

Comparison of Customers' Satisfaction and Loyalty between Digital Bank and Traditional Bank: Empirical Evidence from South Korea

Jae Woo Shin

Graduate School of Information, Yonsei University, Seoul, Korea

kucc89@hotmail.com

Abstract. This study analyzed and compared the effects of customer experience variables—usefulness, convenience, employee-customer engagement (ECE), and security—on customer satisfaction and loyalty between traditional bank (TB) and digital bank (DB) services, along with the effect of customer satisfaction on customer loyalty. The research samples included 527 Korean customers (247 DB and 280 TB customers). This study conducted structural equation models (SEM) for the total, TB, and DB groups and compared the effects between the TB and DB groups by applying the pairwise comparison method (PCM). The analysis results showed that in the total group, usefulness, ECE, and security had a positive effect on customer satisfaction and loyalty, whereas convenience solely had this effect on customer satisfaction. According to the comparison results, the usefulness of DBs was perceived better than that of TBs regarding customer satisfaction and loyalty, but the ECE of TBs proved more advantageous than that of DBs in terms of customer satisfaction. Furthermore, the positive influence of customer satisfaction on customer loyalty was stronger in the TB group. This study found that customer satisfaction and loyalty in DBs and TBs relate to customers' overall assessments after experiencing bank products or services, empirically supporting the expectancy disconfirmation theory. The findings are expected to provide DB practitioners with useful implications for making managerial strategies and improving customer management.

Keywords: digital bank, traditional bank, customer satisfaction, customer loyalty, structural equation modeling, pairwise comparison method

1. Introduction

An intelligent revolution represented by financial technology (Fin-Tech), the Internet of Things (IoT), robots, artificial intelligence, big data, and block chain is approaching in the name of the fourth industrial revolution. With increasing interest in Fin-Tech in the aftermath of the global financial crisis, the Korean government has promoted Digital Banks (DBs) to revitalize the Fin-Tech industry.

As a result, the DBs, K-Bank and Kakao Bank were launched in Korea in 2017. The two banks realized changes in the market, including opening accounts and performing loan reviews through online engagement and offering unprecedented low interest rates and fees, which caused existing traditional banks (TBs) to reduce the number of branches and cut interest rates. However, three years later, DBs accounted for only 0.9% of the total banking industry, which has been considered a storm in a teacup (Kim, 2020). The reason being that despite their dissatisfaction with the channels and financial products of TBs, numerous bank customers have not yet switched to new DB services.

One of the most important management components in the banking industry is retaining customers. It is necessary to investigate whether DB customers continue to loyally use their services, or remain temporary customers who joined a DB simply out of curiosity. In this regard, the most important keys for DBs to lead to sustainable management are encouraging current customers to leave from TBs and preventing them from leaving other DBs, satisfying them and inducing them to re-use the services. As such, the analysis of customer satisfaction and loyalty is considered important and in order to maintain the sustainability of DBs, it is critical to identify the variables that affect the satisfaction and loyalty.

Recent studies examined the quality and customer satisfaction in terms of Internet and mobile banking services (Amin, 2016; Saleem et al., 2016). However, even three years after their launch, DBs in Korea are yet to be researched holistically in terms of sustainable bank management. Since most existing studies were conducted before the launch of the DB business model, they addressed the levels of recognition and acceptance of relevant technologies of potential users lacking a complete understanding of DBs or experience in DB services.

Unlike existing studies mainly based on the viewpoint of potential bank users, this study attempts to research the view point of actual users. Moreover, this study also examines whether the bank type (TB vs. DB) has a moderating effect on the relationship between the variables.

Against this backdrop, this study analyzes and compares the effects of customer experience variables on customer satisfaction and loyalty between TB and DB services. Subsequently, the comparative advantages of the effects between the two services are examined. This study also investigates how customer satisfaction affects customer loyalty. To these research purposes, it explains the structural

relationships between customer experience, satisfaction, and loyalty in each type of bank is explained based on theoretical arguments and empirical research results.

2. Literature Review and Hypotheses

2.1. Difference between Traditional and Digital Banks

Over the past decade, e-banking through mobile devices, the Internet, and ATMs, has attracted attention in many countries. Concurrently, the definition of a DB was introduced as a bank which operates using interfaces such as the Internet and mobile devices (Cortiñas et al., 2010). Previous studies explored variables that affect consumer choice in electronic and Internet banking (Hanafizadeh et al., 2014; Zhang et al., 2018).

