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# Beyond Traditional Banking: Exploring the Influence of Technology on Depositors' Decision-Making in Bank Selection

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**ABSTRACT**

**Purpose:** The banking sector is crucial for the economy, and with growing competition, banks must pinpoint factors influencing depositors' choices. This study aims to uncover how technology adoption by commercial banks plays a role in depositors' decisions.

**Methodology:** A hybrid approached is attempted in this study to explore the phenomenon of interest. In the qualitative phase, focus group discussion was conducted on two heterogeneous groups, each with ten participants. The recorded audio was further transcribed using speech-to-text modules. A natural language processing tool has been used to identify words or phrases that are semantically related or have similar meanings to depositors' sentiment analysis. The quantitative phase involved descriptive statistics, principal component analysis and regression analysis to explore insight numerically.

**Findings:** Respondents expressed a generally positive sentiment toward technology in banking, influencing their selection decisions, in the qualitative phase. In the quantitative phase, significant technological aspects affecting depositors' post-selection evaluations are identified. Findings from both approaches converge on the same line.

**Practical Implications:** Findings of this study may aid decision-makers in banking industry to articulate distinct technological aspect implied in banking service delivery and better design service offerings to attract new depositors and gain competitive advantages.

**Originality/Value:** This is the first study to focus solely on technology to explore how technology influences depositors' bank choices in the context of Bangladesh.

**Limitations:** Significant parts of several conversations were sorted out for sentiment analysis. If it was possible to consider all relevant statements of the focus group discussion for sentiment analysis, it might convey a more pertinent sentiment score.

## 1. Introduction

Bangladesh is likely to be the fastest mover in the global gross domestic product (GDP) rankings in 2030, becoming the 26th largest economy from the current position of 41st (HSBC Global Research, 2018). The banking industry in Bangladesh has contributed to the country's actual economic progress.

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The banking industry can be termed as the lifeblood of the economy. Due to ongoing liberalization, economic openness, and deregulation, Bangladesh's banking industry is become increasingly competitive (Ahmed, 2012; Fatima & Razzaque, 2013). Furthermore, according to Kaynak & Kucukemiroglu (1992) and Hull (2002), banks in the banking sector compete not only with one another but also with non-banking financial institutions. Because of this intense competition in the banking sector, it is critical for banks to understand the factors that influence depositor bank selection decision (Sayani & Miniaoui, 2013).

Recent social-economic transformation in Bangladesh is possible due to the motto 'digital Bangladesh' which boosted the mass people to adopt digital technologies in every aspect of life. Based on this context and influenced by the trends of the fourth industrial revolution, Bangladesh is now rushing to manifest itself as Smart Bangladesh. To build a smart Bangladesh, it is essential to ensure that the banking sector, which is one of the main economic regulators, adopts sophisticated technological innovations.

In the banking industry, depositors play one of vital roles. They are the sources from which banks collect deposits and the accumulated funds are then disbursed as loans that stimulate economic development. Hence, a thorough understanding of depositor behavior is essential for policy-makers in the banking industry; especially about the factors of bank selection decisions as the banking industryin Bangladesh is highly competitive. The outcome of this investigation will enable the policy makers of the banking industry to know more about the depositors' perception towards the technology adopted in banking and thus they can support and reform the necessary, timely and user-friendly technologies in the banking business.

## 2. Literature Review

Making a decision involves choosing one course of action from among two or more options. (Shiffman and Kanuk, 2004). That means to make a decision there must be some alternative options and to decide is not a very easy task always. A person's behaviors, decision-making process, buying habits, purchasing behavior, brand choice, and other aspects are influenced by a variety of factors (Ramya & Ali, 2016). Though there are several levels of decision-making; i.e., reutilized problem solving, limited problem solving, and extensive problem solving (Shiffman and Kanuk, 2004), depositors' decision-making can be termed as extensive problem-solving. In extensive level of problem-solving depositors have to several aspects of the banks' features and the use of technologies is one of them.

