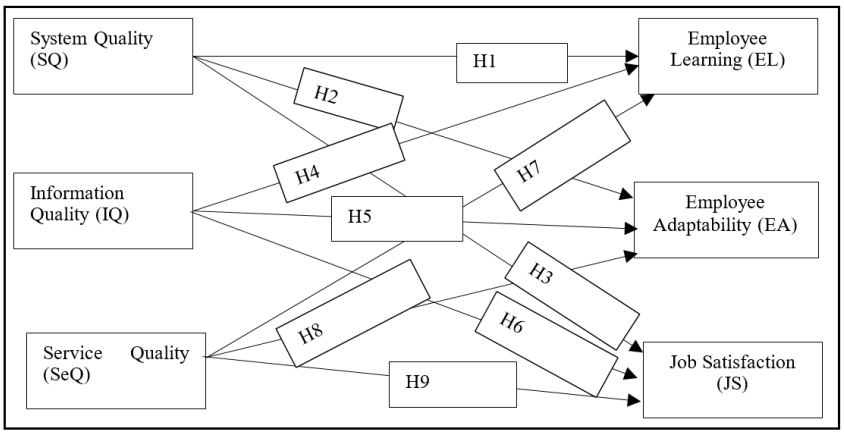


Fig. 1. Conceptual Model

3. RESEARCH METHOD

3.1 Data Collection

A survey was conducted to gather data to test hypotheses. Paper-based questionnaires were distributed along with a cover letter among 300 employees. Employees are from eight different commercial banks located in Dhaka, Bangladesh. Employees are from all three management levels: operational management, middle management, and top management levels. The total number of survey respondents was 254, resulting in an impressive response rate of nearly 85 percent. The survey participants were asked to express their agreement or disagreement with a series of statements regarding various constructs such as System quality, Information quality, Service quality, Employee learning, Employee adaptability and Job satisfaction. A 5-point Likert scale was employed to measure the respondents' opinions. In order to ensure impartial responses and accurately reflect the respondents' attitudes towards the constructs, the anonymity of the survey participants was strictly preserved throughout the questionnaire survey process.

The reason for selecting the banking industry for this research is because, in the modern banking era, the adoption of technology, especially advanced technology systems, is essential to reach out to customers and retain customers. The fast-growing penetration of broadband and mobile internet growth has opened a reliable channel for banks to provide banking services for a larger market (Jaafreh, 2017). With the rapid growth in mobile and internet banking, the skill set of growing demand is a combination of financial knowledge and the technical expertise to cope with technological advancement (Jaafreh, 2017). According to Etim (2011), the ability of a manager to effectively and efficiently utilize their resources is contingent on the effectiveness of Information Systems (IS) within the organization. Klovienė and Gimzauskiene (2015) stated that the successful utilization of IS can serve as the foundation for sound decision-making within banks. The study conducted by Sekyere et al. (2017) aimed to evaluate the advantages of IS in banks, and they concluded that IS reduces the occurrence of errors and duplications, while ensuring the timeliness, reliability, and accuracy of financial reporting.

Among the survey respondents, 75 percent were male, and 25 percent were female. The respondents were all well-educated, with all having completed a college degree. The respondents' average age and organizational tenures were 38 and 4.1 years, respectively. Table 1 exhibits the descriptive statistics for the respondents. The participants of the survey came from a diverse range of management levels, with the largest proportion being from the middle management level, accounting for 49.5% of all respondents. The second largest group consisted of support staff, representing 35% of the total. Technical staff made up 12.5% of the surveyed individuals, while senior management staff constituted a small percentage of only 3%.

Tab. 1. Demographic Characteristics of the Sample

Variables	Frequency/Percentage
Gender (Male)	190 (74.8%)
Gender (Female)	64(25.2%)
Age:	
<=30	52 (20.5%)
31–40	169 (66.5%)
41–50	29 (11.4%)
>50	4 (1.6%)
Management Level:	
Senior Management	8 (3.2%)
Middle Management	126 (49.6%)
Technical Staff	31 (12.2%)
Support Staff	89 (35%)
Work Experience (Years):	
0–1	44 (17.3%)
2–3	99 (39%)
4–6	57 (22.5%)
>=7	54 (21.2%)

3.2. Validity and Reliability of the Conceptual Model

Specific statistical tests and analyses have been carried out. The collected data was fed into the SmartPLS software to perform statistical analysis to investigate the hypotheses derived from the conceptual model.

