



Social Interactions Leading Role in Adopting the Fintech: A Case of Banking Sector

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ABSTRACT

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The objective of this study is to analyse the client behaviour regarding the acceptance of FinTech services in the banking sector. The assumption is that social connections have a stronger impact on the acceptance of FinTech services and technology. To achieve this objective, several banks in Pakistan providing FinTech services were targeted, and a convenient sampling method was used to distribute questionnaires to bank users. After screening the questionnaires, a total of 377 responses were analysed. Structural Equation Modelling was employed to analyse the data, and the results indicated that customers are more likely to adopt FinTech services if they trust the services, and this trust is developed through positive word-of-mouth from their social network. Additionally, the study found that customer education is a crucial moderator, as higher education levels lead to more informed responses. Educated customers showed a greater intention to adopt FinTech services, especially when they received positive feedback from friends and family. Based on these findings, it is recommended that service providers in lower-developing regions focus on building trust and utilizing social networks to promote the FinTech culture.

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1. Introduction

In today's globalized world, technology plays a significant role in almost every aspect of life, bringing revolutionary changes to our daily lives and businesses. Information technology (IT) has transformed our lives, while FinTech technology (FinTech) has revolutionized FinTech solutions and services. FinTech refers to technologically advanced businesses and FinTech service providers that compete with traditional methods of finance and business operations (I. Lee & Shin, 2018). It offers advantages such as minimal transaction costs, fair business practices, direct customer interaction, and quick access to FinTech data (Van Baal, 2014; Zavolokina, Dolata, & Schwabe, 2016; Zhang & Shu, 2010).

According to the FinTech Development Stages, there are three stages (Arner, Barberis, & Buckley, 2015). The first stage, known as FinTech 1.0, took place from 1866 to 1987 and involved the use of analog technology for international transactions. The second stage, FinTech 2.0, occurred from 1987 to 2008 and focused on digitizing banking operations. Advancements in smartphones and new technologies facilitated the growth of banking products, enabling computers and the internet to handle various internal operations and transactions. The third stage, FinTech 3.0, started in 2008 and continues to the present. This stage is characterized by the impact of smartphones, digital transformations, and the integration of Fintech technology into the FinTech industry (Kerem, Lustsik, Sörg, & Vensel, 2003; Nambiar & Lu, 2005).

These innovations are at the forefront of global transformation. Since the mid-1980s, banks have been developing new communication channels to connect their services (Aljaafreh, Ani, Aljaafreh, & Chandran, 2015). The term "e-banking" emerged in the mid-1990s, and today, it is conducted on various devices, including computers, laptops, tablets, and mobile phones. Electronic banking, or online banking, has facilitated a range of banking services such as account opening, online payments, bill payments, cash withdrawals, and international transactions (Dahlberg, Mallat, Ondrus, & Zmijewska, 2008; Nambiar & Lu, 2005; Thakur & Srivastava, 2014). The rapid growth of smartphone applications has further influenced user behavior towards FinTech (Kreyer, Pousttchi, & Turowski, 2003; Yang, Lu, & Chau, 2013). Additionally, after the global FinTech crisis of 2008, FinTech products have been personalized through mobile finance, next-generation technologies, and social networking. The COVID-19 pandemic has further accelerated the prominence of FinTech and e-banking technologies.

The FinTech industry in Pakistan is relatively emerging but gradually reaching ground. Initially, commercial banks primarily offered different related services of FinTech, However, Pakistan has recently undergone a technological revolution that has facilitated smarter ways. The key characteristics of FinTech services and products in Pakistan are now built on advanced technology, which enhances the overall productivity of the FinTech sector. FinTech in Pakistan is categorized in evolving FinTech and traditional FinTech. Traditional FinTech works in collaboration with the established FinTech system, while emerging associates with banks and companies. Conventional pricing patterns is still providing solutions in Traditional FinTech, whereas emerging FinTech offers innovative technology-driven solutions. Services provided by both traditional and emerging FinTech include management consultancy, different products offered in banking sector, applications based on web, payment systems, top-up and mobile wallets, etc. and social investing networks (Rizvi, Naqvi, & Tanveer, 2018). The convergence of technology and banking has become crucial for the growth of the banking sector. While FinTech investments are rapidly increasing worldwide, the involvement of FinTech companies in the banking sector remains limited. Consumer adoption of FinTech may be hindered by significant perceived risks associated with its usage. These unforeseen risks may deter clients from embracing FinTech, making it vital for organizations to meet customer expectations, enhance customer retention, and ultimately focus on growth and profitability (Monferrer-Tirado, Estrada-Guillen, Fandos-Roig, Moliner-Tena, & Sanchez Garcia, 2016). Examining the impact of the digital banking system on overall service quality and customer experience is critical for banks (ORBANINGSIH, SAWITRI, & SUHARSONO, 2021). A bank's FinTech performance is determined by the services it provides to its clients and the satisfaction derived by customers from utilizing those services (Andaleeb, Rashid, & Rahman, 2016; Garg, Garg, Tai, & Sreedeeep, 2014). Trust and word-of-mouth play a significant role as an advertisement campaign.