DBs that incorporate Information and Communication Technology (ICT) can reduce bad debt by controlling credit risks through big data and by providing specialized services for customer-driven and 1:1 customized retail banking. With online engagement, operating costs are minimized since branch offices are not required and with the creation of new services, such as e-commerce and Online to Offline (O2O), through innovation of financial platforms, which combine existing customer bases and ICT. Compared to TBs, DBs provide financial consumers with various benefits, such as lower interest rates and commission fees due to reduced transaction costs through online engagement.

2.2. Theoretical Background: Expectancy Disconfirmation Theory

Oliver (1980), who conceptualized customer satisfaction as a result of a customer's consumption experience, defined satisfaction as a function of expected adaptation level and perceived disconfirmation. Clues that consumers fail to recognize have no effect on purchase decisions and activities. In the case of banking services where evaluation proves difficult, consumers often assess the aspects of services they experience or have already experienced to a limited extent, and are unaware of whether they have received the services at a reasonable cost.

The expectancy disconfirmation theory posits that expectations linked to perceived performance results in post-purchase satisfaction. This effect is mediated via a positive or negative disconfirmation between expectations and satisfaction. If the service exceeds consumer expectations, satisfaction is generated and if the service falls short, the customer is left unsatisfied (Oliver, 1980). This theory has been introduced as one of the most representative theories to explain the process of determining consumer satisfaction.

Studies on the variables affecting customer satisfaction were identified in the areas of Internet banking (Raza et al., 2015) and mobile banking (Jun & Palacios, 2016). In these studies, customer loyalty was mainly examined as a result of customer satisfaction in relation to the extension of the expectancy disconfirmation

theory (Mbama & Ezepue, 2018). Based on this theory, this study presents the following hypotheses.

Usefulness → *Satisfaction, Loyalty*. Usefulness refers to the degree to which a person can obtain financial benefit and useful information through banking services (Kazi, 2013). Usefulness increases when the time required for utilizing banking services is short, when interest rates are high, and when financial transaction information is readily available with low commission fees (Alalwan et al., 2016). In this regard, Amin et al. (2014) found that usefulness is positively linked to mobile website users' satisfaction.

Oliver (1999) theoretically explained the causal relationship between perceived usefulness and loyalty through an attitude-based framework. In Oliver's conceptual framework, consumers' loyalty in maintaining a long-term relationship with a company stems from their perception of the company's present value. Accordingly, perceived usefulness is expected to positively impact loyalty.

H1. Usefulness will positively affect customer satisfaction.

H2. Usefulness will positively affect customer loyalty.

Convenience → *Satisfaction, Loyalty*. Convenience refers to the extent to which consumers perceive a website as simple, intuitive, and user-friendly. Online and offline activities provided by a company have a positive impact on customer satisfaction (Keisidou et al., 2013). If customers find the company's website to be illogical and inconvenient, they are likely to become dissatisfied and may not revisit the website. Convenience is identified to promote user loyalty in a social network service (Davidavičienė & Davidavičius, 2022). When a company fails to provide effective services, customers tend to become disloyal and do not revisit the company (Johnson & Verdegaal, 2016). Thus, the relationships between convenience and customer satisfaction and loyalty are set as follows:

H3. Convenience will positively affect customer satisfaction.

H4. Convenience will positively affect customer loyalty.

Employee-customer engagement → *Satisfaction, Loyalty*. Employee-customer engagement (ECE) refers to the helpfulness and attitudes of bank employees in response to customers' service requests (Verhoef et al., 2009). Bank employees interacting with customers play a crucial role in the processes of service delivery and complaint handling (Karatepe & Aga, 2016).

Bauer et al. (2002) found that e-functionality made it easier for both customers and employees to access information. Improved electronic functions can increase customer expectations regarding onsite service delivery by enabling customers and employees to take advantage of company resources. In this regard, the levels of

disconfirmation of customer expectations could decrease in terms of the services provided by the branches of a company. Therefore, the more effective customer engagement provided by a company, the higher the customer satisfaction and the likelihood that they will remain loyal and maintain their relationship with the company (Saurav, 2016).

