The Journal of Economic Concerns | Vol. 11, No. 1, 2020
ISSN Print : 2091-0541 | ISSN Online : 2705-4802 | Published by NECS, NEPAL

Role of Information Technology on Banking Service Delivery in Kathmandu Valley

Pitri Raj Adhikari[1]

Abstract

Growth of information technology has opened up new markets, new products (services), and efficient delivery channels for the banking sectors. The progress of IT and the development of worldwide banking networks have significantly increased the transfer of funds from one place to another place and provision of core banking services to its customers. However, this paper is concerned with the Nepalese context. This paper aims to examine the role of information technology on banking service delivery in the Kathmandu valley. Descriptive and causal-comparative research design is used to estimate the relationship of banking service delivery (dependent variable) with independent variables (e-banking, electronic fund transfer, point of sales service, automated teller machine). Data are collected from 300 respondents through structured questionnaires and descriptive as well as inferential statistics are used to analyse the data. Positive and significant beta coefficient for ATM, electronic banking, electronic fund transfer, point of sale and banking service delivery indicates a positive impact of these variables on banking service delivery. It is observed that electronic fund transfer is the major factor affecting banking service delivery in the Kathmandu valley.

Key Words: *Banking Service Delivery, E-Banking, Electronic Fund Transfer, Point of Sales Service, Automated Teller Machine*

1. Introduction

For the last few decades, customer satisfaction of the banking industry has been one of the researchable issues for researchers and practitioners. Prior research has linked customer satisfaction with different predictors. Among them, information technology that is essential for banks to continuously attract and retain customers is one of the important predictors. In recent years it is necessary to develop innovative products and offer a wider range of services to increase customer satisfaction and efficiency. Hence, banking services are being offered through electronic delivery channels to attract more customers, provide efficient and quality services, and survive in the emerging new competition. Information and communication technology has become the heart of the banking sector, which is the heart of every robust economy. The advancement in technology has played an important role in the advancement role in improving service delivery standards in the banking industry (Khan, 2012). According to Adeniran et. al. (2020), information technology is related to the organization's strategy that has resulted in value creation and competitive advantages of banks.

Chang and Hamid (2010) revealed that convenience is one of the most important variable influencing customer choices among other factors namely customer services, online banking facilities and overall bank environment. Customers devote much emphasis on electronic services which gives them quick and convenient access to the bank service (Mokhlis, 2009). Auta (2007) showed customer satisfaction is

[1] Lecturer, Shankerdev Campus, Tribhuvan University.
Email: mailtoadhikari@gmail.com

generated through quick services, affordable service charge, and easiness of depositing and withdrawing money, ATM booths and account statement over SMS/e-mail services and error-free records. Zafar et al. (2012) observed tangibility, reliability, competence and conflict handling as the constructs of service quality generating customer satisfaction and customer loyalty.

There is a positive and significant relationship between internet banking adoption and customer satisfaction (Bambore, 2013) and strategic capabilities, that is information technology capability has a positive and significant effect on the competitive advantage of banks (Kamau, et al., 2019). Similarly, the technological capabilities embedded in the bank website processes are an important factor in determining customer satisfaction and ultimately behavioural intention. The results of Aminet et. al. (2005) indicated that key determinants of behavioural intention in mobile banking are perceived usefulness, trust and perceived ease-of-use. Laforet and Li (2009) revealed the main barriers to mobile banking as well as the lack of awareness and understanding of the benefits. Jun and Cai (2001) identified reliability as one of the very important service quality dimensions of internet banking service quality.

The above discussion shows that the impact of IT on service delivery is of greater importance. Moreover, research has been done concerning to effect of information technology on banking service delivery in western context; however, there are few researches have been done in the context of Nepal. Hence, this paper attempts to examine the linkage between IT and banking service delivery in the Nepalese context. The next section of this paper is concerned with research hypotheses followed by methods in section three. Similarly, section four describes results and discussions and the final chapter concludes the paper.