According to Kotler and Keller (2009), customers are now smarter, more price sensitive, more demanding, and harder to please. Since most of the banks provide almost similar services or even better it is challenging for banks not just to satisfy the customer but make them delighted. In the face of aggressive competition and highly demanding customers use of more efficient information technology can support the banks' strategies (Narteh and Owusu-Frimpong, 2012). Customer service is the process of assuring that a consumer is satisfied with a good or service. Usually, customer services are performed during carrying out transactions. In a competitive banking environment, customer service and user-friendly technology can provide a sustainable competitive advantage (Andrew, 1990). Banks that can provide quick technology-related services like telephone banking or ATMs may have an advantage over their competitors in the banking sector (Coyle, 1999) In addition, Almossawi (2001) and Lenka et al. (2009) agreed that choosing a commercial bank requires attention to technology.

To provide their customers with convenient access to a variety of products, In addition to making major investments in technology platforms and systems, all Bangladeshi banks have established a number of channels of distribution, including an electronically connected online branch network, internet banking, and mobile banking. Customers can now do banking at any time, from any location in Bangladesh. The process of doing financial transactions using a mobile device-a tablet, smartphone, etc.-is known as mobile banking. Customers can now access banking services via a variety of channels, including corporate intranet systems, contact/call centers, online CIB, electronic fund transfers (EFT), automated clearing house systems (ACHS), and the Core Banking Solution (CBS) (The Financial Express, 2016).

The emergence of technology has altered the mood of competition within the banking industry (Zineldin, 1996 and Lewis, 1991). As bank customers become more sophisticated, many scholars believe that technology would be the key determinant for future competition (Zineldin, 1996). In a study to investigate the depositors' decision-making in Romania, Katirchioglu, Tumer and Kilinc (2011) have found Automated Teller Machines (ATM) are the most important factor along with telephone and internet banking. Shevlin and Graeber (2001) conducted a study among depositors in Texas, USA, and found that the main factor influencing a customer's choice of bank was the ATM (Automatic Teller Machine). Furthermore, Mokhlis (2009) noted that consumers prioritize the speed and convenience of banks' electronic services when making decisions. In several studies, it is found that convenient ATM services can save customers time (Marimuthu, Jing, & Ping, 2010; Aregbeyen, 2011; Frangos, 2012; Hinson Osarenkhoe and Okoe 2013; Sayuti, & Rahimiu, 2013; Saleh, 2013) which influence their decision. The findings of (Siddique, 2012) also revealed that the majority of Indian customers consider technology-based convenience as very crucial for depositors' decisions.

Zineldin (1996) found out that the emergence of telecommunication technology, ATM services, online banking, mobile banking, and digital technologies has diminished the necessity of location proximity. This finding has also been supported by Valerie & Vaughan, (2009) who pointed out that due to technological advancement and its application in the banking sector concept of convenience has changed. The relevance of the physical delivery of financial services is diminishing due to adoption of technology. Most of the private commercial banks in Bangladesh are able to provide services electronically (e.g., ATM service, internet banking, mobile & SMS banking, etc.) Zaman and Chowdhury (2012). They also noted that though younger customers seek convenience through technology there are still some segments of customers who are interested to visit bank branches physically.

The ability to attract and retain customers is essential to the baking organization's survival and financial viability. The competitive environment influences banks to be aware of the issues that depositors use to select their bank (Al-Ajmi et al., 2009). Hence, these decision criteria of depositors are very important for the banks' policymakers to formulate and implement marketing strategies (Msweli & Naude, 2015). Depositors' decision criteria have always been an issue of concern to researchers around the world. In the body of literature on bank marketing, this is one of the most extensively studied topics. (Katircioglu, Tumer, & Kilinc, 2011). Yet, the majority of studies are focused on particular geographical regions, market niches, or religious perspectives. Based on empirical evidence, the majority of studies on bank selection criteria are carried out mostly in developed countries or Western European nations, rather than in Asian economies. (Denton and Chan, 1991; Bukh, & Blenker, 1997; Tyler & Stanley, 1999; Mols, Gerrard & Cunningham, 2001). The results of these researches might not be entirely appropriate in the circumstances of a developing country like Bangladesh due to culture, education level, and political and economic circumstances (Almossawi, 2001) as factors of depositors' bank selection decision criteria are known to differ between countries (Msweli & Naude, 2015).