Measurement of the various items of the constructs was tested to ascertain the validity and reliability of the proposed conceptual model. The convergent validity was assessed with three criteria: The factor loading meets the recommendation of 0.5 and above (Hair et al., 2010), while loadings below the recommended values were eliminated from further analysis (Table 2).

Also, the composite reliability for all the constructs exceeds 0.70, and the average variance extracted (AVE) for the constructs surpasses the recommended cut-off of 0.50 (Hair et al., 2010). Cronbach's alpha is regarded as a conventional method of checking the reliability of the questionnaire. Therefore, Cronbach's alpha for each dimension should be greater than 0.7(Hair et al., 2010).

Tab. 2. Cross Loading

Indicators*	EA	EL	IQ	JS	SeQ	SQ
EA1	0.768	0	0	0	0	0
EA2	0.709	0	0	0	0	0
EA3	0.684	0	0	0	0	0
EA4	0.813	0	0	0	0	0
EA5	0.705	0	0	0	0	0
EL1	0	0.795	0	0	0	0
EL2	0	0.832	0	0	0	0
EL3	0	0.833	0	0	0	0
IQ1	0	0	0.861	0	0	0
IQ2	0	0	0.922	0	0	0
IQ3	0	0	0.892	0	0	0
JS1	0	0	0	0.781	0	0
JS2	0	0	0	0.825	0	0
JS4	0	0	0	0.793	0	0
JS5	0	0	0	0.872	0	0
SQ1	0	0	0	0	0	0.798
SQ2	0	0	0	0	0	0.887
SQ3	0	0	0	0	0	0.926
SQ4	0	0	0	0	0	0.872
SeQ1	0	0	0	0	0.877	0
SeQ2	0	0	0	0	0.913	0
SeQ3	0	0	0	0	0.818	0

* *EA = Employee Adaptability, EL = Employee Learning, IQ = Information Quality, JS = Job Satisfaction, SeQ = Service Quality, SQ = System Quality*

Tab. 3. Validity and Reliability of the Proposed Model

Constructs	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Employee Adaptability	0.801	0.856	0.544
Employee Learning	0.758	0.861	0.673
Information Quality	0.871	0.921	0.795
Job Satisfaction	0.836	0.89	0.67
Service Quality	0.838	0.903	0.757
System Quality	0.894	0.927	0.76

In this research, the results of measuring the Cronbach's alpha for various variables are reported as follows: For the dependent variables, the Cronbach's alpha was recorded as 0.758 for Employee Learning, 0.801 for Employee Adaptability, and 0.836 for Job Satisfaction. As for the independent variables, the Cronbach's alpha was 0.894 for System Quality, 0.871 for Information Quality, and 0.838 for Service Quality.

Table 3 of the current study shows that the minimum value for composite reliability was recorded as 0.856, with the average variance extracted (AVE) for each latent construct being 0.544. The maximum value for composite reliability was 0.927, and the AVE was recorded

as 0.795. Based on these findings, it can be concluded that the AVE of the constructs is well above the minimum cut-off value of 0.50, with the composite reliability of the constructs exceeding the cut-off value of 0.70 (as depicted in Table 3).

Tab.4. Discriminant Validity of the Proposed Model

	EA	EL	IQ	JS	SeQ	SQ
EA	**0.737**					
EL	0.529	**0.82**				
IQ	0.364	0.424	**0.892**			
JS	0.584	0.528	0.45	**0.818**		
SeQ	0.304	0.349	0.526	0.502	**0.87**	
SQ	0.363	0.41	0.682	0.559	0.542	**0.872**

[*] *EA = Employee Adaptability, EL = Employee Learning, IQ = Information Quality, JS = Job Satisfaction, SeQ = Service Quality, SQ = System Quality*

The results of the square root of AVE on the PLS algorithm (Table 4) for each construct were found to be above 0.70 and larger than the correlation of that construct with other constructs. The values highlighted in bold in Table 4 represent the square root of the Average Variance Extracted (AVE) for each construct. There is a commonly accepted rule of thumb that the square root of the AVE for each construct should be significantly larger than the correlation of that construct with any other constructs in the model, as stated in (Grefen & Straub, 2005).Based on this principle, it can be safely inferred that the square roots of AVE for the latent constructs are significantly larger than any correlations of that construct with any other constructs in the model, thereby indicating the necessary aspect of discriminant validity of the latent constructs. Therefore, the results of the tests and procedures conducted in this study demonstrate that the proposed model is acceptable, as it displays a high level of validity and reliability in the measurement model.