H5. ECE will positively affect customer satisfaction.

H6. ECE will positively affect customer loyalty.

Security → *Satisfaction, Loyalty*. Security is essential for all transactions, especially in the banking sector in which customers entrust their money based on contracts (Angusamy et al., 2022; Knell & Stix, 2010). Banks are continuously improving security to minimize risks. Jun & Palacios (2016) identified security as one of the key factors that affect service quality in mobile banking. In addition, Belás et al. (2016) confirmed that security issues that influence customer satisfaction and loyalty are currently a crucial element in bank activities.

In the process of enhancing customer satisfaction, website security and privacy have been identified as the antecedent variables of customer satisfaction (Chang & Chen, 2009). Since offering customers security have a great impact on bank performance, banks should develop security and win-win relationships with customers to improve customer loyalty (Bell, 2000). Therefore, the following hypotheses are set:

H7. Security will positively affect customer satisfaction.

H8. Security will positively affect customer loyalty.

Satisfaction → *Loyalty*. Lassar et al. (2000) argued that the level of customer satisfaction contributes in the formation of customer loyalty, and demonstrated that higher customer satisfaction led to higher customer loyalty. Satisfaction or dissatisfaction arising through confirmation or disconfirmation of customers' perceived performance regarding their expectancy, is considered a predictor of loyalty (Bitner, 1990). Accordingly, studies suggest that providing customers' perceived values or satisfaction enhances customer loyalty (Fornell et al., 1996).

H9. Customer satisfaction will positively affect customer loyalty.

2.3. The Conceptual Model

Aggregating all the hypotheses described above, a conceptual model is presented (Figure 1). This study also examines whether all relationships between the variables

in this model differ between TB and DB groups, that is, whether the bank type (TB vs. DB) has a moderating effect on the relationships shown in Figure 1.

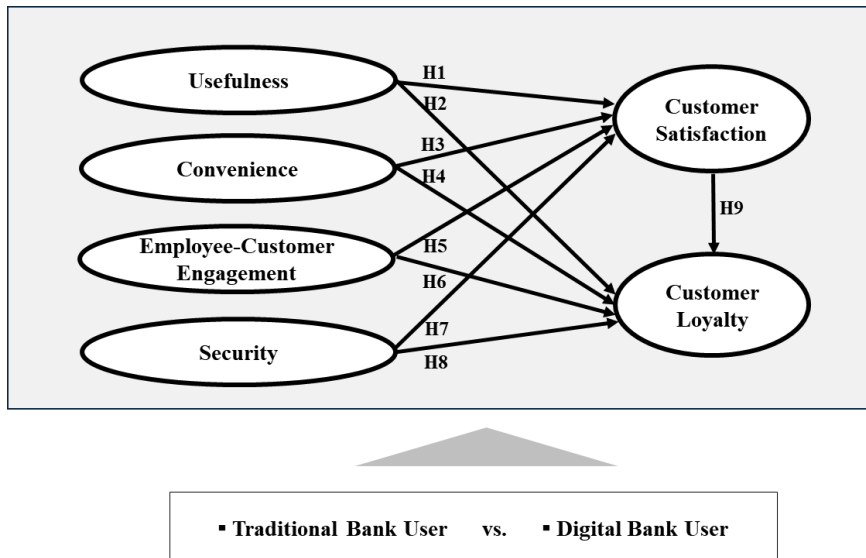


Fig. 1: Conceptual model of this study

3. Research Methodology

3.1. Survey and Samples

The samples for this study included Korean consumers between the ages of 10 and 60, nationally, who were experienced in using both TBs and DBs. The survey was conducted from August 1 to September 30, 2018, one year after the launch of the DBs in Korea. To secure diverse sample layers, this study involved an online survey using smartphone talk apps and an offline survey simultaneously: the online Google questionnaire was distributed through smartphone talk apps; the offline survey was conducted with customers who participated in an event by a financial institution. In all cases, respondents were provided with a brief description of a DB before completing the questionnaire. A total of 532 respondents were obtained, and five were excluded because they failed to complete the questionnaire and made errors. Consequently, the final sample size was 527 respondents; 247 of them mainly used DBs and 280 mainly used TBs.