The scenario reveals a research gap: despite the fact that numerous studies have been carried out across the globe to explore the variables affecting depositors' decisions while selecting a bank, very few of them have focused specifically on technological factors. Furthermore, in the context of Bangladesh, no other research has been found that specifically examines the role of technology in depositors' bank selection decisions. Thus, it is evident that further research is needed in this field, especially given the confines of Bangladesh, to provide a more inclusive understanding of the technological aspects that impact depositors' bank selection decisions. Such research can help banks in Bangladesh to better understand the importance of technological factors in attracting and retaining depositors and to develop strategies that enhance their technological capabilities and improve their competitiveness in the market.

## 3. Objectivesof the Study

The study aims to achieve the following objectives:

a) To identify the depositors' sentiment toward the technology used in banking sector.

b) To find the technological factors that depositors consider in bank-selection decision.

c) To articulate the role of technology in depositors' bank selection decision.

## 4. Materials and Methods

Researchers used a hybrid approach to conduct this study, applying both qualitative and quantitative methodologies to articulate the phenomenon of interest. During the study's qualitative phase, focus group discussion was conducted on two heterogeneous groups, each entitling ten participants. Participants of focus groups were selected based on their relevance, diversity, communication skills and willingness. To create a cohesive image of the situation, the focus group participants' opinions were carefully examined using data reduction, data display, and data verification. Further, the recorded audio of the focus group discussion has been transcribed into text form using speech-to-text modules. The lexicon-based and rule-based approach of natural language processing tools has been used to identify words or phrases that are semantically related or have similar meanings in depositors' sentiment analysis. In the quantitative phase of the research, a structured questionnaire was used to gather primary data from 430 depositors using a convenience sample technique. from Sylhet region, Bangladesh.As a thumb rule, for carrying out principal component analysis, sample size of 400 or more is appreciated (Gorsuch, 1983 and Kline,1994). Thus, interviewer approached 450 respondents. However, 20 incomplete responses were left off. Descriptive statistics, principal component analysis, and regression analysis have been attempted to explore insight numerically.

## 5. Data Analysis and Findings

Data analysis is a crucial component of the research process as it enables researchers to uncover underlying insights and information that can guide decision-makers. This study has attempted both qualitative and quantitative methods to discover the depositors' bank selection decision, this section presents the results of the analysis of the data.

### 5.1 Qualitative Analysis

Researchers attempted a qualitative approach in the initial phase where a focus group discussion technique has been used. For exploring greater insights and understanding of the problem qualitative approaches are often attempted (Malhotra and Das, 2016). In this study, the focus group discussion technique was applied to collect qualitative data from pre-screen respondents. Focus group discussion is one of the most powerful tools for qualitative data collection where 8 to 12 respondents take part in an informal discussion led by a trained moderator. This study comprises two focus group sessions (each group included ten participants) which were moderated by researchers. Audio recording devices were used to record the entire conversation. However, key outcomes of the discussion session were also recorded in written form. After the discussion session, collected qualitative data were investigated to identify any meaningful pattern or theme in the data set. In qualitative studies, words are considered as the units of analysis to decipher, examine and interpret the underlying motive of expression (Malhotra and Das, 2016).

Initially, the collected qualitative data were analyzed by applying three steps approach suggested by Malhotra and Das, (2016). The first step is termed, data reduction, where collected data were sequentially organized according to their importance and relevancy to the study. incoherent and irrelevant facts which are not directly or indirectly related to technology or depositors' bank selection decisions were left off. Only those statements of the participants which have linked to the current issue of concern were kept and logically arranged. the second step is termed, data display, where textual data were sorted according to their similarities and visually displayed for interpretation. In this step, the opinions of the participants were grouped into five segments. The first segment includes all statements that manifest the importance of technologies applied in banking service delivery as a criterion for their bank selection decision. The second segment is composed of technological failure and security-related statements in banking transactions. The third segment includes participants' propositions about the benefits of technology in banking services. The fourth segment compiles all other factors that depositors consider in the bank selection decision. In the fifth segment, all miscellaneous issues were brought together. In the third step, which is termed as, conclusion drawing and verification, researchers attempted to discover the latent meaning of the data which were grouped in the previous step and assess its suitability and relevancy with the current study. Most of the respondents who took part in the unstructured focus group discussion brought out that use of modern technologies is a substantial element of service delivery. Speedy, accurate, and convenient service can only be delivered if Banks take modern technology as a facilitator. Moreover, in this age of information technology and globalization, banks have no other way to adopt modern technology. However, not all depositors consider the use of technology in the banking system to be useful for everyone. Therefore, they do not give much importance to the extent to which technology is being used in the banking system in the bank selection decision. In this context, they mentioned that while the new generation is well acquainted with information technology, compared to the previous generation people are not very aware of the use of advanced technological features and have a lot of fear and reluctance to use modern technologies. Hopefully, it is the new generation that is now leaning towards opening their bank accounts, and the use of technology in banking may indeed become an important issue.