3.3. Structural Assessment Model

To examine the presence of multicollinearity in the constructs, the variance inflation factor or VIF test was also conducted. The recommended VIF threshold is 3.3 (Cenfeteli & Basselier, 2009), i.e., a value greater than the threshold indicates collinearity. The results in Table 5 show that 20 of 22 indicators are less than the recommended threshold and imply that results are free from lateral multicollinearity.

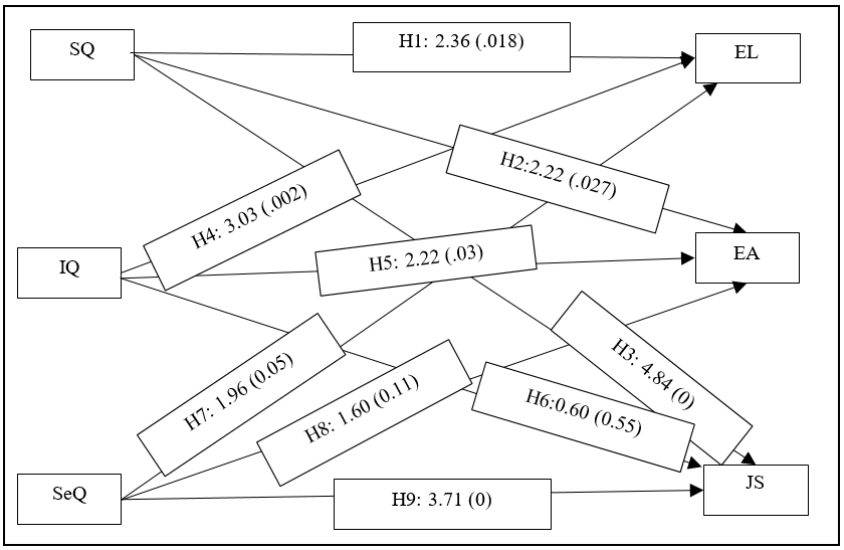
Tab. 5. Collinearity Statistics (VIF)

Indicators	VIF
EA1	1.938
EA2	1.841
EA3	1.543
EA4	1.792
EA5	1.215
EL1	1.443
EL2	1.71
EL3	1.532
IQ1	1.943
IQ2	2.983
IQ3	2.612
JS1	1.726
JS2	1.934
JS4	1.751
JS5	2.157
SQ1	1.835
SQ2	3.537
SQ3	4.507
SQ4	2.353
SeQ1	2.252
SeQ2	2.59
SeQ3	1.668

3.4. Hypothesis Testing

In order to test the posited hypothesis and examine the relationship between independent and dependent variables, a structural equation model was used.

The results of the hypothesis testing have been depicted in Figure 2. It is worth mentioning that the confidence interval level used in this study is 95%. Based on this, a t-value of 1.96 which corresponds to the limit-bound threshold was calculated, and a p-value of less than 0.05 was obtained. The following hypotheses are found to be significant in this study.



[*] *β value and T value (β value within the parenthesis and t value is outside the parentheses), EA= Employee Adaptability, EL= Employee Learning, IQ= Information Quality, JS = Job Satisfaction, SeQ = Service Quality, SQ = System Quality*

Fig 2. Path coefficient of the proposed model*

Tab. 6. Significant Hypotheses

Hypotheses		Significant
System Quality → Employee Learning	*H1*	Yes
System Quality → Employee Adaptability	*H2*	Yes
System Quality → Job Satisfaction	*H3*	Yes
Information Quality → Employee Learning	*H4*	Yes
Information Quality → Employee Adaptability	*H5*	Yes
Service Quality → Employee Learning	*H7*	Yes
Service Quality → Job Satisfaction	*H9*	Yes

The following 2 hypotheses are found to be not significant in this study.