3.2. Operational Definition of the Variables

Table 1 presents the measurement instruments for all the variables, along with literature evidence.

Table 1: Measurement instruments of the variables

Variables	Measurement instruments	Literature evidence
Usefulness	<ul style="list-style-type: none"> • Less time is required to use DB services than TB services • DB is likely to favor interest rates more than TB • DB saves more money transfer fees compared to TB • DB provides better financial transaction information than TB 	Alalwan et al., 2016 Oliver, 2009
Convenience	<ul style="list-style-type: none"> • Compared with TB, DB services are available by Internet and mobile, so services can be used conveniently without any space restrictions • Compared with TB, DB is convenient with the availability of mobile payments and loan services • Compared with TB, DB service is not a nuisance because there is no latency to wait 	Keisidou et al., 2013 Johnson & Verdegaaal, 2016
Employee-Customer Engagement (ECE)	<ul style="list-style-type: none"> • Compared with TB, DB's telephone/talk/e-mail consultants better understand customer requirements • Compared with TB, DB's telephone/talk/e-mail consultants more faithfully support customers • Compared with TB, DB's telephone/talk/e-mail consultants more quickly respond to customer requests 	Karatepe & Aga, 2016 Saurav, 2016
Security	<ul style="list-style-type: none"> • The online security levels of DB are higher than that of TB • DB is more protected from cyber-attacks than TB • DB is more protected from financial fraud than TB 	Belás, et al., 2016
Customer Satisfaction	<ul style="list-style-type: none"> • The user interface of DB is more satisfactory than that of TB • The financial products of DB are more satisfactory than those of TB <ul style="list-style-type: none"> • The overall service quality of DB is more satisfactory than that of TB 	Lassar et al., 2000
Customer Loyalty	<ul style="list-style-type: none"> • I will recommend DB over TB to others • DB is the best financial institution for financial transactions compared to TB • I will continue to use DB as the main bank 	Bitner, 1990 Fornell et al., 1996

4. Analyses and Results

4.1. Validity, Reliability and Correlation Analyses of the Variables

This study conducted a confirmative factor analysis. According to the results, since all the fit indices except χ^2 satisfied their recommended standards, the measurement model was judged to fit the data well ($\chi^2=268.246$, $df=127$, $p<0.01$; CFI=0.976; RMSEA=0.046; SRMR=0.0414; TLI=0.967; GFI=0.947; AGFI=0.921).

This study also calculated the composite reliability. The reliability of all the variables was greater than 0.70 (Table 2), which was the criterion recommended by Hair et al. (1998). Additionally, for the convergence validity of the variables, the present study calculated the average variance extracted (AVE). All the variables had an AVE greater than 0.50 as recommended by Hair et al. (1998) (Table 2). Furthermore, to identify the discriminant validity of the variables, this study compared the squared correlation coefficients and the AVE for each variable. According to the result, the former values were smaller than the latter. This was the result of meeting the recommended standard for an appropriate level of discriminant validity.

Table 2: Results of validity, reliability, and correlation analyses

Variables	1	2	3	4	5	Composite reliability	Average variance extracted
1. loyalty						0.762	0.52
2. customer satisfaction	0.711*					0.751	0.501
3. usefulness	0.604*	0.655*				0.803	0.506
4. convenience	0.340*	0.404*	0.426*			0.770	0.527
5. employee-customer engagement	0.478*	0.496*	0.401*	0.304*		0.768	0.525
6. security	0.672*	0.671*	0.503*	0.235*	0.433*	0.789	0.554

Notes: * $p < 0.05$.

4.2. Structural equation analysis (SEM) of the total group

First, this study analyzed the fit of the structural model for the total group. The fit indices revealed that the structural model fit the data well overall ($\chi^2=247.015$, $df=125$, $p < 0.01$, $CFI=0.979$; $RMSEA=0.043$; $SRMR=0.039$; $TLI=0.971$; $GFI=0.952$; $AGFI=0.926$; $NFI=0.959$).