#### *5.1.1 Sentiment Analysis*

For a further assessment of the qualitative data, sentiment analysis of textual data has been performed with the natural language processing (NLP) tool VADER (Valence Aware Dictionary and sEntiment Reasoner) where the lexicon-based and rule-based approach is undertaken that considers the context and polarity of words to determine the overall sentiment of a sentence or text. VADER is commonly used for sentiment analysis in social media and other text-based data analysis tasks. In this study, at the front end of the research project qualitative technique of focus group discussion has been carried out. As the discussion took place in the Standard Bengali language, the recorded audio(s) have been converted to the text format with the help of speech-to-text software. Later, these transcripts were manually translated into English with the help of Google translate to make the respondents' unstructured opinions suitable for sentiment analysis. Herche in 1992 and Kessler et al. in 1997 carried out the earliest studies on sentiment analysis. A popular method for determining if the data is positive, negative, or neutral is sentiment analysis. In this study, a few significant comments from the focus group discussion that is vastly related to the depositors' bank selection decision and use of technology were selected for sentiment analysis.

> *"...in selecting bank, I consider the use of technology in bank but I also feel fear of using new technologies as there might be some security issues"*

**Sentiment score:** -0.1531 **Sentiment label:** Negative

Analyzing this statement using VADER (Valence Aware Dictionary and sEntiment Reasoner) the sentiment score was found to be less than 0, indicating negative sentiment. Consumers feel that the use of technology is vital in selecting a bank, but they are very skeptical in a few contexts. The use of technology in banking services may be absurd if proper security cannot be ensured.

*".... definitely technology is important but there are some other factors like, convenience, customer service is important. However, use of technology can improve the condition of other factors too."*

**Sentiment score:** 0.5423 **Sentiment label:** Positive

Although it plays a significant role, depositors consider other crucial factors when making decisions in addition to the usage of technology in banking services. There are many other crucial factors, convenient service delivery, promotional activities, religious belief, etc. might play an elementary role. Nonetheless, technology can play a crucial role in the furtherance of convenience, customer service, and so on.

*".....in banking technology is important as now we are living in global era and all of us want convenience. Technology can give us the convenience and global feeling."*

**Sentiment score:** 0.6369 **Sentiment label:** Positive

Participants in the focus group discussion here emphasized how convenience can be ensured through the use of technology. In today's busy life, everyone wants easy accessibility and global standard service. The use of technology in the banking sector in terms of high-end service delivery can be an important determinant that depositors consider in their bank selection.

*"...In current social environment it is risky to carry cash and make transactions. Technology enabled banks can reduce risk of cash transactions."*

**Sentiment score:** 0.696 **Sentiment label:** Positive

The risk of carrying cash is also pointed out in the discussion by the participants. Many of the participants in agreed that several technological advancements (e.g. internet banking, ATM, mobile banking etc.) in banking sector have eliminated the risk of cash transactions.

*"...I have opened my account at this bank for the convenience of making payment online and in many cases foreign payment can be made applying technological features"*

**Sentiment score:** 0.3182 **Sentiment label:** Neutral

Convenience is one of the vital issues in depositors' bank selection decision. Along with physical proximity, convenience can also be assured by various technological features in modern banking. The selected statement signifies use of online banking feature as a practical reason for choosing a bank.