An individual with a negative attitude towards adoption can be described as a staunch pessimist. Currently, individuals in developing countries primarily learn about FinTech through social media. However, there are several barriers to adopting new technology. One obstacle is the negative attitude and response of individuals themselves. The second significant barrier is the lack of education and exposure to the global world. The third obstacle is the influence of word-of-mouth and the experiences shared by family and friends regarding these services. Therefore, this study aims to explore the factors influencing customer attitudes towards FinTech services and their adoption.

2. Literature Review

FinTech, which refers to the application of cellphone/smartphone-based information technology to enhance FinTech transactions, has gained significant influence in the modern sector (Gomber, Koch, & Siering, 2017). However, there are various legal, FinTech, and operational risks associated with this technology. Technical issues sometimes disrupt client transactions, leading to increased uncertainty for users (Abramova & Böhme, 2016; Benlian & Hess, 2011; Farivar & Yuan, 2014; H. Lee, Park, & Kim, 2013; M.-C. Lee, 2009). To mitigate client risks in FinTech businesses, special attention and commitment are required (Chan, 2015; Nambiar & Lu, 2005; Wu & Zhang, 2017). Additionally, personal characteristics such as education, gender, and income level can impact user trust (Alafeef, Singh, & Ahmad, 2011; Dirks & Ferrin, 2001; Ganzaroli, Tan, & Thoen, 1999; Kim, Mirusmonov, & Lee, 2010). Establishing a trust network is crucial for attracting customers to use FinTech services (Barberis, 2014; Shin, 2010).

It is essential, in the context of the banking business, to conduct an analysis of the factors that affect consumers' propensity to make use of various forms of financial technology (FinTech) in order to achieve the goal of improving the overall quality of these services (Taylor & Todd, 1995). Previous research has mostly focused on four major characteristics that influence consumers' desire to adopt FinTech. These include perceived usefulness (PU), perceived ease of use (PEU), customer trust (TRU), and social influence (SI). Although there are several aspects that influence consumers' readiness to adopt FinTech, previous research has primarily focused on these four key factors (Venkatesh, Morris, Davis, & Davis, 2003).

Perceived usefulness refers to individuals' perception of the value or benefit they derive from using technology (Ryu, 2018). Empirical studies have consistently shown the positive impact of perceived usefulness on users' intentions (Koksal, 2016; I. Lee & Shin, 2018). It is defined as the amount to which customers feel the new technology advantageous, and it is a reflection of the thoughts of the general public (DEMEERSMAN, PETERS, & DEVIS, 1986). When individuals believe that FinTech can assist them, they are more likely to adopt the service. According to the findings of a large number of research on the subject of users' intentions regarding the adoption of new technologies, perceived utility has a significant role (Carlin, Olafsson, & Pagel, 2017; Chang, Zhuo, Meng, Qin, & Yao, 2016; Ng & Kwok, 2017).

When discussing FinTech services, "ease of use" refers to the degree to which end users report that they are comfortable making use of those services. When FinTech services are user-friendly and meet customers' specific needs, they provide engaging experiences. If services are difficult to use, customers may encounter problems, leading to potential FinTech losses. Therefore, users' perception of ease of use significantly influences their willingness to adopt FinTech services (Abbad, 2013). In other words, customers' perceptions of ease of use influence their inclination to use FinTech services (Akturan & Tezcan, 2012; Gunawan, Ali, & Nugroho, 2019; Riquelme & Rios, 2010; Szopiński, 2016). The variables ease of understanding, ease of use for users, and ease of operation can be used to evaluate the perceived ease of use of a product or service (Abbad, 2013; Davis, 1985).