Next, this study examined the relationships between the variables which were set in the above hypotheses. To this end, as shown in Table 3, the direct, indirect, and total effects of antecedents or exogenous variables on endogenous variables, were analyzed respectively. The statistical significance of each effect was verified, using the Bootstrapping method with 1,000 replications. Standardized coefficients (Υ) were presented for the comparison between the parameter estimates. Of the variables that affected customer satisfaction, usefulness had a significant and positive direct effect as $\Upsilon=0.396$, $p < 0.001$ (H1). Convenience exerted a significant and positive direct influence on customer satisfaction as $\Upsilon=0.117$, $p < 0.01$ (H3). The direct effect of ECE on customer satisfaction was also significant and positive,

$\Upsilon=0.133, p<0.01$ (H5). Lastly, security had a statistically significant direct impact on customer satisfaction in the positive direction as $\Upsilon=0.435, p<0.001$ (H7).

Regarding customer loyalty, usefulness had significant direct ($\Upsilon=0.196, p<0.01$), indirect ($\Upsilon=0.182, p<0.01$), and total ($\Upsilon=0.378, p<0.01$) effects in the positive direction (H2). Convenience exerted a significant and positive indirect effect ($\Upsilon=0.054, p<0.1$), but its direct and total effects on customer loyalty were insignificant (H4). Contrarily, ECE was significantly and positively correlated with customer loyalty in terms of the indirect ($\Upsilon=0.061, p<0.01$) and total effects ($\Upsilon=0.135, p<0.01$), but its direct effect did not achieve a statistical significance (H6). Security had significant and positive direct ($\Upsilon=0.252, p<0.001$) indirect ($\Upsilon=0.199, p<0.01$) and total ($\Upsilon=0.451, p<0.01$) effects (H8). Subsequently, customer satisfaction showed a significant and positive direct effect, as $\Upsilon=0.459, p<0.001$ (H9). Therefore, Hypotheses 1 to 9 were supported by the data, except for Hypotheses 4 and 6.

Table 3: SEM results for the total group

endogenous variable		exogenous variable	Direct effect	Indirect effect	Total effect
Satisfaction	←	Usefulness	0.396***		0.396***
Satisfaction	←	Convenience	0.117**		0.117**
Satisfaction	←	ECE	0.133**		0.133**
Satisfaction	←	Security	0.435***		0.435***
Loyalty	←	Usefulness	0.196**	0.182**	0.378**
Loyalty	←	Convenience	0.003	0.054*	0.057
Loyalty	←	ECE	0.074	0.061**	0.135**
Loyalty	←	Security	0.252***	0.199**	0.451**
Loyalty	←	Satisfaction	0.459***		0.459***

Notes: $N = 527$; *** $p<.001$; ** $p<.01$; * $p<.05$; the coefficients were standardized.

4.3. Model Homogeneity Test between Groups for a Multi-Group SEM Analysis

For a multi-group SEM between the TB and DB groups, a model homogeneity test was conducted between the two groups. Table 4 presents the test results between non-constrained and constrained models for the TB and DB groups. The results revealed that unconstrained and λ -constrained models had satisfactory fit indices of which the values were similar. Since the difference between the two models was not statistically significant ($\Delta\chi^2=11.15, df=13, p=0.611$), the measurement homogeneity

was supported. This means that the respondents of the TB and DB groups identically perceived the measurement tools.

Table 4: Model homogeneity test for a multi-group SEM analysis

Model	χ^2	df	GFI	CFI	RMSEA	TLI	$\Delta\chi^2$	df	p
Model 1 (Unconstrained)	458.999	254	0.915	0.966	0.039	0.954			
Model 2 (λ constrained)	471.999	267	0.904	0.956	0.043	0.944	$\Delta\chi^2(13)=11.155$	13	0.611
							(Model2-Model1)		

4.4. Multi-group SEM Analysis Results

This study identified the fit of the SEMs for the TB and DB groups. The fit indices of the SEM for the TB group were $\chi^2=195.044$ (df=127, $p<0.01$), CFI=0.981, RMSEA=0.044, SRMR=0.038, TLI=0.975, GFI=0.925, AGFI=0.894, and NFI=0.949; those for the DB group were $\chi^2=263.932$ (df=127, $p<0.01$), CFI=0.942, RMSEA=0.066, SRMR=0.0581, TLI=0.901, GFI=0.901, AGFI=0.851, and NFI=0.896. As such, the two models showed an acceptable fit with the data.