2. Research Hypotheses

This paper has set the following alternatives hypotheses:

H_1: There is a positive relationship between automated teller machine and banking service delivery

H_2: There is a positive relationship between e-banking and banking service delivery

H_3: There is a positive relationship between electronic fund transfer and banking service delivery

H_4: There is a positive relationship between point-of-sale service and banking service delivery

3. Methodology

This study has adopted descriptive research design for fact-finding and identifies information about the role of IT on banking service delivery. It also has used the causal-comparative research design to establish the cause-and-effect relationship of e-banking, electronic fund transfer, point of sale service and automated teller machine on banking service delivery. Data are collected through structured questionnaire and the questionnaire is divided into two sections where the first section is related to the basic information of the respondents and next section is concerned with five-point Likert type questions about the quality variables that affect banking service delivery which scale ranges from 1 (Strongly agree) to 5 (Strongly disagree). Following multiple regression model is used in this paper.

$$BSD= \alpha+ \beta_1 ATM+\beta_2 EB+\beta_3 EFT+\beta_4 POS+\varepsilon$$

Where; BSD= Banking service delivery, ATM = Automated teller machine, EB= Electronic banking, EFT= Electronic fund transfer, POS= Point of sale service, $\beta_1, \beta_2, \beta_3, \beta_4$= Coefficient of variables, ε = Error term

4. Results and Discussions

Descriptive statistics

The mean value of ATM ranges from a minimum value of 1.91 to the maximum value of 2.53 and a weighted average is 2.17 that states Nepalese commercial banks are providing good service through ATM. Similarly, the mean value of e-banking ranges from 1.82 to 2.73 and the weighted is 2.41 that indicates a significant relationship between e-banking and banking service delivery. Likewise, the mean value of electronic fund transfer ranges from a minimum value of 1.98 to a maximum value of 2.35 and the weighted average mean value is 2.24 which shows a significant relationship with banking service delivery. Additionally, the mean value of point-of-sale ranges from a minimum value of 2.04 to maximum value of 2.39 and a weighted average is 2.22 that indicates a significant relationship between point of sale and banking service delivery. Moreover, the mean value of banking service delivery ranges from 1.82 to 2.05 and a weighted average is 1.94 which shows a significant relationship between the role of IT and banking service delivery.

Correlation analysis

Table 1: Pearson's correlation matrix for the role of information technology in banking service delivery

This table presents the Pearson's coefficient between dependent and independent variables. Banking service delivery (BSD) is the dependent variable and ATM (A), e-banking (EB), electronic fund transfer (EFT) and point of service (POS) are independent variables.

Variables	Mean	St. Deviation	ATM	EB	EFT	POS	BSD
ATM	2.17	0.47	1				
EB	2.41	0.52	.36**	1			
EFT	2.24	0.45	.47**	.36**	1		
POS	2.22	0.44	.38**	.42**	.32**	1	
BSD	1.94	0.49	.35**	.36**	.41**	.32**	1

The asterisk sign (**) indicates that correlation is significant at 1percent level.

The result reveals that all independent variables are positively correlated with banking service delivery that indicates an increase in the number of ATMs, betterment in electronic banking, electronic fund transfer, and point of the sale lead to an improvement in banking service delivery.

Regression analysis

Table 2: Regression result of ATM, EB, EFT and POS on banking service delivery

Model	Intercept	ATM	EB	EFT	POS	R^2	SEE	F-value
1	1.171	0.357				0.108	0.468	13.511
	(5.472)**	(3.680)**						
2	1.192		0.338			0.114	0.474	13.587
	(5.763)**		(3.692)**					
3	0.978			0.439		0.159	0.464	20.327
	(4.543)**			(4.511)**				
4	1.103				0.401			
	(4.571)**				(3.541)			
5	0.450		0.170	0.318	0.211	0.217	0.444	10.260
	(1.612)		(1.674)	(3.103)**	(1.788)			
6	0.368	0.129	0.153	0.176	0.211	0.218	0.441	8.054
	(1.322)	(1.148)	(1.471)	(2.532)	(1.512)			

Note: Figure in parentheses is t-values.

The asterisk (**) and (*) sign indicate that the result is significant at 1 and 5 percent level of significance respectively.

The results are based on pooled cross-sectional data and the role of information technology on banking service delivery with 300 observations using a linear regression model. The model is $BSD = \alpha + \beta_1 ATM + \beta_2 EB + \beta_3 ETF + \beta_4 POS + e_t$. Where, dependent variable is BSD (banking service delivery) and independent variables are ATM (automated teller machine), EB (electronic banking), EFT (electronic fund transfer) and POS (point of sale).

It is found that the beta coefficient is positive and significant for ATM that shows better ATM service provides better banking service delivery and this result is consistent with the result of Allee (1997). Similarly, the positive and significant beta coefficient for electronic banking indicates that increase in the use of electronic banking leads to improvement in the banking service delivery and it is similar to the findings of the study of Kumbhar (2011). Likewise, the beta coefficient is positive and significant for electronic fund transfer which reveals properly the electronic fund transfer, better would be the banking service delivery and it is consistent to the findings of Ganguli and Roy (2011). Additionally, the positive and significant beta for point of sale indicates that better the point-of-sale service, better would be the banking service delivery and this result is similar to the findings of How croft et al. (2002).