Trust and social impact are crucial factors in attracting customers to FinTech services. Faith is defined as a person's propensity to believe in the words or conduct of a service provider, whereas social impact refers to the degree to which other people place their faith in an individual as a result of their behaviour. According to a number of studies, consumers are more likely to adopt financial technology services if they observe members of their community making use of those services.

Intention to use is the strong desire to engage in a favored activity, and it is influenced by various factors, including perceptions of risk and benefit. While perceived advantages have been shown to have a positive correlation with user intention, perceived disadvantages have been shown to have a negative correlation.

3. The Framework of Analysis

The selection of the variables for this study was based on the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB). In TRA, an individual's attitude and their subjective norms are considered to be predictors of behaviour, whereas in TPB, attitudes, subjective norms, and perceived behavioural control are all taken into consideration. Attitudes reflect the individual's subjective appraisal of the acceptability of the behavior, while subjective norms encompass social pressures. Professed usefulness, professed ease of use, social stimulus and client conviction are independent variables predicting individuals' attitudes, while education is a moderating variable. The adoption attitudes of clients towards FinTech are represented by the plan to utilise FinTech services, which serves as the dependent variable in this model.

In summary, trust, social impact, perceived advantage, perceived risk, and other factors play important roles in shaping customers' intentions to use FinTech services. The theoretical underpinnings and empirical evidence support the proposed framework for analyzing these factors.

4. Methodology

The present study presented the results for two foremost objectives, the first objective comprises of four sub-objectives and corresponding hypotheses. The second objective is also supported by four hypothesis aims to investigate the moderating role of client education in the relationship among variables. The following hypothesis are defined in the study;

The population of this study encompasses all individuals or objects to which the research findings are intended to be generalized, focusing specifically on the banking sector. Commercial banks, including National Banks of Pakistan, United Bank Limited, Habib Bank Limited, Allied Bank, Meezan Bank, Bank of Punjab, MCB, and Faysal Bank, were considered for data collection. The unit of analysis was the individual, and a stratified sampling approach was employed to randomly select 30% of individuals (clients) from each bank, resulting in a sample size of 578 individuals. However, the actual number of responses obtained for analysis was approximately 377, yielding a response rate of over 65%.

The intention to use FinTech services (INTC), which represents consumers' desire to take use of FinTech services in the banking sector, is the study's dependent variable. This represents customers' desires to use FinTech services. The independent variables include perceived usefulness (PUC), which evaluates the efficiency and utility of FinTech services for customers; perceived ease of use (PEUC), which assesses the ease, clarity, and simplicity of using and interacting with the services; customer trust (TRUC), which evaluates trust in FinTech services based on information provided, security, reputation, and perceived risk; and social influence (SIC), which reflects the impact of social capital on customers' adoption of FinTech services. Education (ED) is considered a moderating variable, representing the total number of years of formal education. The study collected primary data using self-administered questionnaires.

5. Analysis

The results of the survey are shown in Table 1, which shows the demographic profile of the respondents. Gender, Marital Status, age, experience and education status of participants are reported.

Table 1: Demographic Features

No.	Variable	Category	Frequency	Percent (%)
1	Gender	Male	305	80.90%
		Female	72	19.09%
2	Marital status	Married	290	76.92%
		Unmarried	87	23.08%
3	Age	Less than 30	185	49.07%
		30-39	90	23.87%
		40-49	70	18.56%
		More than 50	32	8%
4	Education	Graduation	190	50.39%
		Master	150	39.78%
		PhD	37	9.81%
5	Job Experience in any field	Less than 10	140	37.71%
		10-19	110	29.17%
		20-29	90	23.87%
		More than 30	37	10%

Table 2, on the other hand, shows the respondents' insights in reference to clients' plans to utilise FinTech services; both tables can be found below. The average score on the PUCH is 4.2510, which indicates that clients have a moderate level of PUCH. The mean scores for the PEUCH, TRUCH, EDH, and INTCH are 4.720, 4.6386, 4.5613, and 4.6941 respectively. The mean score for the INTCH is 4.78341. The mean values obtained for the aforementioned variables are satisfactory. The standard deviation (S.D.) of the PUCH is 0.4543, whereas the PEUCH is 0.3302, the TRUCH is 0.6082, the SICH is 0.8023, the EDH is 83115, and the INTCH is.76077. The following table, Table 2, displays the average score as well as the standard deviation for each of the factors.

