

A Study on the Various Factors Affecting the Decision of Adopting E Banking Services

¹Ms. Rashmi Kaushik, ²Dr. Atul Kumar Agarwal,

¹Research Scholar, School of Business, Sushant University, Gurugram, Email -
rashmikaushik.phd19@sushantuniversity.edu.in

²Professor, School of Business, Sushant University, Gurugram

Abstract

The global corona virus pandemic has affected the economies around the world. Precautionary measures imposed in various forms, such as lockdowns, have resulted in changes in consumer behaviour across all industries, including retail banking. Due to the corona crisis, a lot of consumer started preferring digital banking services over traditional mode. The study attempts to investigate the factors majorly affecting these changes in consumer intention towards e-banking. The research examines 11 factors given by various studies, which generally affect e-banking services adoption by consumers. The factors used are government support (GS), perceived external pressure (PEP), prior knowledge of IT (PKIT), perceived lack of alternatives (PLA), perceived punishable infractions (PPI), perceived behavioural control (PBC), perceived risk (PR), perceived usefulness (PU), risk taking propensity (RTP), perceived ease of use (PEoU) and subjective norm (SN).

Data collection for the paper has been done using a structured questionnaire based on the above constructs. The study provides a new insight into the usage of e-banking services during the changed times amid novel Corona virus crisis. It also validates a conceptual model on e-banking services adoption during the Corona Virus pandemic. The study uses structural equation modeling using PLS3.0 for data analysis.

Keywords: Technology Acceptance model, E-banking, Intention, Technology adoption, COVID-19, Coronavirus, India

1. Introduction

The whole fight against the infectious corona virus disease has clearly emphasized the proverb 'Health is Wealth'. During the abrupt stoppage of economic activities during the lockdown period, technology has always been important in managing the activities of business like E-Commerce, E-Bookings, E-Learning, E-Payments, E-Banking and so on. In the tough and uncertain times, it was only technology that has helped us in managing the things efficiently and effectively. No service industry has remained untouched with the intensive usage of technology during the pandemic times. Banking is not an exception. Technology-based applications of banking, such as internet and mobile banking had facilitated daily activities of life starting with payments of various necessities to transferring funds to friends and relatives. Adoption rate of e-banking services during the 21st century was already increasing at a rapid pace, but it grew even faster during the pandemic times. The difficult times have resulted in a dramatic shift in behaviour of the Indian customers. People who generally preferred to visit bank branches rather than using e-banking, started switching to internet and mobile banking platforms.

Against this backdrop, the study developed a series of hypothesis based on relationship between different factors having an impact on the adoption of e-banking and usage intention of e-banking services.

Thus, this study has attempted to investigate the factors that majorly affected the change in consumer behaviour due to changed intention towards e-banking during Covid-19 crisis. The study examines 11 factors given by previous studies, which generally affect the acceptance of e-banking services. Data collection for the research paper has been done using a structured questionnaire based containing Likert scaled questions.

1.1 Literature Review

Technology adoption has evolved as the prominent subject in sustainable business research. It is being seen that despite of huge investments made organisations and governments in the technology innovations, it may not yield desired results without real adoption by users. This makes technology adoption extremely crucial. Technology adoption can be defined as that stage of a user, who can be a firm or an individual, when they select a technology. (Carr 1999). Theories of technology adoption can be referred from two perspectives; one at individual level and another at organisation level. Numerous theories have gone beyond the individual level and talked about consumer behaviour, specifically user intentions and attitude. It is a complex process that depends not only on the technical aspects, but also on the personality and attitude of user (Venkatesh et al. 2014), social influence (Ajzen & Fishbein 1975) and trust (Gefenet et al. 2003).

Some of the most successful models that explain the relations among behavioural factors and the actual system are discussed below:

According to the Theory of Reasoned Action (TRA), technology is dependent on social psychology of users. Fishbein & Ajzen (1975) emphasized on the relation of a user's behavioural intention with attitude and subjective norm (SN). The study explains that intention of a user would convert into action if intention to behave in a certain way is too strong. TAM model (Davis, 1989) has been widely accepted by empirical theories used in technology adoption studies. The model used two simple constructs "perceived ease of use" and "perceived usefulness". Both constructs have been combined to forecast behavioural intention to adopt new technologies at individual level.

