Exploring the Moderating Role of Perceived Security between Digital Banking and Online Shopping Behaviour

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Abstract

Digitalization is the era of novel technologies where digital devices and business models are used to develop innovative opportunities for the business world amid COVID-19. In such a panicking situation, the digital platform becomes very essential for people to do online shopping. Thus, in this time of the pandemic, many digital offerings were launched and onlineshopping and digital banking are some of them. With the innovation in every sector, Digital banking is also bringing new platforms for business establishments that have a great influence on the buying behavior of customers.Perceived security is connected with innovative advancements in Digital banking,the performance of the business units and customers' purchase intentions. This study aims to investigate the correlation between Digital banking and online shopping behavior. Further, the study intends to explore the moderating role made by perceived security between digital banking and online shopping amid the COVID-19 lockdown situation. The data has been collected from customers preferring online shopping by using digital banking measures in the Jammu region of the Union Territory of Jammu and Kashmir. A two-step approach to structural equation modeling (SEM) using AMOS was applied. In the first phase,CFA was applied to judge the projected measurement model fit and also to construct validity whereas, the second step was intended at estimating and developingSEM for testing the significance of the hypothetical relationship. The results of SEM discovered that there is a direct relation between Digital Banking and online shopping behaviour, which is being moderated by Perceived security.

Keywords: Digitalization, COVID-19, Digital Banking, Online Shopping, Perceived Security.

Introduction

COVID-19 has brought significant structural and behavioural changes in the global as well as Indian economy in the form of social distancing, drive for economic transformation and escalating regulatory and government interventions that are likely to persistsoon. With the increase in the number of Corona cases and trolling death rates in

different parts of the sphere, the governments of various countries have advised their people to stay at home, work from home and maintain social distancing. Thissituation is also the same in India. In such an alarming situation, digitalization in all aspects has become very important for people to use. But, the use of user-friendliness of digital methods of payment among people throughout India is not the same. With the stretch of COVID-19 across the globe, all the banking facilities have been hindered. Borrowers and businessmen have suffered hugelosses;there has been a listlessexpansion in sales, and a decrease in profits. Besides this, this virus has brought new openings for some business houses by starting new digital offerings. Thus, banks have been efficiently using digital means and providing variousoptions forpersonal banking and physical exchanges attractively. Digital banking has become the new custom. However, to sustain its market-leadingfinancial services will need to adopt new technologies to control and monetize its data. Thus, this pandemic has resulted in the shutdown of various branches and business units, but it can speed up the implementation of open banking, to bring convenience and new applications that will modify the way customers do their banking.

Digitalization is to adopt and use the digital technologies to transform a business enterprise which inturn provides innovative opportunities and value-producing return; it is thus the process of shifting to a world of technology (Zhao et al., 2016). In the words of (Shukla, 2014) Digital is the new concept in the banking sector, with banks all around the world, are shifting toward digitalization. Banks of different sizes and across all regions and cities are making vast investments in digital initiatives to maintain a competitive edge and deliver the maximum to their customers. The existing business situation is extremely vibrant (Statista, 2018) because of the increasing advancements in technology. The present era of banking industry is running in multifaceted and violent circumstances exposed by the dynamic conditions and a widespread financial market (Ogare, 2013). Bank perform an indispensable part for the overall growth and economic expansion of a country.

Due to the technological advancements and electronic banking system across the globe, banks are undergoing rapid changes in the market all around. This digital and innovative innovations have made public aware of the technology that is changing the whole scenario with a single click (Tseng & Wei, 2020). The smart phone has an indispensable role to play. It is a means through which people are in close contact with each other,share knowledge; make online shopping possibleand more importantlyfor other day-to-day activities (Tseng & Wei, 2020; Zheng et al., 2019). To improve the proficiency and efficacy of the country banks play the vital role for rendering financial support (Binuyo & Aregbeshola, 2014). Technology have made banking facilities easier for the common man by way of initiating modern methods of financial services (Alkhowaiter, 2020) and for this reason bankers supply impeccable services to their clients. Further, in this context, Ovia (2001) stated that it is only because of the internet and technology that have given birth to digital banking. Robinson (2000) assumed that rendering services of digital banking to its clients helps the banking sector to create, maintain and develop relationships. Maintaining the performance and satisfying its customers with the help of digital banking services depend upon the ethics, morals and standards (Noman, 2002). It has been further observed that digital banking is reaching new dimensions in every field, whether business or banking which further seems to influence the buying behavior of consumers.