Tab. 7. Insignificant Hypotheses

Hypotheses		Significant
Information Quality → Job Satisfaction	*H6*	No
Service Quality → Employee Adaptability	*H8*	No

4. DISCUSSION

As shown in Figure 2 and table 6, all the quality dimensions (system, information, and service) are found to positively affect employee learning (*H1*, *H4*, and *H7*). Therefore, organizations can create learning opportunities for employees and make learning more innovative by implementing the appropriate information systems with sound systems, information, and service qualities. This study investigates the impact of the learning environment and external competence development programs on the development of knowledgeable practice and employee adaptability. The results suggest that when the learning environment is conducive and enables a blending of formal learning activities and learning through everyday work experiences, external competence development programs can contribute to the growth of knowledgeable practice, as reported in reference (Evans, 2015). In terms of employee adaptability, the findings indicate that both system quality and information quality have a significant and positive impact on it (as supported by *H2* and *H5*), while service quality does not (as per *H8*). Once employees cultivate a desire to learn new things, they start adapting to their new knowledge. The system quality, encompassing aspects such as ease of use, system flexibility, system reliability, and ease of learning, and information quality, in terms of relevance, understandability, accuracy, complexity, currency, timeliness, and usability of the system, can further foster employee adaptability. These results support the notion that system quality and information quality are strong predictors of employee adaptability, but service quality is not.

However, this research finds that service quality positively affects employee learning or directly plays an important role in employee learning but not adaptability. As for job satisfaction, only system and service qualities seem to significantly impact or positively affect job satisfaction, not information quality. Even though there have been many studies on employees' job satisfaction in general, the relationship between quality dimensions of information systems and job satisfaction has not been heavily discussed in the literature. A priori quality dimensions in terms of system, information, and service could facilitate employee learning, cause employees to become more flexible, and enhance their job satisfaction. However, the finding of this research is surprising as it shows there is no direct impact of information quality on job satisfaction. As stated by Zamir [4], job satisfaction is the contentment employees feel about their work, which can affect performance, and this feeling is mainly based on an individual's perception of satisfaction. Employees who are not content with their job might increase the company's average cost of lost productivity, thereby reducing profit.

5. IMPLICATION OF THE STUDY

The findings of this study have several significant implications for the understanding of the role of quality dimensions of information systems in impacting employee outcomes. This study sheds light on the role of quality dimensions of information systems in the context of employee outcomes, which is a crucial topic in today's business environment. The acquisition of knowledge about business processes and the organization, along with the ability and willingness to embrace change, are vital attributes that can help organizations gain a competitive edge. In this regard, the quality dimensions of information systems play a critical role.

As a result, the information system of an organization is a crucial factor in determining its success. The purpose of this study was to explore the perceptions of employees in financial institutions and how the quality dimensions of information systems can improve learning, adaptability, and job satisfaction. The findings of this study can assist managers in conceptualizing and implementing the information system as a support mechanism for employees.

Additionally, the results suggest that a proper emphasis on the quality dimensions of an information system in a business organization can significantly alter employees' attitudes and perceptions, which can have a positive impact on the organization as a whole. This highlights the importance of focusing on the quality dimensions of information systems in ensuring the success and competitiveness of an organization.

6. LIMITATIONS AND FUTURE RESEARCH

This study, like any other research, is not without limitations. Firstly, the data collected for this study is confined to the capital city of Bangladesh and only eight commercial banks were taken into consideration, thus limiting the generalizability of the results to other countries and industries.

Secondly, the sample size of this study was relatively small, as only 300 questionnaires were distributed, and 254 were returned with complete answers. This small sample size may have affected the robustness and reliability of the results.

Finally, the study only captures the perceptions of the respondents, which may or may not accurately reflect actual practices, and there is a possibility of respondents' answers being influenced by bias. These limitations must be taken into consideration in any future studies. It is important to note that the findings of this study should be viewed with these limitations in mind and further research is needed to fully understand the impact of quality dimensions of information systems on employee outcomes in the financial sector.

7. CONCLUSION

This study conducted a comprehensive evaluation of the impact of the quality dimensions of information systems, as outlined in DeLone and McLean's (2003) information system success model, on the outcomes of employees regarding their learning, adaptability, and job satisfaction. The aim was to understand the relationship between the quality of information systems and the various outcomes for employees in the workplace. Prior to presenting the study's findings, it is reasonable to infer that the quality dimensions of an information system, namely system, information, and service qualities, have a varying degree of influence on employee outcomes such as learning, adaptability, and job satisfaction. The findings of this study can be summarized as follows:

The first key finding of this study suggests that all three quality dimensions of information systems, namely system quality, information quality, and service quality, have a significant impact on employee learning. This highlights the importance of all three dimensions in promoting employee learning and development.

The second key finding of this study reveals that the system quality and information quality of information systems are strong predictors of employee adaptability. This implies that a well-designed and effective information system that incorporates these two dimensions can help enhance employees' ability to adapt to changes and new information.