Further, perceived behavioural control (PBC) was added as construct to the existing TRA model (Ajzen 1991), which talks about the relation of attitudes and subjective norms with behavioural intention. PBC is basically referred as "user's perception pertaining to difficult or easy to perform the behaviour of interest".

2. Research Framework and Hypothesis Development

Technology adoption models TBP and TAM are being commonly used in numerous studies to assess the usage of IT and e-service (Hsu et al. 2004). Presently, a growing number of studies focus on using a combination of various behavioural models of technology adoption to understand complex user behaviour as the single model was not sufficient for a better explanation (Liao et al. 2007). To predict the intention of users for adopting e-banking during the Corona times, the present study focuses on a model that uses construct of TBP, TAM and TRA, while adding the constructs pertaining to personality and social structure.

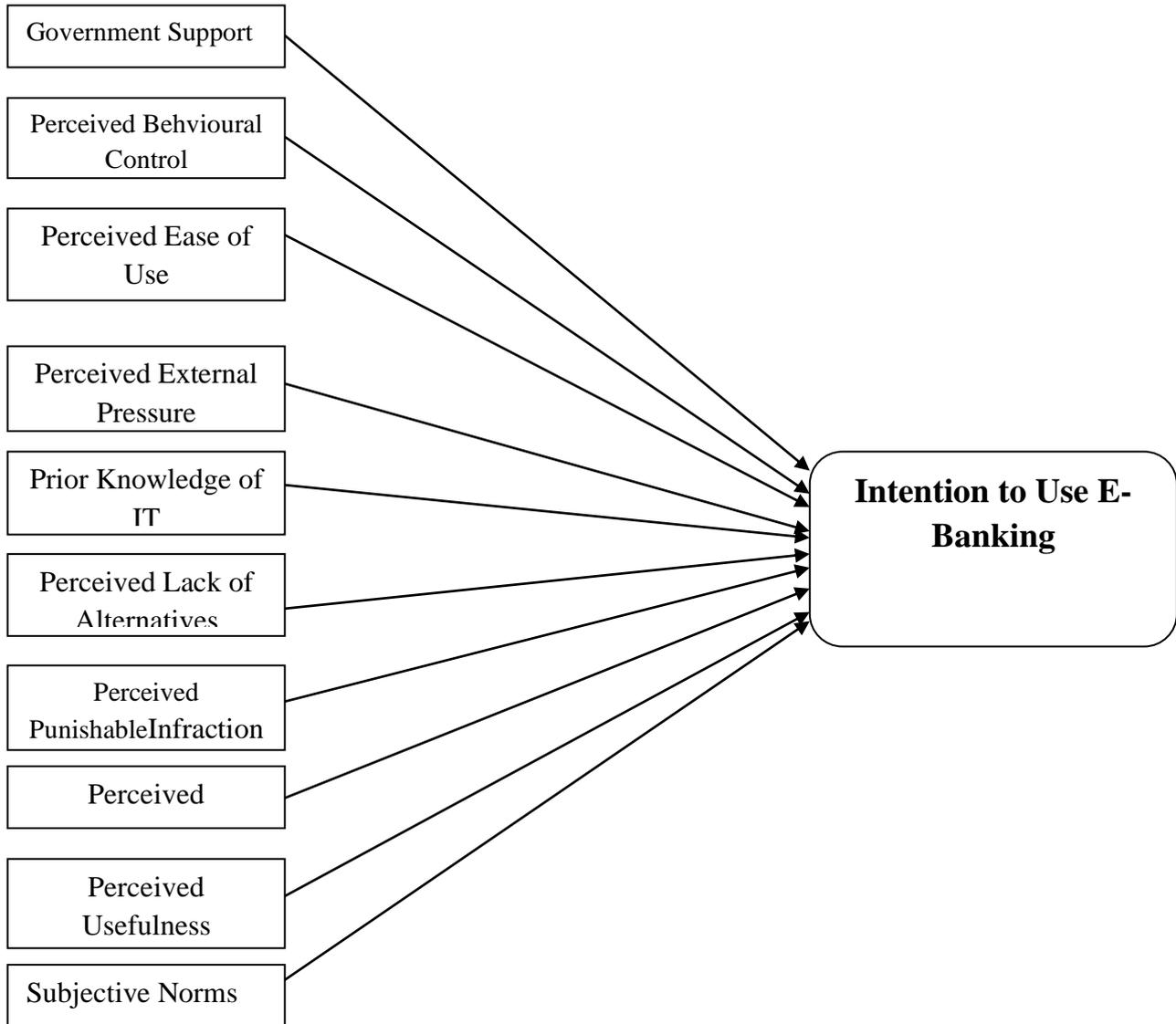


Figure 1: Proposed E-Banking Conceptual Model

The constructs used by the conceptual model (Figure 1) are as follows:

Government Support (GS)

It is referred as the assistance by the state, which is offered to promote the dissemination of innovative technology (Ifinedo 2012). Chau & Jim (2002) insisted that adoption of technology requires strong inputs and support from government of a country. Government assistance for successful adoption of novel technologies was also emphasised by Tan & Teo (2000).

H1: Intention to use e-banking is positively impacted by Government support.

Perceived Behavioural Control (PBC)

PBC is the perception of user about the ease or trouble faced while performing the behaviour of interest. The grounds for this theory lie in the SelfEfficacy Theory (SET) given from the study of **Bandura (1977)**. Further, the derivation of SET was taken by the Social Cognitive Theory.

H2: Intention to use e-banking is positively impacted by PBC.

Perceived Ease of Use (PEoU)

It refers to the extent to which a user thinks that a system is used effortlessly (Davis 1989). In reference to this study, PEoU basically measures a user's estimation of the required mental efforts to use any technology based application.

H3: Intention to use e-banking is positively impacted by PEoU.

Perceived External Pressure (PEP)

PEP refers to the degree of influence exerted by government, employer or other stakeholders on the individual for the acceptance e-banking services. Various studies of this area concluded that external pressure positively affects the technology adoption (Matta et al. 2012; Chong et al. 2012; Pan et al. 2013). During the lockdown, Indian government imposed several restrictions and forced human beings to be at home and use technology-based alternatives for various transactions, including e-banking.

H4: Intention to use e-banking is positively impacted by PEP.

Prior Knowledge of IT (PKIT)

According to **Alzaidi & Qamar (2018)**, users need a computer system with an internet connection and knowledge about its use. They stated that if a person has no or poor knowledge of IT, then adoption rate of internet banking would be low. Thus, a person having good knowledge of IT can have a positive intention for e-banking adoption.

H5: Intention to use e-banking is positively impacted by PKIT.

Perceived Lack of Alternatives (PLA)

PLA is the extent to which feasible options of goods substitutes are present in the market area (**Jones et al. 2000**). During the pandemic, banking users had lesser options available owing to health risk and legal fines imposed by the government of India. Interestingly, people who never used e-banking services in their life had to use internet and mobile banking options as a replacement to traditional banking methods.

H6: Intention to use e-banking is positively impacted by PLA.

Perceived Punishable Infractions (PPI)

Molgard (1973) stated that punishable infractions are the acts that violates rules and may get penalised. During the Corona crisis, the Indian government imposed lockdowns and fines to protect people from the communicable virus

disease. Here, PPI would mean the perception of the person that punishments and fines could be imposed, if they visit branches for banking. A person who wants to avoid penalty would have a positive impact on usage of e-banking systems.

H7: Intention to use e-banking is positively impacted by PPI.

Perceived Risk (PR)

PR is a risk to privacy, security, society and performance, according to the study conducted by **Aldás-Manzano et al. (2009)**. They stated that the adoption of internet banking is directly impacted by PR. **Salem & Nor (2020)** linked PR with the perception of a user that he may be exposed to health hazards when he goes out at the time of pandemic. In the present study, higher PR result in higher e-banking usage intention.

H8: Intention to use e-banking is positively impacted by PR.

Perceived Usefulness (PU)

According to **Davis (1989)**, PU is the extent to which users think that they may improve their job performance with the use of a particular system. Several researches have validated the relation between a user's acceptance of information system and PU (**Lee et al., 2001; Gefen & Straub, 2000; Pavlou & Fygenson, 2006**). In the context of this e-banking study, PU is the extent to which users think that by using e-banking they can attain better health safety that will lead to improved job performance.

H9: Intention to use e-banking is positively impacted by PU.

Subjective Norms (SN)

Ajzen defined SN as user's perception of pressure from the society to behave in a certain manner. This study refers SN as the perception of user about the societal pressure various elements of the social group. In the study, social groups are the highly influential people in a user's life, including family, relatives, colleagues and so on. These highly influential people can affect the decision of a user's e-banking services adoption.