Table 2: Results of Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
PUCH	2.83	5.83	4.2510	.4543	-.279	-.253
PEUCH	3.63	5.87	4.720	.3302	-.156	-.292
TRUCH	2.71	5.94	4.6941	.6082	-.540	-.586
SICH	2.00	6.00	4.00	.8023	-.420	-.449
EDH	2.00	6.00	4.00	1.36213	-.754	-.994
INTCH	2.00	4.80	3.6731	.87188	-.666	-.862

5.1. Measurement of Model Assessment

In order to verify the accuracy of the model hypotheses, the research project utilises the Partial Least Squares Structural Equation Modelling (PLS-SEM) method. The first stage in this process to access the measurement model is to determine the reliability and validity of the data. Examining factor loadings, composite reliability (CR), Cronbach's alpha, average variance extracted (AVE), and discriminant validity were all part of the Smart-PLS evaluation of the measurement model. In order to evaluate the dependability of the variables based on their constituent parts, cross-loadings were also calculated. The evidence for the validity of the items, as well as their internal consistency, may be found in the measurement model. The factor loadings of individual items in the model indicate how significant those items are, whereas Cronbach's alpha provides an indication of the overall dependability of the variables. The AVE is applied when determining convergent validity, cross-loadings when determining discriminant validity, and CR when evaluating each construct. Before moving on to the structural model, it is necessary to make a determination on the dependability of the model.

Table 3: Reliability and Validity Results

First order construct	Items	Loadings	Alpha	AVE	CR
INTCH	INTC1	0.697	0.719	0.54	0.823
	INTC2	0.797			
	INTC3	0.645			
	INTC4	0.79			
PUCH	PUC1	0.851	0.922	0.688	0.938
	PUC2	0.62			
	PUC3	0.876			
	PUC4	0.881			
PEUCH	PEUC1	0.896	0.909	0.623	0.928
	PEUC2	0.87			
	PEUC3	0.603			
	PEUC4	0.883			
TRUCH	TRUC1	0.548	0.854	0.572	0.794
	TRUC2	0.888			
	TRUC3	0.793			
SICH	SIC1	0.786	0.866	0.561	0.898
	SIC2	0.844			
	SIC3	0.774			
	SIC4	0.746			

The findings in Table 3 suggest that the deleted items may not contribute to explaining the conceptual meaning of the construct. Previous studies support the removal of items with low factor loadings. The degree to which all of the components of the scale are used to assess the same concept is referred to as the scale's internal consistency. Whereas, internal consistency and reliability can be ascertained through the use of composite reliability (CR). Both the Cronbach's alpha and the CR coefficients in this study are satisfactory according to the criteria that were stated. The proposed latent variable and correlates extent is measured by Convergent validity for which Average variance extracted (AVE) is reported. A threshold of 0.50 or greater is typically considered acceptable. The data reveal that the AVE values for all latent constructs above the threshold of 0.50, suggesting acceptable convergent validity in the present model. Research indicates that an AVE value can easily be attained with factor loadings of 0.50 or higher.

Discriminant validity (DV) is a measure that validates constructs based on their associated indicators. Cross loadings, the Fornell-Larcker (FL) criterion, and the Heterotrait-Monotrait Ratio (HTMT) of Correlations were utilized in this investigation as methods for determining the validity of discriminant variables. The results for the FL criterion were provided in Table 4, which involved

doing a comparison between the square root of AVE for each variable and the correlations among the latent components.