As per the multi-group SEM analysis results (Table 5), this study compared the parameter estimates between the TB and DB groups. ECE and security were statistically significant for customer satisfaction only in the TB group, whereas usefulness, convenience, and security were statistically significant in the DB group. Next, security and customer satisfaction were statistically significant for customer loyalty only in the TB group, while usefulness and security were statistically significant solely in the DB group.

Table 5: Multi-group SEM analysis results

			TB			DB		
			Standardized estimate	C.R.	P	Standardized estimate	C.R.	P
Satisfaction	←	Usefulness	0.111	1.038	0.299	0.462	3.901	***
Satisfaction	←	Convenience	0.056	1.157	0.247	0.182	2.236	0.025
Satisfaction	←	ECE	0.449	4.492	***	0.023	0.382	0.703
Satisfaction	←	Security	0.384	5.492	***	0.452	5.516	***
Loyalty	←	Usefulness	0.106	1.128	0.259	0.475	2.855	0.004
Loyalty	←	Convenience	0.045	1.049	0.294	0.065	0.778	0.437
Loyalty	←	ECE	0.188	1.858	0.063	0.037	0.645	0.519
Loyalty	←	Security	0.153	2.107	0.035	0.325	2.806	0.005
Loyalty	←	Satisfaction	0.521	4.719	***	0.155	0.724	0.469

Thereafter, this study compared the path differences between the two group models: TB and DB. To this end, a method of pairwise parameter comparison was used (Table 6). The difference in the standardized coefficients of usefulness for customer satisfaction between the two models was -0.351 ($t=2.087$), indicating that bank type had a moderating effect between usefulness and customer satisfaction. It showed that usefulness had a greater positive influence on customer satisfaction in the DB group than in the TB group. The difference in the standardized coefficients of ECE for customer satisfaction was 0.426 ($t= -3.63$), indicating a moderating effect by bank type between ECE and satisfaction. That is, ECE had a greater effect on customer satisfaction in the TB group than in the DB group. In contrast, the standardized coefficients of convenience and security for customer satisfaction did not show statistically significant differences between the two group models.

The difference in the standardized coefficients of usefulness for customer loyalty between the two groups was -0.369 ($t=2.145$), which indicates that bank type moderated the relationship between usefulness and loyalty. Specifically, usefulness exerted a greater effect on customer loyalty in the DB group than in the TB group. Next, the difference in the standardized coefficients of customer satisfaction for customer loyalty was 0.366 ($t= -2.497$), indicating a moderating effect by bank type. This result confirmed that customer satisfaction had a greater influence on customer loyalty in the TB group than in the DB group. In contrast, the coefficients of convenience, ECE, and security for customer loyalty showed no statistically significant differences between the two group models.

Table 6: Results of pairwise parameter comparison between the TB and DB groups

Path			Difference of Standardized Estimates (TB-DB)	t-value	
Satisfaction	←	Usefulness	-0.351	2.087	*
Satisfaction	←	Convenience	-0.126	1.005	
Satisfaction	←	ECE	0.426	-3.63	***
Satisfaction	←	Security	-0.068	-0.565	
Loyalty	←	Usefulness	-0.369	2.145	*
Loyalty	←	Convenience	-0.02	1.173	
Loyalty	←	ECE	0.151	-1.06	
Loyalty	←	Security	-0.172	1.244	
Loyalty	←	Satisfaction	0.366	-2.497	*

5. Discussion and Conclusions

5.1. Theoretical Implications of the Results

Most previous studies were conducted with respondents who lacked a comprehensive understanding of DBs or experience in DB services before they were launched, which presented a limitation of the studies. Therefore, this study is academically meaningful in that it has explored financial consumers' perceptions and behavior through a comparison between TB and DB groups to examine the sustainability of DBs, which marks its third year of existence, in terms of bank marketing.

Customer expectations play a particularly significant role in bank management activities. Based on the expectancy disconfirmation theory, this study found differences in service expectations between DB and TB customers. According to the analysis results, DB services met financial customers' expectations more in terms of usefulness compared to TB services; however, DB services failed to meet expectations in terms of convenience, ECE, and security. Thus, it is difficult to conclude that customer satisfaction was higher with DB services than with TB services, because the advantages of DBs concerning usefulness could be offset by the shortcomings regarding ECE.