Technology has changed the way consumers used to buy goods and services and has given birth to online shopping. Many companies have adopted this latest technology to reduce market costs, drop the price of the product or service to remain alive and ahead in the highly competitive market. This advanced technology of the internet provides the customers with various facilities like online shopping, making comparisons of the prices and attributes of the products to be purchased, after sale services of the product if purchased online, etc. The majority of the people are hopeful about the viewpoint of online business.Online shopping is an imperative business model in e-commerce (Liu and Guo, 2008). To retain and convince online customers, online sellers need to focus on the issues that

online buyers use to decide on their online purchases (Lim and Dubinsky, 2004). Thus, to identify the online shopping behavior of the customers, sellers need to create an efficient marketing plan (Lim and Dubinsky, 2004).

The importantmotives that obstruct consumers from online shopping are unsecured payment systems, slow shipping, discarded product, spam or virus, troublesome emails and technology problem. Businesses should be aware of such important issues which lead to frustration in the mind of customers for online shopping.Thus, to conclude brand, security and trust are the three major issues that customers need to keep in mind before purchasing a product or service online (Chen and He, 2003;Laudon and Traver, 2009) because customers have fear in their mindsthat online stores mightdeceive them or misuse their credit card information which will destroy their trust (Comegys et al., 2009).

Review of Literature

Digital banking and online shopping behavior

For the smooth functioning of the various banking transactions, digital banking helps in providingefficiency, makes possible the ease of banking activities, efficacy and various other such activities are maintained(Wulandari et al. 2017).With the advancement of digitalization and the introduction of various latest technologies, the world wide web has made it possible for businessmen to shift their business from offline to online, as consumers nowadays prefer online shopping. Consumers prefer to shop online because it offers various advantages. Customers who are sometimes located in far-flung areas are not able to reach the desired location and shop for the desired item, for that purpose they prefer to shop online which will, in turn, save their money and time. It is all because of digital banking which had made payments easier and possible (Wulandari et al. 2017).When the nearest banks are not available, digital banking is helpful then and makes the payments easier which allows the customers to shop online(Snail & Hobikoglu, 2015).With the advancement of technology, the behavior of customers has changed shopping. This expansion of technology has shifted the life of humans from a conservative environment to modern culture. The internet being the need of the hour, has become an important tool for communication that greatly influences the pattern of financial behavior of consumers who want to be practical and efficient in terms of choosing and consuming products or services (Rangkuti, 2002). Thus, from the above discussion, it is concluded that there exists a positive association between digital banking and online shopping behavior.

H1: Digital banking has a positive association with online shopping behavior.

Perceived security, digital banking and online shopping behaviour

Security of information and privacy of data has become a challenge in digital banking. The information of the consumers is shared between the various companies without taking their permission, and pop-ups, where customers should be granted control of their data before their information is exploited (Bostanshirin, 2014).The satisfaction of the customers is based upon the trust and security of the digital services provided by the banks. Perceived security and trust are the major issues by which the customers are satisfied and these issues may pose serious threats as well. The major threats include theft of identity, a risk to share confidential and susceptible information and lastly, the main insecurity of loss of currency due to digital frauds (Sardana & Singhania, 2018). The study conducted by Manju (2020), emphasized that providing quality service to the consumers is the main aim of keeping their customers satisfied. The amalgamation of excellent digital financial services and shifting to avail these services is due to the fact that they perceive more revenue (customer perceived cost) which will further establish loyalty, trust and most importantly, satisfictation amongst the customers that will further regulate the sustainability of the bank (Ling, et al.2016). Hence, it is concluded by Singhal and Padhmanabhan (2008) that clients for the reason of perceived security shifted from conventional to digital banking because of the privacy and security services rendered by the banks.

H2: Perceived security moderates the relationship between digital banking online shopping behaviour.

Objective of the Study

The purpose of this research is to examine the association between digital banking and online shopping behavior in addition to it the study also focuses on moderating effect of the perceived security between digital banking and online shopping behavior.