Table 4: DV

	INTC	PUC	PEUC	TRUC	SIC
INTC	0.766				
PUC	0.194	0.829			
PEUC	0.135	0.463	0.789		
TRUC	0.095	0.127	0.007	0.728	
SIC	0.567	0.305	0.096	0.229	0.798

According to (F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014) research, in order to prove discriminant validity, the square root of AVE needs to be larger than the correlation between the components. The results presented in Table 4, which are an illustration of the FL criteria analysis for determining the validity of the discriminant function, demonstrated that the square root of AVE was greater than the correlations that existed between the latent variables. This demonstrates that the study has a discriminant validity that is reasonable. In addition to the above discussion, HTMT is presented in the Table 5. This stated approach was suggested by (Henseler, Ringle, & Sarstedt, 2015).

Table 5: HTMT Discriminant Validity

	INTC	PUC	PEUC	TRUC	SIC
INTC					
PUC	0.217				
PEUC	0.165	0.488			
TRUC	0.117	0.16	0.116		
SIC	0.63	0.35	0.122	0.278	0.67

5.2. Direct Relationship

The findings are presented in Table 6, and it can be seen that there is a positive and significant link between INTC and PU. This can be seen because the p-value is lower than 0.05, and the t-value is higher than 1.96. Both the p value and the t value indicate that there is a significant association between PEU and TRU and INTC because the p value is lower than 0.05 and the t value is higher than 1.96.

Table 6: The Direct Effects

Hypotheses	Connection	Beta	S.Error	T Statistics	P Values	Results
H ₁	PUC->INTC	0.117	0.052	2.272	0.024	Supported
H ₂	SIC->INTC	0.082	0.055	2.176	0.041	Supported
H ₃	PEUC->INTC	0.332	0.073	4.54	0.000	Supported
H ₄	TRUC->INTC	0.255	0.077	3.334	0.001	Supported

5.3. Moderating Effect

PLS-SEM, which employs a two-stage approach, is used in the study to investigate the moderating effect of education in order to establish whether or not the moderator variable has a substantial influence on the relationship between the study's variables. In comparison to other methodologies, such as the product-indicator and orthogonalization approaches, the two-stage technique provides a better level of statistical power, which is one of the many benefits it provides. The two-stage methodology was chosen because it was deemed appropriate in light of the fact that the purpose of the study is to investigate the considerable moderating influence that EDH has on the correlations that exist between INTCH and the variables PUCH, PEUCH, TRUCH, and SICH. The findings presented in Table 7 provide an overview of the moderating effect of EDH including beta coefficients, standard deviation, T-values, and P-values. According to the results, EDH significantly moderates the relationship between all the variables. The specific values predicted for these effects are outlined in Table

Table 7: Moderating effect results

Hypo-thesis	Relationship	Beta	Standard Error	T-Statistics	P Value	Results
H:5 _a	PUC*ED->INTC	0.108	0.041	2.648	0.008	Supported
H:5 _b	PEUC*ED->INTC	0.134	0.061	2.209	0.028	Supported
H:5 _c	TRUC*ED->INTC	0.149	0.061	2.454	0.014	Supported
H:5 _d	SIC*ED->INTC	0.119	0.055	2.175	0.030	Supported

Strength of moderating effect is important to determine for validation of moderation. In the current investigation, the strength of the moderating impact was evaluated by comparing the proportion of explained variation (R²) in the primary direct effect that occurred without the interaction and moderating effect of EDH to the proportion of explained variance that occurred in the entire moderating effect (Henseler et al., 2015). Earlier studies, such as (Cohen, 1988; Henseler & Fassott, 2010), made use of the effect size in moderation by applying the following formula.

$$\text{Effect size } f^2 = \frac{R^2 \text{ model with moderator} - R^2 \text{ model without moderator}}{1 - R^2 \text{ model with moderator}}$$

According to the existing literature, effect sizes above 0.35 are considered strong, between 0.15 and 0.35 are moderate effects, effect sizes below 0.02 are considered very small and between 0.02 and 0.15 are small (Cohen, 1988; Henseler & Fassott, 2010).

Table 8: Moderating Effects

Criterion Variable	R-squared		F squared	Result
	Included	Excluded		
INTCH	0.332	0.344	0.017	Very small

Table 8 presents the findings, indicating that the R² with the moderator is 0.344, while without the moderator it is 0.327. The addition of moderation to the study's model has led to an increase in R² from 32.7% to 34.4%. Based on these R² values, an effect size of 0.017 is observed, indicating a small effect.