*"...Nowadays I have a lot of financial work that I can do from home and technology has given me that opportunity so I think technology should be used more in the banking system and every customer of banks must look for technologies applied in bank in their decision making"*

**Sentiment score:** 0.4404 **Sentiment label:** Positive

This statement expresses positive sentiment about the use of technology in banking sector and suggested the potential positive impact of technologies in depositors' bank selection decision. By analyzing the output of focus group discussion in can be articulated that technology aids depositors with convenience.

*"...Earlier I had an account in a bank that was not very technologically advanced so I closed my account in that bank and opened my account in this new bank only for attaining new technological features."*

**Sentiment score:** 0.3612 **Sentiment label:** Positive

This statement also shows the positive sentiment of participant regarding the use of technologies in banking sectors. Use of modern technologies can be a key differentiator that can affect depositors' switching tendency and attract new customers.

*"...I got some information from their website about the various technologies used by the bank which made me interested in opening an account in that bank"*

**Sentiment score:** 0.4351 **Sentiment label:** Positive

In current business world online presence is vital for any kind of business organization. This statement suggest that website can be served a great source of information that influence depositors' bank selection decision. In the focus group discussion, many of the participants mentioned that they bank's websites serve as source of information that contribute in decision-making process.

*"...Advertisements of different banks in social media and televisions contain many important information including their various technological features which helped me to choose that particular bank."*

**Sentiment score:** 0.296 **Sentiment label:** Positive

A significant opinion from the focus group also reflects the influence of technology (i. e. social media, technology used) on depositors' bank selection decision. It is conceptualized from the several opinions regarding promoting technological aspects by the bank that these types of communication have noteworthy value in the input stage of depositors' decision-making process.

*"...I think banking without technology is stagnant and if a bank does not adopt modern technology, it will be very difficult for it to attract and retain customers."*

**Sentiment score:** 0. 0.361 **Sentiment label:** Positive

This one is a very strong opinion from a young participant supporting the necessity of adopting modern technologies to attract and retain customers. To enhance the customer experience in banking emphasis should be put on adoption and utilization of technologies.

*"...In choosing a bank, I consider the technology used in the bank very important, even if it is not the first place"*

**Sentiment score:** 0.2732 **Sentiment label:** Positive

This comment suggests that though 'technology' is not the prime factor for selecting bank, it is a vital issue considered by them. This implies that technology can contribute to better banking experience.

*"...Debit card credit card technologies have become very common now but recently new banks are developing Android apps through which customers are getting many facilities at home. I have considered whether or not the bank has an app for opening my account."*

**Sentiment score:** 0.0 **Sentiment label:** Neutral

Although debit card and credit card are part of overall banking technology, in recent times it is considered as an element of basic product level of the customers' product value hierarchy. Customers are becoming tech savvy and look for availability of Android or iOS app for internet banking in their decision-making process.

From the sentiments analysis output, it can be stated that technology has a crucial role in banking industry and thus it can play a key role in depositors' bank selection decision. In present situation, most of the services are depended on technology and to provide better customer service, attract new customers, retain customers, and build a large the depositor base, policy makers of banking industry should focus more on user-friendly, secured and innovative technology adoption and familiarizing current and potential depositors with these technological features.

**5.2 Quantiative Analysis**

In quantitative analysis, collected data are numerically analyzed to reach at a conclusive position. In this study, followed by the qualitative phase of the research, numerical data were collected from 430 depositors using a convenience sampling method. Data was gathered through in-person interviews conducted at various locations of Sylhet division using a structured questionnaire. The demographic profile of the respondents is presented in table no. 1.