Theoretical Framework and Hypotheses Development:

The present research focuses on cross-sectional time-series data with permanent effects modeling to study the relations in between the variables (Bontis et al. 2007). The study firstly develops a correlation between digital banking and online shopping behaviour. If there exists a positive association between the two variables, it is assumed that digital banking is a significant predictor of online shopping behavior as shown below in (Figure 1). Secondly, the study investigates the relationship between digital banking, online shopping behaviour and perceived security and for testing the moderating effect we will follow Prescott (1986) and Venkatraman (1989) approach. The deficit of positive association between these variables acts as a pillar to the position of perceived security as moderators in digital banking and online shopping. At last, interaction effects of perceived security and digital banking on online shopping behavior will be examined. All this will be tested through SEM in three steps as mentioned in Figure 1.

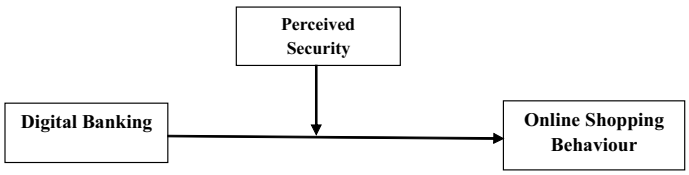

Figure 1: Theoretical framework

HYP1: Digital banking has a positive association with online shopping behavior.

HYP2: Perceived security moderates the relationship between digital banking online shopping behaviour.

Research Design and Methodology

The present research is imperical in nature. It assesses the connection between digital banking and online shopping and also the functioning of perceived security. Few steps have been taken to make the present study accurate:

Sample Size &Design

The sample size for this study is 300 online shopping users. Further, only those customers were contacted, who used digital banking measures for online shopping in the Jammu region? Out of 300 users only 215 customers gave the valid responses meeting all the criterion.

Data Collection

Data was gathered from the customers using digital banking and online shopping in Jammu by way of convenient sampling method.

Statistical Tools Applied

AMOS was used with the help of structural equation modeling (SEM). First step was to conduct a confirmatory factor analysis to evaluate the anticipated measurement model fit and formulate its validity whereas, the second step aims to develop and calculate the structural model for verifying the significance of hypothetical relationships (Anderson and Gerbing, 1988; Hair et al. 2006).

Generation of Scale Items

In the model, all the variables were calculated with the help of multiple-item scales, which were measured with the help of five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree) and most of the items were derived from the literature.

Measurement Validation

After the analysis of the data that is gathered is further used to evaluate its validity and reliability. Thereafter, the data is further evaluated to check the internal consistency among the variables with the help of Cronbach's alpha. Scale reliability was judged through composite reliability measure and the average variance extracted (AVE). Bentler-Bonnet Delta Coefficient signifies that the scale is measuring its proposed concept (Hair et al., 2006). A scale

with Bentler-Bonnet coefficient values of 0.90 or above implies strong convergent validity (Bentler-Bonnet, 1980). Convergent and discriminant validity was assessed as a part of construct validity (Campbell and Fiske, 1959). Using confirmatory factor analysis (CFA), we recognized convergent validity by the scale (> 0.5) and significance of the factor loadings. For evaluation of discriminant validity, we made a cmparison of the variance extracted with the squared correlation of different scales as suggested by Forrell & Lacker (1981).The results of the scale-level reliability and validity assessment are summarized in Table 1. All factor loadings were extremely significant, signifying the good quality of the measurement items. Cronbach's alpha and composite reliability were all more than the conventional cut off limit (> .7) and AVE was greater than .5

Table 1: The Results of Scale-Level Reliability and Validity Assessment

Construct	Standardized loadings	Average Variance Extracted	Bentler-Bonnet Coefficient Delta	Composite Reliability	Cronbach's alpha
Digital Banking		0.770	0.961	0.982	0.792
DB1	.982				
DB7	.662				
DB8	.581				
DB4	.857				
Online Shopping Behaviour		0.874	0.978	0.982	0.860
OSB10	.874				
OSB8	.993				
OSB6	.682				
OSB7	.949				
Perceived Security		0.639	0.943	0.988	0.793
PS 10	.943				
PS8	.553				
PS6	.500				
PS7	.563				

Table 2: Discriminant and Correlation Matrix

AVE / Discriminant	Perceived Security	Digital Banking	Online-Shopping Behaviour
Perceived Security	.770		
Digital Banking	.177 (.421**)	.874	
Online-Shopping Behaviour	.051 (.227**)	.082 (.287**)	639

Note: Values on the diagonal axis represent Average Variance Extracted, Squared correlations are given below the diagonal axis and values within the parenthesis represent the correlation.