The empirical findings strongly support our hypotheses, indicating that the plan to adopt FinTech services by customers is influenced by their professed usefulness, simplicity of usage, and conviction in these services. Additionally, the adoption of FinTech is influenced by the usage of these services by relatives, neighbors, and friends, as well as the level of education of the customers.

6. Conclusion and Policy Implications

This study aimed to evaluate the behavior of bank customers in relation to the adoption of FinTech services. The objective was to gauge their attitude and response towards technological advancements in the banking sector. Banks worldwide are rapidly adopting new methods to satisfy and attract clients, resulting in a competitive environment where banks imitate each other's methodologies to gain the maximum number of clients. During the COVID-19 pandemic, banks globally shifted towards online facilities to provide services at customers' homes and minimize human interaction. While the adoption of FinTech was already in practice, the pandemic accelerated its adoption, resulting in varying client responses across different regions and demographics.

In order to conduct an investigation into this phenomena, the research examined 377 replies and analysed four aspects of customer behaviour and their intentions about the usage of FinTech services. In the first place, it was discovered that the perceived utility of FinTech services had a favourable influence on the intention to utilise them. This finding is in line with research that was conducted in the past. The usefulness of these services makes a substantial contribution to the improvement of the quality and efficiency of the services provided by banks. Second, it was revealed that social influence had a favourable impact on the intention to utilise FinTech services. This makes sense given that customers have a tendency to imitate the actions of their social connections. This discovery is consistent with the findings of prior studies on the topic. Thirdly, the perceived simplicity of use was discovered to have a beneficial impact on the intention to utilise FinTech services. This was confirmed to be the case after extensive research. Customers have shown a preference for services that are simple to comprehend and employ, which is in line with the characteristics of newly developed services such as FinTech. In conclusion, it was discovered that the level of trust a client has in a FinTech company has a favourable influence on the likelihood that the customer will actually use the company's services.

The study also discovered that education moderates the relationship between variables and has a positive and significant effect. Education acts as a moderator in sculpting human behaviors, and its impact was observed in moderating the effects of professed usefulness, simplicity of use, client conviction, and social stimulus. In conclusion, this study aimed to analyze the acceptance behavior of bank clients towards FinTech services. The findings highlight the factors influencing clients' plan to use these services, including professed usefulness, social impact, client conviction, and professed simplicity of use. Among these factors, social impact and feedback from family and friends were found to be the most influential. Additionally, education was found to moderate the effects of various factors. Therefore, to enhance clients' intention to use FinTech services, banks should focus on social networking and consider the moderating effect of education.

Based on these findings, it is recommended that service providers in lower-developing regions focus on building trust and utilizing social networks to promote the FinTech culture. Furthermore, efforts should be made to make the services easily understandable for the general customers, such as establishing dedicated desks in each bank to assist customers in understanding the services. Social media and other communication channels should also be utilized to raise awareness among customers about new services, facilities, and technologies.