**Table 1.**
*Demographic Profile*

| Factors | | Frequency | Percent |
|---|---|---|---|
| **Gender** | Male | 292 | 67.9 |
| | Female | 138 | 32.1 |
| **Age** | 18-25 years | 176 | 40.9 |
| | 26-35 years | 158 | 36.7 |
| | 36-45 years | 63 | 14.7 |
| | 45+ years | 33 | 7.7 |
| **Level of education** | Primary | 7 | 1.6 |
| | SSC or equivalent | 48 | 11.2 |
| | HSC or equivalent | 91 | 21.2 |
| | Honors | 172 | 40.0 |
| | Masters | 101 | 23.5 |
| | Others | 10 | 2.3 |
| | Total | 429 | 99.8 |
| | Missing | 1 | 0.2 |
| **Marital status** | Single | 237 | 55.1 |
| | Married | 190 | 44.2 |
| | Others | 3 | 0.7 |
| **Occupation** | Business | 91 | 21.16 |
| | Govt. service | 30 | 6.98 |
| | Private service | 103 | 23.95 |
| | Student | 149 | 34.65 |
| | House wife | 46 | 10.70 |
| | Others | 11 | 2.56 |
| **Monthly family income** | Less than BDT. 10,000/- | 44 | 10.2 |
| | BDT. 10,000/- to BDT. 30,000/- | 119 | 27.7 |
| | BDT. 30,000/- to BDT. 50,000/- | 163 | 37.9 |
| | More than BDT. 50,000/- | 101 | 23.5 |
| | Total | 427 | 99.3 |
| | Missing | 3 | 0.7 |
| | **Total** | **430** | **100.0** |

Source: Survey conducted by authors.

### *5.2.1 Principal Component Analysis*

There are several aspects of technology that can be applied in the banking industry to boost customer service, expand convenience, uphold transparency and privacy, ensure security, and so on. The banking sector of Bangladesh has been using modern technologies in various ways to provide timely and best services to its customers. Depositors were interviewed on twenty-three variables to find out how much importance they place on the use of technology in their bank selection decisions. Principal component analysis was conducted to find the underlying factors by considering 23 variables. Principal Component Analysis (PCA) is a statistical method used to lessen the dimensionality of a dataset while retaining as much variation in the data as possible. It is a way of identifying patterns in data and representing them with a smaller set of variables called principal components.

The Kaiser-Meyer-Olkin (KMO) test of sample adequacy is required in order to carry out Principal Component Analysis (PCA). The KMO test is a tool used to assess how well the gathered data is suitable for factor analysis.

**Table 2.**
*KMO and Bartlett's Test*

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.836 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3310.465 |
| | df | 253 |
| | Sig. | 0.000 |

Source: Authors' computation

Table no. 2 represents the KMO an Bartlett's Test of Sphericity. Here the Kaiser-Meyer-Olkin Measure of Sampling Adequacy value is found to be 0.836 that can be termed as meritorious according to the threshold values introduce by Kaiser (1974). Bartlett's Test of Sphericity is used to test a null hypothesis that the correlation matrix is a diagonal matrix. That means all the non-diagonal elements are zero. However, in carrying out principal component analysis high correlations are required, thus, it is expected to reject the null hypothesis. As the calculated p-value for Bartlett's Test of Sphericity is 0.00 which is less than 0.05, the null hypothesis can be rejected. So, on the basis of above discussion it can be conclude that variables in this study are sufficiently correlated to carryout principal component analysis.

**Table 3.**
*Rotated Component Matrix*

| | Factor loading | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| **Factor-1: Online and social media** | | | | | | |
| I followed the news/reports online media about this bank | .811 | | | | | |
| Information found on internet/blogs helped me to select this bank. | .791 | | | | | |
| Advertisement/Promotional activities in online platforms of bank influenced me to select this bank. | .760 | | | | | |
| I gathered information from bank's website that influenced my decision. | .673 | | | | | |
| I got Influence from social media (e.g. Facebook) to select this bank. | .668 | | | | | |
| **Factor-2: Technology in service** | | | | | | |
| I choose this bank because they offer innovative service through technology. | | .758 | | | | |
| I choose this bank because they apply user friendly technologies. | | .748 | | | | |
| I choose this bank because they offer easy online money transfer facility. | | .727 | | | | |
| I choose this bank because they apply of latest technologies. | | .719 | | | | |
| Mobile banking service of this bank influenced me to select this bank. | | .714 | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Factor-3: Technology in security** | | | | | | |
| This bank maintains proper security in ATM booths. | | | .769 | | | |
| I select this bank because they maintain Privacy/confidentiality. | | | .740 | | | |
| This bank provides security in cash transaction. | | | .633 | | | |
| This bank provides security alert for transaction using technology. | | | .616 | | | |
| This bank ensures secured online banking facilities. | | | .475 | | | |
| **Factor-4: Technology in convenience** | | | | | | |
| Sufficient number of ATM booths nation-wide. | | | | .89 | | |
| Bank has sufficient online banking network nation-wide to serve mass people. | | | | .82 | | |
| Services can be obtained at home through online banking facility. | | | | .67 | | |
| **Factor-5: Technology in CRM** | | | | | | |
| They offer customer counseling services. | | | | | .81 | |
| They deliver speedy services. | | | | | .70 | |
| This bank provides 24/7 customer care service. | | | | | .61 | |
| **Factor-6: Technology in cash transaction** | | | | | | |
| Debit/credit card service of this bank influence me to select this bank. | | | | | | .72 |
| There should be sufficient number of tellers inside bank. | | | | | | .591 |
| Initial Eigenvalues | 5.71 | 2.74 | 1.81 | 1.44 | 1.28 | 1.0 |
| % of Variance | 24.81 | 11.93 | 7.89 | 6.26 | 5.57 | 4.38 |
| Reliability (Cronbach's Alpha) | .828 | .840 | .739 | .748 | .685 | - |

*Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.*

Source: Authors' computation

Table no. 3. shows the rotated component matrix of principal component analysis. Using the highest factor loading (absolute value) each variable is assigned to certain factor and then label the factors that best describe the combined meaning of all variables associated with the factors. In selecting bank, depositors may consider several technology related issues of bank. Thus, respondents' opinion on 23 items of technology which can influence depositors' decision making were selected and further reduced to 6 factors using principal component analysis. The extracted factors are; Online and social media, Technology in service, Technology in security, Technology in convenience, Technology in, Technology in cash transaction. The first factor extracted 'online and social media' expresses that information found on online channels or social media has a vital role in depositors bank selection decision. With an Eigenvalue of 5.707, this factor accounts for a larger proportion of variance than a single variable. Compared to a single variable, this factor explains 5.707 times as much. Additionally, this factor accounts for 24.813% of the overall variance. This factor's reliability (Cronbach's Alpha) is 0.848, indicating a rather high level of internal consistency for the items. The second factor extracted is 'Technology in service'. In present era, banking service is unthinkable with the application of technology. Depositors considers the application of different innovative, user-friendly, and latest technology in their decision making. This factor is accounted for 11.932% of total variance with Eigen value, 2.744. The third extracted factor 'Technology used for security' is accounted for 7.8932% of total variance with Eigen value, 1.815. All the extracted factors are accounted for 60.852% of total variance.

Online and social media presence of a bank can provide customers with easy access to information, while technology used for service can ensure efficient and prompt banking services. Technology used for security is also important to ensure that the customers' financial transactions are secure and protected from fraudulent activities. Moreover, technology for convenience, such as mobile banking, online bill payment, and ATMs, can make banking more accessible and convenient for customers. Technology for CRM can also help banks to better understand their customers' needs and preferences, leading to improved customer service and loyalty. Finally, technology for cash transaction, such as digital wallets and contactless payment options, can provide customers with fast and easy payment solutions, reducing the need for physical cash handling. In conclusion, these factors are important for depositors' bank selection decisions, and banks that prioritize technology and innovation are likely to attract and retain more customers in the highly competitive banking industry.

### *5.2.2 Regression Analysis*

A common statistical technique for examining the relationship between independent and dependent variables is regression analysis. In this study, six factors, namely, Online and social media, Technology in service, Technology in security, Technology in convenience, Technology in, Technology in cash transactions which are extracted through principal component analysis have been considered as independent variables and the respondents' decision evaluation is regarded as the dependent variable. This section presents the results of the regression analysis.