In relation to theoretical contributions, this study has found that customer satisfaction and loyalty in terms of DBs and TBs relate to customers' overall assessments after experiencing bank products or services, empirical evidence to support the expectancy disconfirmation theory, and that customer satisfaction has a greater influence on customer loyalty in TBs than DBs. In addition, this study is significant since the differences in perceptions between actual user groups who experienced DBs and TBs in Korea were investigated, which were not addressed by prior studies.

5.2. Practical Contributions of Results

In this study, DBs did not surpass TBs in terms of convenience. It can be inferred that the customers did not feel uncomfortable with access to bank services because they were accustomed to the TB apps. Therefore, to become more convenient than TBs, DBs should develop smartphone apps that are more user-friendly in the future.

Although the effect of usefulness on customer satisfaction in DB customers was greater than in TB customers, ECE and security experiences of DBs did not meet customer expectations more than those of TBs. TB customers still seem more familiar with face-to-face interactions since they have experience with bank tellers in branches rather than with online customer services of DBs. To improve their ECE, DBs should consider strengthening real-time customer support and faster responses to customer emails. Regarding security, DB customers as former TB customers, were familiar with the double authentication procedure using an official certificate and one-time password issued by banks. Thus, new DB customers are

comfortable with identification through one-step fingerprint authentication, while they are simultaneously uneasy in terms of security. Therefore, DBs should add other biometric technologies, such as face and voice recognition, to relieve customer anxiety about security and to reassure customers of security measures.

5.3. Conclusions

The main findings of this study were as follows. The greater customers' perception of usefulness, the higher customer satisfaction and loyalty. Contrarily, convenience had a positive effect only on customer satisfaction. In addition, it was verified that the higher the customers' level of perceived ECE, the higher their satisfaction and loyalty. Likewise, the greater security perceived by customers, the higher satisfaction and loyalty. It was also found that as customer satisfaction improved, customer loyalty increased.

Subsequently, the respondents perceived a greater usefulness of DBs than of TBs in relation to customer satisfaction and loyalty. In addition, DBs have been able to deliver financial information more effectively through mobile apps. In contrast, the participants reported that the ECE of TBs was more advantageous than that of DBs regarding customer satisfaction. In relation to this result, so far, financial customers have been accustomed to face-to-face transactions for which they visit banks for financial products consultation. This face-to-face approach was a marketing strategy that enabled TBs to enhance customer friendliness and trust.

5.4. Limitations and Future Studies

Despite these theoretical and managerial implications, this study has some limitations. First, since the survey was conducted with financial consumers recruited by convenience sampling, there are limitations in the representativeness of the samples and the generalizability of the analysis results. Therefore, future studies should consider using probabilistic sampling techniques. Second, four customer experience variables that reflect the characteristics of DBs versus TBs were drawn from prior research and expert interviews, but there should be scope for finding and developing additional customer experience factors. Despite these limitations, this study validated the moderating effect of the bank type (TB vs. DB) between customer experience, satisfaction, and loyalty, demonstrating statistically significant path relationships between the variables.

In future, it is necessary to further study whether Korea's IT environment, with a relatively advanced ICT infrastructure, served as a reason to why DBs were unable to clearly indicate improved convenience in a differentiated manner, compared to TBs. In order to improve the competitiveness of DBs, it is also necessary to examine how DB services affect the brand concept and product differentiation perceived by customers compared to TB services.