Impact of Digital Banking on Online shopping behaviour: Role of perceived security – Structural Modeling Approach

To check the moderating effect all the conditions expressed by Baron and Kenny (1986) were satisfied. Firstly, the moderator should not directly be linked with the dependent variable. Secondly, the moderator hypothesis is supported if the interaction is significant. Third property of the moderator variable is that, contrasting the mediator-predictor assossiation (where the predictor is causally predecessor to the mediator), moderators and predictors are at the same platform concerning their function as causal

variables, predecessor or exogenous to definite criterion effects. Thus, to conclude moderator variables always function as the autonomous variable.

We used three ladder process through structural equation modeling in which we firstly studied the consequence of predictor i.e. digital banking on online shopping. The outcome (Model 1) stated that digital banking is positively associated with online shopping ($p < .05$) but the intensity of the association is less.

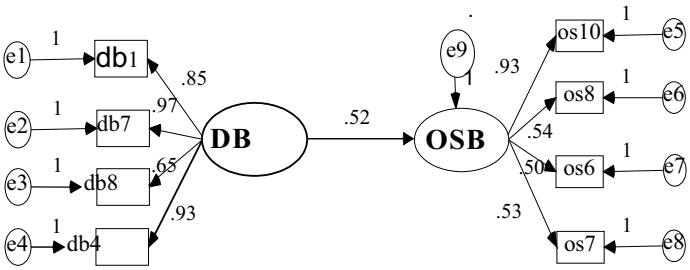

Figure 2

Key: DB = Digital Banking (Predictor), OSB = Online Shopping Behaviour (Outcome), osb6 to osb10 = Manifest variables.

Secondly, we included the moderating variables i.e. perceived security to ascertain the impact of predictor and moderating variable on online shopping behaviour. And the result revealed that digital banking is insignificantly related to online shopping behaviour ($P > .05$), which satisfies the situation to check the moderation effect recommended by Baren and Kanny (Model2).

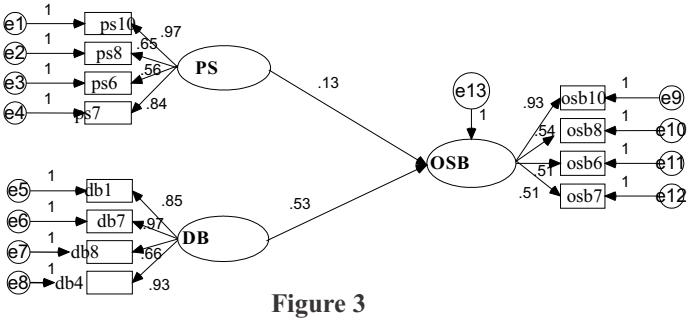

Figure 3

Key: PS = Perceived security (Moderating variable), DB = Digital Banking (Predictor), OSB = Online shopping Behaviour (Outcome).

Thirdly, we generated an unconstrained model by adding an interaction effect. In the last model, we controlled the effect of predictors and moderators which revealed that the interaction effect of perceived security x digital banking is significant (SRW = .62). The x2 difference test revealed a significant difference between the constrained and unconstrained model ($\Delta X2 = 7.801$, $P < .001$), thereby given that support for the significant interactive consequence and moderating role of perceived security between digital banking and online shopping behaviour (Table 3).