H10: Intention to use e-banking is positively impacted by SN.

3. Research Methodology and Objectives

The research seeks to investigate the factors that primarily affected the changed consumer behaviour towards e-banking during Covid-19 crisis. The research uses 11 factors given by prior studies that generally affect the adoption of e-banking. Data collection for the study has been done through a structured questionnaire having 5-point Likert scale. A sample of 150 respondents was collected online, out of which a sample of 102 was considered for the study.

The study has been organized in to three sections: the first part deals with the review of various technology adoption models and pandemic literature pertaining to e-banking; the second section focuses on data analysis of proposed model based on the 11 chosen factors and e-banking usage intention; the final segments is devoted to the conclusions, future directions and limitations of the present study.

4. Results and Data Findings

4.1 Measurement Model Assessment

According to Hair (2006), the above model is used to confirm the validity and reliability of the constructs and dimension used under it. For convergent validity (Table 1), a total of 33 indicators were used to calculate factor loadings. Factor loadings of alpha coefficient of all the constructs were greater than 0.70, except subjective Norm. However, Average Variance Extracted (AVE) values for all factors were above 0.50. Hence, validity and convergent reliability are established for the data. According to Hair et al. (2016), Fornell-Larcker (1981) scale is one of the primary measures to assess discriminant validity. In the study, discriminant validity is also confirmed (Table 2) using the same criterion.

Table1: Factor Loadings, reliability and convergent validity				
	A	α	CR	AVE
Perceived External Pressure		0.898	0.758	0.543
PEP1	0.923			
PEP2	0.812			
PEP3	0.34			
Perceived Lack of Alternatives		0.726	0.842	0.645
PLA1	0.629			
PLA2	0.872			
PLA3	0.882			
Perceived Risk		0.928	0.954	0.874
PR1	0.949			
PR2	0.955			
PR3	0.9			
Perceived Usefulness		0.953	0.977	0.955
PU1	0.976			
PU2	0.979			
Perceived Ease of Use		0.919	0.943	0.805
PEoU1	0.922			
PEoU2	0.906			
PEoU3	0.863			
PEoU4	0.895			
Subjective Norms		-0.303	0.293	0.537
SN1	-0.266			
SN2	0.982			
Perceived Behavioral Control		0.922	0.95	0.864
PBC1	0.921			

PBC2	0.934			
PBC3	0.934			
Perceived Punishable Infractions		0.952	0.976	0.954
PPI1	0.972			
PPI2	0.981			
Government Support		0.795	0.874	0.698
GS1	0.82			
GS2	0.895			
GS3	0.787			
Risk Taking Propensity		0.848	0.901	0.755
RTP1	0.021			
RTP2	0.98			
RTP3	0.664			
Previous Knowledge of IT		0.802	0.908	0.831
PKIT1	0.941			
PKIT2	0.882			
Intention		0.937	0.959	0.888
INT1	0.949			
INT2	0.939			
INT3	0.938			

	GS	INT	PBC	PEoU	PEP	PKIT	PLA	PPI	PR	PU	RTP	SN
GS	0.835											
INT	0.668	0.942										
PBC	0.465	0.804	0.93									
PEoU	0.513	0.713	0.808	0.897								
PEP	0.423	0.357	0.188	0.142	0.737							
PKIT	0.479	0.754	0.759	0.589	0.168	0.912						
PLA	0.35	0.373	0.429	0.565	0.237	0.29	0.803					
PPI	0.468	0.418	0.531	0.557	-0.109	0.434	0.288	0.977				
PR	0.437	0.808	0.865	0.809	0.278	0.812	0.469	0.424	0.935			
PU	0.484	0.861	0.852	0.789	0.343	0.738	0.444	0.353	0.908	0.977		
RTP	0.042	0.357	0.198	0.241	0.035	0.212	0.083	-0.073	0.161	0.316	0.683	
SN	0.426	0.753	0.866	0.667	0.332	0.591	0.508	0.402	0.752	0.811	0.078	0.719

4.2 Structural Model Assessment (SMA)

After establishing convergent and discriminant validity, the study assessed the SMA. Under this model, the value of the path coefficient and coefficient of determination (R^2) has been analysed (Hair et al. 2016). An R^2 value of 0.887 was shown by the SMA for the intention to use e-banking during Corona Virus crisis. An adjusted R^2 value of 0.873 was obtained during the analysis. Chin (1998) concluded that R^2 value more than 0.67 represents is referred as high coefficient value. Table 4 in the appendices shows the output of the path analysis. The output value of the structural model supported four constructs in the study. The supported variables are GS, PR, RTP and SN.