References

- Abbad, M. M. (2013). E-banking in Jordan. *Behaviour & Information Technology*, 32(7), 681-694. doi:<https://doi.org/10.1080/0144929X.2011.586725>
- Abramova, S., & Böhme, R. (2016). Perceived benefit and risk as multidimensional determinants of bitcoin use: A quantitative exploratory study.
- Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market: Perceptions and intentions. *Marketing Intelligence & Planning*, 30(4), 444-459. doi:<https://doi.org/10.1108/02634501211231928>
- Alafeef, M., Singh, D., & Ahmad, K. (2011). Influence of demographic factors on the adoption level of mobile banking applications in Jordan. *Research Journal of Applied Sciences*, 6(6), 373-377.
- Aljaafreh, A., Ani, A. A., Aljaafreh, R., & Chandran, D. (2015). Understanding Customer's Initial Trust in Internet Banking Services: A Field Study in Jordan.
- Andaleeb, S. S., Rashid, M., & Rahman, Q. A. (2016). A model of customer-centric banking practices for corporate clients in Bangladesh. *International journal of bank marketing*, 34(4), 458-475. doi:<https://doi.org/10.1108/IJBM-10-2014-0156>
- Arner, D. W., Barberis, J., & Buckley, R. P. (2015). The evolution of Fintech: A new post-crisis paradigm. *Geo. J. Int'l L.*, 47, 1271.
- Barberis, J. (2014). The rise of Fintech: Getting Hong Kong to lead the digital financial transition in APAC. *Fintech Report. Fintech HK*, 13(4).
- Benlian, A., & Hess, T. (2011). Opportunities and risks of software-as-a-service: Findings from a survey of IT executives. *Decision support systems*, 52(1), 232-246. doi:<https://doi.org/10.1016/j.dss.2011.07.007>
- Carlin, B., Olafsson, A., & Pagel, M. (2017). *Fintech adoption across generations: Financial fitness in the information age*. Retrieved from
- Chan, R. (2015). Asian regulators seek fintech balance. *Finance Asia*.
- Chang, S., Zhuo, J., Meng, S., Qin, S., & Yao, Q. (2016). Clean coal technologies in China: current status and future perspectives. *Engineering*, 2(4), 447-459. doi:<https://doi.org/10.1016/J.ENG.2016.04.015>
- Cohen, J. (1988). Set correlation and contingency tables. *Applied psychological measurement*, 12(4), 425-434. doi:<https://doi.org/10.1177/014662168801200410>
- Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past, present and future of mobile payments research: A literature review. *Electronic commerce research and applications*, 7(2), 165-181. doi:<https://doi.org/10.1016/j.elerap.2007.02.001>
- Davis, F. D. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results*. Massachusetts Institute of Technology,
- DEMEERSMAN, C., PETERS, H., & DEVIS, B. (1986). *THE DYNALISER-A NEW DIMENSION IN MATERIALS TESTING TECHNOLOGY*. Paper presented at the RUBBER CHEMISTRY AND TECHNOLOGY.
- Dirks, K. T., & Ferrin, D. L. (2001). The role of trust in organizational settings. *Organization science*, 12(4), 450-467. doi:<https://doi.org/10.1287/orsc.12.4.450.10640>

- F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research. *European business review*, 26(2), 106-121. doi:<https://doi.org/10.1108/EBR-10-2013-0128>
- Farivar, S., & Yuan, Y. (2014). The dual perspective of social commerce adoption.
- Ganzaroli, A., Tan, Y.-H., & Thoen, W. (1999). *The social and institutinal context of trust in electronic commerce*. Paper presented at the Paper prepared for: WORKSHOP 2nd Autonomous Agents Conference, Fraud and Trust in Agent Societies, Seattle.
- Garg, A., Garg, A., Tai, K., & Sreedeeep, S. (2014). An integrated SRM-multi-gene genetic programming approach for prediction of factor of safety of 3-D soil nailed slopes. *Engineering Applications of Artificial Intelligence*, 30, 30-40. doi:<https://doi.org/10.1016/j.engappai.2013.12.011>
- Gomber, P., Koch, J.-A., & Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. *Journal of Business Economics*, 87, 537-580. doi:<https://doi.org/10.1007/s11573-017-0852-x>
- Gunawan, F., Ali, M. M., & Nugroho, A. (2019). Analysis of the effects of perceived ease of use and perceived usefulness on consumer attitude and their impacts on purchase decision on PT Tokopedia in Jabodetabek. *European Journal of Business and Management Research*, 4(5). doi:<https://doi.org/10.24018/ejbmr.2019.4.5.100>
- Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. *Handbook of partial least squares: Concepts, methods and applications*, 713-735. doi:https://doi.org/10.1007/978-3-540-32827-8_31
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43, 115-135. doi:<https://doi.org/10.1007/s11747-014-0403-8>
- Kerem, K., Lustsik, O., Sörg, M., & Vensel, V. (2003). *The development of e-banking in a EU candidate country: An Estonian case*. Paper presented at the Proceedings of International Atlantic Economic Society Conference, Vienna, March 11.
- Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in human behavior*, 26(3), 310-322. doi:<https://doi.org/10.1016/j.chb.2009.10.013>
- Koksal, M. H. (2016). The intentions of Lebanese consumers to adopt mobile banking. *International journal of bank marketing*. doi:<https://doi.org/10.1108/IJBM-03-2015-0025>
- Kreyer, N., Pousttchi, K., & Turowski, K. (2003). Mobile payment procedures: scope and characteristics. *E-Service*, 2(3), 7-22.
- Lee, H., Park, H., & Kim, J. (2013). Why do people share their context information on Social Network Services? A qualitative study and an experimental study on users' behavior of balancing perceived benefit and risk. *International Journal of Human-Computer Studies*, 71(9), 862-877. doi:<https://doi.org/10.1016/j.ijhcs.2013.01.005>
- Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business horizons*, 61(1), 35-46. doi:<https://doi.org/10.1016/j.bushor.2017.09.003>
- Lee, M.-C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic commerce research and applications*, 8(3), 130-141. doi:<https://doi.org/10.1016/j.eleap.2008.11.006>
- Monferrer-Tirado, D., Estrada-Guillen, M., Fandos-Roig, J. C., Moliner-Tena, M. Á., & Sanchez Garcia, J. (2016). Service quality in bank during an economic crisis. *International journal of bank marketing*, 34(2), 235-259. doi:<https://doi.org/10.1108/IJBM-01-2015-0013>
- Nambiar, S., & Lu, C.-T. (2005). M-payment solutions and m-commerce fraud management. In *Advances in security and payment methods for Mobile commerce* (pp. 192-213): IGI Global.
- Ng, A. W., & Kwok, B. K. (2017). Emergence of Fintech and cybersecurity in a global financial centre: Strategic approach by a regulator. *Journal of Financial Regulation and Compliance*. doi:<https://doi.org/10.1108/JFRC-01-2017-0013>
- ORBANINGSIH, D., SAWITRI, D., & SUHARSONO, R. S. (2021). Determinants of corporate social responsibility disclosure: A case study of banking industry in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(5), 91-97.
- Riquelme, H. E., & Rios, R. E. (2010). The moderating effect of gender in the adoption of mobile banking. *International journal of bank marketing*, 28(5), 328-341. doi:<https://doi.org/10.1108/02652321011064872>