References

- Alalwan, A. A., Dwivedi, Y. K., Rana, N. P. & Simintiras, A. C. (2016). Jordanian consumers' adoption of telebanking influence of perceived usefulness, trust and self-efficacy. *International Journal of Bank Marketing*, 34(5), 690-709
- Amin, M. (2016) Internet banking services quality and its implication on e-customer satisfaction and e-customer loyalty. *International Journal of Bank Marketing*, 34(3), 280-306
- Amin, M., Rezaei, S. & Abolghasemi, M. (2014) User satisfaction with mobile websites: The impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust. *Nankai Business Review International*, 5(3), 258-274
- Angusamy, A., Yee, C.J., & Kuppusamy, J. (2022). E-Banking: An empirical study on customer satisfaction. *Journal of System and Management Sciences*, 12(4), 27-38
- Bauer, H. H., Grether, M., & Leach, M. (2002). Building customer relations over the internet. *Industrial Marketing Management*, 31(2), 155-163
- Belás, J., Korauš, M., Kombo, F. & Korauš, A. (2016). Electronic banking security and customer satisfaction in commercial banks. *Journal of security and sustainability issues*, 5(3), 411-422
- Bell, C. R. (2000). Customer love: Attracting and keeping customers for life. Executive Excellence Pub.: Utah, USA
- Bitner, M. J. (1990). Evaluating service encounters: the effects of physical surroundings and employee responses. *Journal of Marketing*, 54(2), 69-82
- Chang, H. H. & Chen, S. W. (2009) Consumer perception of interface quality, security, and loyalty in electronic commerce. *Information & management*, 46(7), 411-417
- Davidavičienė, V. & Davidavičius, S. (2022). Impact of activities in social networks on customer loyalty. *Journal of Logistics, Informatics and Service Science*, 9(2), 183-195
- Fornell, C., Johnson, M.D., Anderson, E.W., Cha, J. & Bryant, B.E. (1996). The American customer satisfaction index: nature, purpose, and findings. *Journal of Marketing*, 60(4), 7-18
- Hair, J. F. Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis* (5th Ed.). Upper Saddle River, New Jersey: Prentice
- Hanafizadeh, P., Keating, B. W., & Khedmatgozar, H. R. (2014). A systematic review of internet banking adoption. *Telematics and Informatics*, 31(3), 492-510
- Johnson, M. & Verdegaal, M. (2016). How traditional banks are innovating the basics to provide customers with an Uber-like mobile banking experience. *Journal of Digital Banking*, 1(1), 33-44

- Jun, M. & Palacios, S. (2016). Examining the key dimensions of mobile banking service quality: An exploratory study. *International Journal of Bank Marketing*, 34(3), 307-326
- Karatepe, O. M. & Aga, M. (2016). The effects of organization mission fulfillment and perceived organizational support on job performance: the mediating role of work engagement. *International Journal of Bank Marketing*, 34(3), 368-387
- Kazi, A. K. (2013). An empirical study of factors influencing adoption of Internet banking among students of higher education: evidence from Pakistan. *International Journal of Finance & Banking Studies*, 2(2), 87-99
- Keisidou, E., Sarigiannidis, L., Maditinos, D. I., & Thalassinou, E. I. (2013). Customer satisfaction, loyalty and financial performance. *International Journal of Bank Marketing*, 31(4), 259-288
- Kim, D. S. (2020). Bank's Q1 2020 Management Performance. *Joseilbo*. Available online: <https://www.joseilbo.com/news/htmls/2020/06/20200604399435.html>
- Knell, M. & Stix, H. (2010). Trust in Banks-Evidence from normal times and from times of crises. Paper presented at the Publication of Oesterreichische National bank, Wien, Austria
- Lassar, W. M., Manolis, C. & Winsor, R. D. (2000). Service quality perspectives and satisfaction in private banking. *Journal of services marketing*, 14(3), 244-271
- Mbama, C. I. & Ezepue, P. O. (2018). Digital banking, customer experience and bank financial performance – UK customers' perceptions. *International Journal of Bank Marketing*, 36(2), 230-255
- Oliver, R. L. (1980) A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460-469
- Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing*, 63(4), 33-44
- Raza, S. A., Jawaid, S. T., & Hassan, A. (2015). Internet banking and customer satisfaction in Pakistan. *Qualitative Research in Financial Markets*, 7(1), 24-36
- Saleem, M. A., Zahra, S., Ahmad, R. & Ismail, H. (2016). Predictors of customer loyalty in the Pakistani banking industry: A moderated-mediation study. *International Journal of Bank Marketing*, 34(3), 411-430
- Saurav, S. (2016) Customer experience impacting retail management: Study of customer centricity strategy by retailers. In *Handbook of research on strategic supply chain management in the retail industry*, Kamath, N., Ed. IGI Global: Hershey, PA
- Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). Customer experience creation: Determinants, dynamics and management strategies. *Journal of retailing*, 85(1), 31-41

Zhang, Y., Chen, X., Liu, X., & Zhu, N. (2018). Exploring trust transfer between internet enterprises and their affiliated internet-only banks: An adoption study of internet-only banks in China. *Chinese Management Studies*, 12(1), 56-78