Table 3: Path Coefficient (direct relationships) of SMA

Hypothesis	Relation Tested	β	SD	t-value	Decisions
H1	GS -> Intention	0.388	0.077	5.045	Supported
H2	PBC-> Intention	-0.085	0.132	0.645	Not Supported
H3	PEoU-> Intention	-0.067	0.097	0.691	Not Supported
H4	PEP-> Intention	-0.03	0.06	0.498	Not Supported
H5	PKIT-> Intention	0.066	0.107	0.615	Not Supported
H6	PLA-> Intention	-0.124	0.067	1.84	Not Supported
H7	PPI-> Intention	0.003	0.046	0.068	Not Supported
H8	PR-> Intention	0.372	0.171	2.18	Supported
H9	PU-> Intention	0.121	0.182	0.664	Not Supported
H10	RTP-> Intention	0.247	0.065	3.81	Supported
H11	SN-> Intention	0.342	0.114	3.01	

Table 4 : Values of R2

Constructs	R Square	R Square Adjusted
GS	5.175	
PBC	0.642	
PEoU	0.663	
PEP	0.493	
PKIT	0.641	
PLA	1.843	
PPI	0.071	
PR	2.072	
PU	0.662	
RTP	3.522	
SN	3.058	
Intention (DV)	0.887	0.873

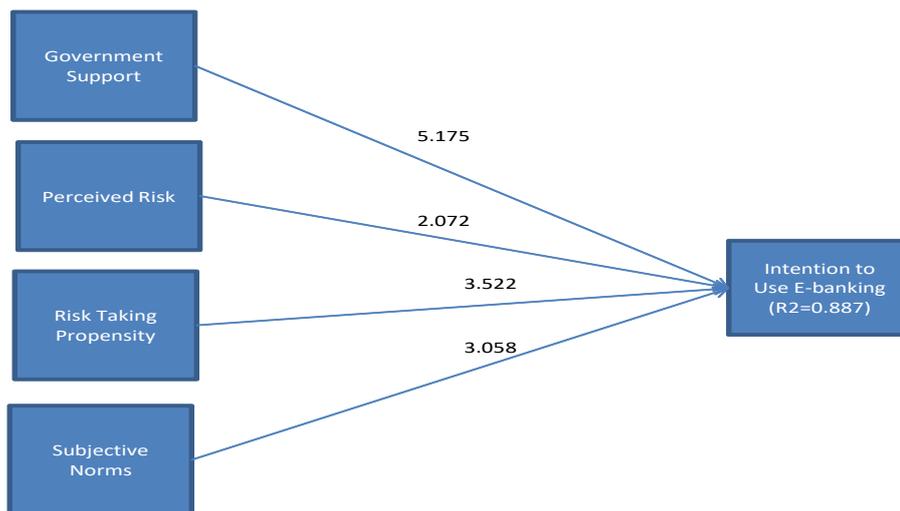


Figure 2: Framework of Technology Adoption During Corona Pandemic For E-Banking Services

5. Conclusion, limitations, and future studies

To gain a competitive edge in the highly competitive world of globalisation, firms need to focus on innovative solutions to improve their performance. Even during the adverse COVID-19 crisis, the world came up with creative innovations based on technology. The success of businesses would now be dependent on their ability to adopt, assimilate and implement new technologies. The pandemic supported the idea of increased usage of e-banking channels to accomplish banking needs by the users. The proposed model on adoption of e-banking services explained 88.7% of the variance in e-banking usage intention during COVID-19. Of the 10 constructs taken by the study, four constructs, namely government support, risk taking propensity, perceived risk and subjective norms, were identified as dominating variables to predict the e-banking intention usage. The research has certain limitations. The empirical study is limited to India only, therefore, further studies can be undertaken to validate the results in other countries. Similar studies can be conducted in other industries as the study only covers the banking sector. The COVID-19 pandemic is temporary change and as the situation improves the user attitude and intention towards e-banking usage may change. Therefore, there is a need to conduct a longitudinal research to track the transformative changes e-services adoption models, including e-banking.