The third key finding of this study confirms that both system quality and service quality of information systems play a crucial role in determining job satisfaction among employees. This suggests that organizations should focus on improving the quality of their information systems to promote job satisfaction among employees.

The final key finding of this study highlights the importance of researchers and practitioners focusing on utilizing information systems effectively, especially in regards to the three quality dimensions outlined in DeLone and McLean's (2003) information system success model. This can help ensure that organizations have the necessary tools and systems in place to promote employee learning, adaptability, and job satisfaction.

The culture and atmosphere within an organization that fosters learning, adaptability, and job satisfaction by utilizing various information system tools has the potential to significantly enhance the efficiency, effectiveness, and overall functioning of the organization. The implementation of information system tools that promote these positive outcomes among employees can lead to a more productive and efficient work environment, which can in turn benefit the overall performance of the organization.

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Appendix A

Instruments for measuring the impact of the system, information, and service qualities on employee learning, adaptability, and job satisfaction.

Demographics:

1. The major business function of my organization is
    a. Finance
    b. Health
    c. Legal
    d. Education
    e. Government
    f. Other _____

2. The number of persons in my organization
    a. 10 and less
    b. 11-40
    c. 41-80
    d. 81-100
    e. 100+

3. My Job rank is
    a. Senior Management
    b. Middle Management (Supervisor, Administration)
    c. Technical Staff
    d. Support Staff

4. My department or Unit is
    a. Information system
    b. Finance
    c. Human Resource Management
    d. Customer Service
    e. Administration
    f. Other _____

5. Length of time in my present position is
    a. 0-1 year
    b. 2-3 years
    c. 4-6 years
    d. 7+ years

6. My Gender is
    a. Male
    b. Female

7. I am in the age group
    a. 30 and under
    b. 31-40
    c. 41-50
    d. 50+

8. Education Level I attained is
    a. High school Graduate (HSC)
    b. Technical Training/ Vocational Diploma
    c. Undergraduate Degree
    d. Graduate Degree/Diploma
    e. Other _____

9. Number of Promotion(s) I have received in the last 3 years
    a. 0
    b. 1
    c. 2
    d. 3+

Scale:
1 – Strongly Agree 2 – Agree 3 – Neither Agree nor Disagree 4- Disagree
5– Strongly Disagree

Please Check one option for every question (Item) that best represent how you feel or perceive about that item (Question)

Employee Learning: degree of opportunity, variety, satisfaction, and encouragement for learning and development in an organization**.**

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I get various formal training programs for performance of duties provided by my organization.					
2	I receive informal individual development other than formal training such as work assignments and job rotation provided by my organization.					
3	Employees are encouraged to seek professional development (attending seminars, symposia, and so on).					
4	I consider employees' development through learning as a key to success rather than a cost to the organization.					
5	I am continuously learning and trying to improve myself.					

Employee adaptability: Degree to which employees accept change based on organizational circumstances.

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I am able to take on new tasks.					
2	I can step in for co-workers when needed.					
3	I consider myself effective in adjusting to changes.					
4	I am open to doing things in a new way.					
5	My organization encourages employees to adjust to changing situations through innovation and creativity.					

Job Satisfaction: Degree to which employees' reaction results from an appraisal of one's job situation.

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	All things considered, I feel very satisfied when I think about my job					
2	I am made to feel that I am an important part of the company.					
3	I have good working relationships with my co-workers.					
4	I enjoy working in this organization.					
5	My job is rewarding/ I get a sense of personal accomplishment from my work					

System Quality: Degree of measuring convenience of system in terms of access, functionality, reliability, response time, navigation ease etc.

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I find it easy to use my organization's web portal.					
2	I am satisfied with the speed of the web portal.					
3	I am satisfied with how quickly the web portal loads pages and images.					
4	The user interface of my organization's web portal measures up to global standard.					

Information Quality: degree of measuring accuracy, precision, currency, timeliness, sufficiency, understandability, conciseness of information.
Degree of measuring how well systems assist users in making business decisions.

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	The information on my Organization's web portal is always timely (Timeliness).					
2	The information on my Organization's web portal is always accurate (accuracy) .					
3	The information on my Organization's web portal is usually relevant (relevance).					

Service Quality: degree of providing overall support delivered by the IS department, a new organizational unit, or outsourced to an internet service provider.

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	The support staff of our organization are technically competent.					
2	The support staff of our organization are fast in attending to complaint.					
3	The support staff of our organization are very reliable.					