Table 3: Comparison of Models (Through Chi-Square Differences Test)

Model	Chi-Square	Df	? χ^2(pvalue	GFI	AGFI	NFI	CFI	RMSEA
Unconstrained Model	356.4	63	_	.804	.717	.759	.771	.102
Constrained Model	364.2	65	7.8 (p <0.001)	.901	.821	.849	.857	.085

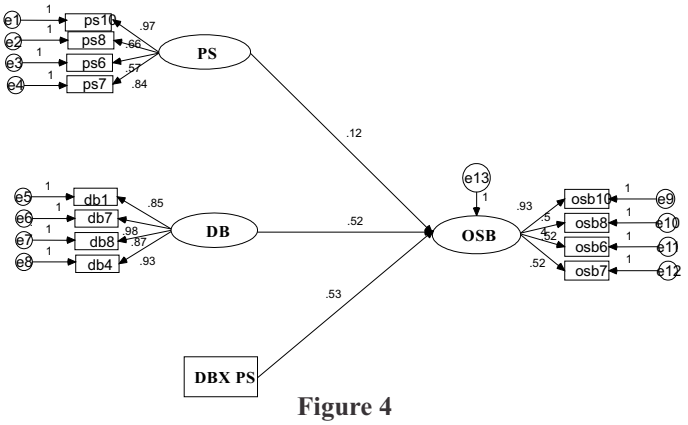

Figure 4

Key: PS Perceived security (Moderating variable), DB = Digital Banking (Predictor), DBXPS = Interactive effect, OSB = Online Shopping Behaviour (Outcome)

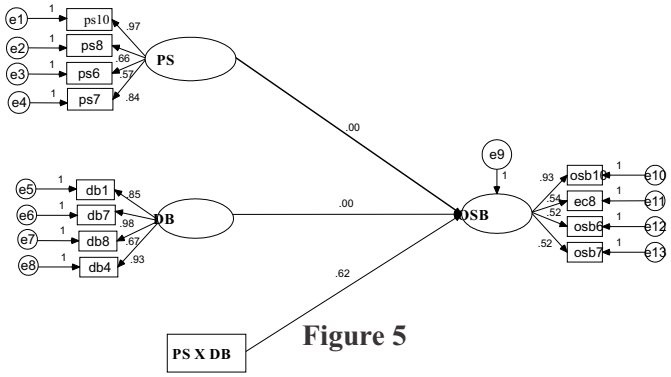

Figure 5

Key: PS Perceived security (Moderating variable), DB = Digital Banking (Predictor), DBXPS = Interactive effect, OSB = Online Shopping Behaviour (Outcome)

Discussion and Conclusion

This paper discusses how digital banking and perceived security potentially facilitate online shopping behaviour, The research was performed to measure concerns of online shopping and e-banking users regarding their security perception. The present study highlights the importance of perceived security between digital banking and the online shopping behaviour of customers.

The usage of digital banking around the globe is no longer a sophisticated trend but has emerged into a custom in the present era in the developed as well as developing economies of especially of the banking sector. The main motivation for the enormous usage of digital banking is the abundant additional benefits it can provide, both to the financial institutions as well as to the customers of financial services. The benefit gained by financial institutions, especially banks

is a lucrative way of doing business and elevating relationships with end consumers by rendering quality services, and advanced products which may be tailored according to the needs of the customers. Meanwhile, it offer numerous options for customers, with respect to the channels they use, when and where to establish, digital banking is used. However, for this industry to expand further, what matters most is how consumers perceive digital-banking security which determines their intention to adopt digital-banking services. The study highlights that perceived security affects consumers' trust in electronic commerce. Therefore companies that offer and sell their products or services online should put more effort into positively influencing customers' perceptions of privacy and security

From a realistic point of view, the outcome emphasizes various issues that may guide the triumphant completion in the digital market. Specifically, we identified a significant relationship between perceived security, digital banking and online shopping behaviour. If the online users are more convinced that a particular website provides security of transactions and data they will be less concerned about their privacy protection. The relationship between (1) digital banking and (2) perceived security on one hand, and overall online shopping behaviour (on the other hand) was confirmed. Digitalbanking provides many advantages for banks and customers. Digitalbanking has made life much easier and banking much faster for both customers and banks. It saves time spent in the banks, it provides banking throughout the year, anytime, anywhere and it provides some security and privacy to consumers by using encryption and secured technologies. This study aims to investigate the association between digital banking, perceived security and online shopping behaviour. From the result, it was clear that digital banking has significant associations with perceived digital-banking security and interaction effects of both positively impact online shopping behaviours. Perhaps further study will be conducted based on larger sample size and a wider geographical area that will provide an accurate representation of the population.

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