References:

1. Ajzen, I.(1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211
2. Aldás-Manzano, J., Lassala-Navarré, C., Ruiz-Mafé, C. and Sanz-Blas, S. (2009) 'Key drivers of internet banking services use', *Online Information Review*, Vol. 33, No. 4, pp.672–695.
3. Alzaidi, A. and Qamar, S. (2018) 'Factors affecting the adoption of internet banking: a systematic literature review', *Int. J. Business Information Systems*, Vol. 28, No. 1, pp.95–124.
4. Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191
5. Carr Jr, V. H. (1999). *Technology adoption and diffusion*. The Learning Center for Interactive Technology.

6. Chau, P.Y. and C.C. Jim, Adoption of electronic data interchange in small and medium-sized enterprises. *Journal of Global Information Management (JGIM)*, 2002. 10(4): p. 61-85.
7. Chin, W.W., 1998. The partial least squares approach to structural equation modeling. In: M.G.E. Mahwah, ed. *Modern methods for business research*. New Jersey: Lawrence Erlbaum Associates, 295–336.
8. Chong, A.Y.-L. and F.T. Chan, Structural equation modeling for multi-stage analysis on Radio Frequency Identification (RFID) diffusion in the health care industry. *Expert Systems with Applications*, 2012. 39(10): p. 8645- 8654.
9. Davis, F.D., Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 1989: p. 319-340.
10. Fishbein M., Ajzen, I.(1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Addison-Wesley, Reading, MA.
11. Fornell, C., and D. F. Larcker. 1981. "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error." *Journal of Marketing Research* 18 (1): 39–50.
12. Gefen, D., & Straub, D. W. (2000). The relative importance of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of the association for Information Systems*, 1(1), 8.
13. Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. *MIS quarterly*, 27(1), 51-90.
14. Hair Jr, J.F., et al., *A primer on partial least squares structural equation modeling (PLS-SEM)*. 2016: Sage publications.
15. Hair, J. F. 2006. *Multivariate Data Analysis*. Upper Saddle River, NJ: Pearson Education India
16. Hsu, C.-L. and H.-P. Lu, Why do people play on-line games? An extended TAM with social influences and flow experience. *Information & management*, 2004. 41(7): p. 853-868.
17. Ifinedo, P., Facilitating the intention to expand e-business payment systems use in Nigerian small firms: an empirical analysis. *E-business—applications and global acceptance*, 2012: p. 19.
18. Jones, M.A., D.L. Mothersbaugh, and S.E. Beatty, Switching barriers and repurchase intentions in services. *Journal of retailing*, 2000. 76(2): p. 259-274.
19. Lee, D., J. Park, and J.-H. Ahn, On the explanation of factors affecting e-commerce adoption. *ICIS 2001*
20. Liao, C., J.-L. Chen, and D.C. Yen, Theory of planning behavior (TPB) and customer satisfaction in the continued use of e-service: An integrated model. *Computers in human behavior*, 2007. 23(6): p. 2804- 2822.
21. Matta, V., D. Koonce, and A. Jeyaraj, Initiation, experimentation, implementation of innovations: The case for radio frequency identification systems. *International Journal of Information Management*, 2012. 32(2): p. 164-174.
22. Molgard, R.K., *Team Rules and Regulations Used by Football and Basketball Coaches in Utah High Schools*. 1973.
23. Pan, Y., et al., Adoption model of mobile-enabled systems in supply chain. *Industrial Management & Data Systems*, 2013.
24. Pavlou, P. A., & Fyngenson, M. (2006). Understanding and predicting electronic commerce adoption: An extension of the theory of planned behavior. *MIS quarterly*, 115-143.
25. Pavlou, P.A. and M. Fyngenson, Understanding and predicting electronic commerce adoption: An extension of the theory. *Proceedings*, 2001: p. 14.

26. Salem, M. A., &Nor, K. M. (2020). The Effect Of COVID-19 On Consumer Behaviour In Saudi Arabia: Switching From Brick And Mortar Stores To E-Commerce. *International Journal of Scientific & Technology Research*, 9(07), 15-28.
27. Tan, M. and T.S. Teo, Factors influencing the adoption of Internet banking. *Journal of the Association for information Systems*, 2000. 1(1): p. 5.
28. Venkatesh, V., Sykes, T. A., &Venkatraman, S. (2014). Understanding e-Government portal use in rural India: role of demographic and personality characteristics. *Information Systems Journal*, 24(3), 249-269.