5. Conclusion

It is found that among several variables electronic fund transfer is the major factor that affects banking service delivery that means higher the electronic fund transfer, higher would-be customer satisfaction. It is

also concluded that electronic banking, ATM and point of sale also affect the customer satisfaction that indicates an increase in the electronic banking and ATM and point of sale leads to increase banking service delivery. The banks should focus on improving ATM services, electronic banking, electronic fund transfer, point of sale service to improve banking service delivery. Further, to increase customer satisfaction and service delivery, Nepalese banks should focus on developing new technologies and should offer them time to customers.

References

Adeniran, A. O., Jadah, H. M., & Mohammed, N. H. (2020). Impact of information technology on strategic management in the banking sector of Iraq. *Insights into Regional Development.* ISSN 2669-0195 (online) http://jssidoi.org/IRD/, 2(7).

Ainin, S., Lim, C. H., & Wee, T. (2005). A prospects and challenges of e-banking in Malaysia. *Electronic Journal on Information Systems in Developing Countries*, 22(1), 1-11

Alam, M., & Soni, A. M. (2012). Customer satisfaction of internet banking and theory of big push: An analytical study with special reference to selected customers in Vadodara City. *In Ninth AIMS International Conference on Management*, 8(4), 941-947.

Alee, V. (1997). The knowledge evolution: Expanding organizational intelligence. *Baston, MA: Butterworth-Heinemann.*

Auta E. M. (2007). E-banking in developing economy: Empirical evidence from Nigeria. *Journal of Applied Quantitative Methods, 5*(2), 212-222.

Bambore, P. L. (2013). Customer satisfaction and electronic banking service on some selected banks of Ethiopia. *International Journal of Research in Computer Application & Management, 3*(6).

Caruana, A. (2002). Service loyalty. The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing,* 36(7/8), 811-828.

Chang, H. H. & Hamid, M. R. B. A. (2010). An empirical investigation of Internet banking in Taiwan. *Global Journal of Business Research, 4*(2), 39-47.

Cooper, R. G. (1997). Examining some myths about new product winners in Katz, R. (Ed), the human side of managing technological innovation, Oxford, 550-60.

Davis F., Bagozzi, R., & Warshaw, P. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science,* 8 982-1003

Ganguli, S. & Roy, S. K. (2011). Generic technology-based service quality dimensions in banking, impact on customer satisfaction and loyalty. *International journal of bank marketing*, *29*(2), 168-189.

Howcroft, B., Hamilton, R., & Hewer, P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom. *International Journal of Bank Marketing, 3*(20), 111-121.

Jun, M., & Cai, S., (2001). The key determinants of internet banking service quality: A content analysis. *International Journal of Bank Marketing*, *19*(7), 276-291.

Kamau, J. G., R. Eng, T. A. S., & Nzioki, S. C. (2019). Effects of information technology capability on competitive advantage of the Kenyan banking sector. *International Journal of Technology and Systems*, *4*(1), 1-20.

Khan, I. (2012). Impact of customers' satisfaction and customers' retention on customer loyalty. *International Journal of Scientific & Technology Research, 1*, 106-110.

Khan, M. S., & Mahapatra, S. S. (2008). Service quality evaluation in internet banking: an empirical study in India. *International Journal of Indian Culture and Business Management*, *2*(1), 30-46.

Kumar, R., Sachan, A., & Kumar, R. (2020). The impact of service delivery system process and moderating effect of perceived value in internet banking adaption. *Australasian Journal of Information System*, 24.

Kumbhar, V. M. (2011). Factors affecting the customer satisfaction in e-banking: Some evidences from Indian banks. *Management Research & Practice*, *3*(4).

Ma, Z. (2012). Factors affect the customer satisfaction of internet banking: An empirical study in China. *Journal of Convergence Information Technology*, *7*(3), 101-109.

Mokhlis, S. (2009). Determinants of choice criteria in Malaysia's retail banking: An analysis of gender-based choice decisions. *European Journal of Economics, Finance and Administrative Sciences,1*(2)1450-1467.

Ramadhan, M. (2011). Internet banking, consumer adoption and customer satisfaction. *African Journal of marketing management*, *3*(10), 261-269.

Rehman, H. U. R. & Ahmed, S. (2008). An Empirical Analysis of the Determinants of Bank Selection in Pakistan a Customer View.

Zafar, M., Zafar, S., Asif, A., Hunjra, A. I., & Ahmad, H. M. (2012). Service quality, customer satisfaction and loyalty, an empirical analysis of banking sector in Pakistan. *Information Management and Business Review*, *4*(4), 159-167.