- Rizvi, S. K. A., Naqvi, B., & Tanveer, F. (2018). Is Pakistan ready to embrace Fintech innovation? *The Lahore Journal of Economics*, 23(2), 151-182.
- Ryu, H.-S. (2018). What makes users willing or hesitant to use Fintech?: the moderating effect of user type. *Industrial Management & Data Systems*, 118(3), 541-569. doi:<https://doi.org/10.1108/IMDS-07-2017-0325>
- Shin, D.-H. (2010). Modeling the interaction of users and mobile payment system: Conceptual framework. *International journal of human-computer interaction*, 26(10), 917-940. doi:<https://doi.org/10.1080/10447318.2010.502098>
- Szopiński, T. S. (2016). Factors affecting the adoption of online banking in Poland. *Journal of business research*, 69(11), 4763-4768. doi:<https://doi.org/10.1016/j.jbusres.2016.04.027>
- Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information systems research*, 6(2), 144-176. doi:<https://doi.org/10.1287/isre.6.2.144>
- Thakur, R., & Srivastava, M. (2014). Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India. *Internet Research*, 24(3), 369-392. doi:<https://doi.org/10.1108/IntR-12-2012-0244>
- Van Baal, S. (2014). Should retailers harmonize marketing variables across their distribution channels? An investigation of cross-channel effects in multi-channel retailing. *Journal of Retailing and Consumer Services*, 21(6), 1038-1046. doi:<https://doi.org/10.1016/j.jretconser.2014.04.012>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478. doi:<https://doi.org/10.2307/30036540>
- Wu, H., & Zhang, W. (2017). Factors affecting customer initial trust in the mobile payment service providers: An empirical study.
- Yang, S., Lu, Y., & Chau, P. Y. (2013). Why do consumers adopt online channel? An empirical investigation of two channel extension mechanisms. *Decision support systems*, 54(2), 858-869. doi:<https://doi.org/10.1016/j.dss.2012.09.011>
- Zavolokina, L., Dolata, M., & Schwabe, G. (2016). The FinTech phenomenon: antecedents of financial innovation perceived by the popular press. *Financial Innovation*, 2(1), 1-16. doi:<https://doi.org/10.1186/s40854-016-0036-7>
- Zhang, X., & Shu, C.-W. (2010). On positivity-preserving high order discontinuous Galerkin schemes for compressible Euler equations on rectangular meshes. *Journal of Computational Physics*, 229(23), 8918-8934. doi:<https://doi.org/10.1016/j.jcp.2010.08.016>