**Table 4.**
*Model Summary*

| Model | R | $R^2$ | $R^2$ | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .573 | .328 | .318 | .537 |

Source: Authors' computation

**Table 5.**
*ANOVA*

| Model | | SS | df | MS | F | p |
|---|---|---|---|---|---|---|
| 1 | Regression | 58.043 | 6 | 9.674 | 33.538 | .000b |
| | Residual | 118.840 | 412 | .288 | | |
| | Total | 176.883 | 418 | | | |

Note: Dependent Variable: decision evaluation

*Predictors: (Constant), Technology in cash transaction, Technology in CRM, Technology in convenience, Technology in security, Technology in service, Online and social media*

Source: Authors' computation

**Table 6.**
*Regression Coefficient of Extracted Factors on Decision Evaluation*

| Variables | B | SE | t | p | 95% CI |
|---|---|---|---|---|---|
| (Constant) | 3.87 | .026 | 147.49 | .000 | [3.818, 3.922] |
| Online and social media | .03 | .026 | 1.28 | .021 | [-.018, .085] |
| Technology in service | .23 | .026 | 8.82 | .000 | [.180, .283] |
| Technology in security | .23 | .026 | 8.79 | .000 | [.179, .283] |
| Technology in convenience | .01 | .026 | .05 | .995 | [-.051, .052] |
| Technology in CRM | .14 | .026 | 5.22 | .000 | [.085, .189] |
| Technology in cash transaction | .11 | .026 | 4.16 | .000 | [.058, .161] |

*Note: CI= Confidence Interval*
Source: Authors' computation

Table no. 6 shows the role of Online and social media, Technology in service, Technology in security, Technology in convenience, Technology in CRM, Technology in cash transactions on depositors' bank selection decision evaluation. The R2 value of 0.328 [table no. 4] revealed that the predictor explained 32.8% of variance in the depositors' decision evaluation with F (6, 412) =33.54,

$p<0.001$ [table no. 5] which means the model predicts a significant amount of variability in decision evaluation. The derived regression model is as follows:

Decision Evaluation = 3.87 + (0.03 Online_and_Social_Media) + (0.23 Technology_Service) + (0.23 Technology_Security) + (0.01 Technology_Convenience) + (0.014 Technology_CRM) + (0.11 Technology_Cash_Transaction) + ? *(1)*

## 6. Conclusion

Banking sector is the undeniable component of any economy. Depositors play significant role in banking. Developing and maintaining a large depositor base is crucial for ensuring success of banking industry. To attract new depositors in a competitive environment, it is critical to ascertain the fundamental components that influence their decision-making process. Though this is not novel phenomenon in the academic research arena, focusing on the role of only the technological aspects in bank selection decision is fairly new. Recent transformation in information and telecommunication technology and the wave of fourth industrial revolution has boosted the urgency of such type of studies. Researchers' intended to identify the role of technology in depositors' bank selection decision through qualitative and quantitative approach to ascertain greater insight and each approach affirms that technology is an influential determinant of depositors' decision.

The findings suggest that a bank's virtual presence in the web and social media, advertisements enable depositors to familiarize with the features of bank and thus contribute to the decision making. Depositors also look for whether the banks are offering innovative, user-friendly, latest technologies in banking service in their decision making. Depositors believe that technology is important but when it is secured. Thus, they are concerned about the security issues of technologies in bank. Depositors stated that technologies can facilitate convenience for attaining banking service. Moreover, technological infrastructures in bank can contribute to customer relationship management and cash transactions and these aspects are thoroughly considered by the depositors in their bank selection decision.

From the study it is articulated that technology is a significant determinant for depositors as it can facilitate better customer experience. For promoting technological innovation in banking industry, commercial banks should be encouraged to invest in research and development to adopt innovative technologies. Moreover, incentives can be provided to the banks that adopt cutting edge technologies to ensure updated customer experience and security. As security issues are found as a crucial factor, focus should also be given to improve the security infrastructure of banking industry. Collaboration with cyber security experts might be emphasized. In addition to that, strict customer data protection policy developed and enforced. Development of user-friendly technology should be prioritized along with prompt customer feedback mechanism.

However, the scope of the study is only the different regions of Sylhet division that do not coherently represent the overall population (i.e. the depositors in Bangladesh). Respondents were selected based on convenience sampling. It can be presumed that any probability sampling method would have uncovered greater insight into the phenomenon of interest. Moreover, technology is a dynamic term, evolving every now and then and the application of technology is sprouting too. Besides that, consumer behavior in the banking industry is shifting with the wave of technology. Thus, future studies can be taken into action considering the changing technological aspects.

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