Journal of Contemporary Issues in Business and Government Vol. 27, No. 2, 2021
https://cibg.org.au/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI: 10.47750/cibg.2021.27.02.128

An Empirical Investigation of Service Quality, Usage and Mobile Banking in Predicting Adaptive Performance: Serial Mediation Model

ABID HUSSAIN[1], DR. MAJID ALI[2], DR. NISAR AHMAD[3], DR. MUBBSHER MUNAWAR KHAN[4], DR. RIZWAN QAISER DANISH[5]

[1]Ph. D Scholar, Hailey College of Commerce, University of the Punjab
[2]Assistant Professor, Hailey College of Commerce, University of the Punjab (Corresponding Author)
[3]Assistant Professor, Hailey College of Commerce, University of the Punjab
[4]Dean, Faculty of Commerce, University of the Punjab
[5]Associate Professor, Institute of Business Administration, University of the Punjab

Abstract: This study investigates the serial mediation between Service quality and adaptive performance of managers through usage and mobile banking in contextual framework of SMEs' enterprises of Pakistan. This study aims to find out how usage and mobile banking sequentially mediate the relationship between Service quality and adaptive performance of managers at the workplace. This study's target population includes managers or owners of SMEs listed in Chambers of Commerce of Capital cities of Pakistan. As part of the more extensive research, 422 responses were received, which shows a 50% response. To test the hypotheses, structural and measurement models were developed in SEM. The findings show that serial mediation is observed in the case of service quality and adaptive performance as when we measure direct relation in the absence of mediators, it is significant and positive, as well as in the presence of serial mediators (usage and mobile banking) service quality, and adaptive performance is positive and significant. This study's findings will help the academia, banking sector, SMEDA and practitioners understand the importance of service quality, usage of mobile devices and mobile banking on adaptive performance. Future researchers must focus on practical investigation of testing the effect of system quality, information quality and usage of mobile devices, mobile banking to predict managers' adaptive performance by comparing SMEs and large enterprises in Pakistan.

Keywords: Mobile Devices, Service Quality, Usage, Mobile Banking, Adaptive Performance, Managers, Small, and Medium Enterprises (SME).

INTRODUCTION

This study investigates the acceptance, quality, and usage of Mobile devices (android-based smartphone, PDA (Personal Digital Assistant), Samsung Galaxy, iPad, and Tab) in predicting the relative advantage of mobile banking used by managers in Pakistani medium and small enterprises of Pakistan. In a recent study, Feroz et al. (2020) found a significant and positive association of mobile phone usage with community health workers' performance. They proposed the appropriate use of mobile phones in improving the performance of the staff of various organizational stratified levels. In 2019, another study analyzed the same results as positive and significant effect of mobile phone usage on the students' academic performance (Hossain et al., 2019). In their study, Adivar et al. (2019) found that effective use of technology and mobile had enhanced supply chain managers' performance. In a similar orientation, Kamboj and Gupta (2020) found that employees who used smartphone apps while performing services relating to hospitality improved their performance. Moreover, the study of Lebioda et al. (2019) also found evidence of a positive impact of mobile technology usage on the perceived performance of the workers. In experts' opinion, there would be a time when none of the human beings/us would be without a mobile phone due to mobile phones' helpfulness in our lives (Batool et al., 2019; Yusuf et al., 2020).

According to the study of Júnior et al., (2020), Brazilian SMEs has been using technology for enhancing their performance by their knowledge management systems. According to Chau et al., (2020), mobile commerce (m-commerce) was perceived as very beneficial for small and medium enterprises (SMEs) of Vietnam due to perceived aspects of "benefits, compatibility, security, organizational readiness, innovativeness, customer pressures, government support, and IT knowledge" of the managers. At the end of the study, they recommended other scholars to validate their research in developing countries for making comparisons.

The working and effectiveness of employees is a great advantage that is the organization's capital. For instance, enhancing emotional intelligence is a desired state in the organizations (Munir&Azam, 2017) that can also be done using mobile phone technology by developing various personal intelligence skills in the shape of mobile applications. The inventors of mobile technology do not measure the influence of their inventions on work (TerHoeven et al., 2016). However, such mobile use should be within the organizations' moral and ethical values, as discussed by Mehmood et al. (2020), to reap positive outcomes for the employees and the organizations.

Small and Medium enterprises are known as the most important economic part of the business. In the context of SMEs, their performance determines their success. The strategies and planning show the achievements of an SME. The objective of a firm is achieved by the ability and implementation of a firm (Al Salman & Hassan, 2016; García-Sánchez et al., 2019; Harwiki&Malet, 2020; Ismail & King, 2014; Queiroz et al., 2020; Taouab&Issor, 2019). A firm that effectively and efficiently uses its resources is always profitable (Queiroz et al., 2020).

In a dynamic environment, the capability of being adaptive is significant. SMEs reflect this capability by being flexible enough to create changes and achieve their objective (Blackford, 2003; Ensari&Karabay, 2014). Wang and Ahmed (2007) have found that flexibility would demand quick and fast practice and process changes. This capability helps SMEs to give evolving market opportunities. The evolution of mobile devices and mobile technologies enhances SMEs' performance (Harwiki&Malet, 2020; Wang et al., 2016).

The objective of this study is an empirical investigationof the service quality through serial mediation of usage of mobile devices and relative advantage of mobile banking in predicting the adaptive performance of managers or owners in SME's of Pakistan. Managers or owners of small and medium enterprises face issues and obstacles of technological and managerial capabilities and skills to perform multiple tasks to achieve organizational goals (Sherazi et al., 2013; Dar et al., 2017). Many managers are still applying and implementing mobile technology's advanced possibilities and analyzing innovative business models (Siau et al., 2003). Therefore, this research aims to recognize the effect of the adaptive capability of managers engaged in SMEs and their relative advantage of mobile banking in predicting adaptive performance in the context of Pakistan.

The research questions that have been put forth to carry out this study in the light of the objectives are as follow: (1) to what extent is service quality associated with the adaptive performance of managers? (2) To what extent is service quality related to adaptive performance through the mediation of usage of mobile devices? (3) To what extent is service quality sequentially associated with adaptive performance through usage and mobile banking?

LITERATURE REVIEW

Service Quality

Service quality has taken into account reliability, assurance, responsiveness, and personalization. Offering quality services would also indicate the benevolence and ability of service providers (Yang, in the press). Service quality was explained by (Delone& McLean, 2003) in Information Success Factor Model. On the other hand, users may not build trust in mobile devices if phone companies offer uncertain and unsustainable facilities that slow down customers' responses. For example, if the user has an inquiry into the delivery method or the product's quality and the mobile vendor has not responded promptly, customers feel that the mobile makers require the mandatory capacity and skill to give quality services and meet its requirements. Service quality can, therefore, have an impact on the user behavior and attitude of mobile devices. Previous research has emphasized on the positive influence of service quality on smartphone service providers' behavior and attitude (Lee & Chung, 2009; Zhou, 2013) as well as virtual customer community members (Elliot et al., 2013). However, service quality can influence client behavior, such as non-professional services, and delayed feedback reduces perceived usage and influence over mobile devices. For instance, when customers have plans to pay off mobile site products, they may have worsened. The Zhou study (2013) highlighted that now the quality of service is linked to the flow of mobile payment services. Furthermore, the quality of service has been established to influence client behavior in online purchases (Gounaris et al., 2010), mobile messaging service (Deng et al., 2010) and the digital travel group (Elliot et al., 2013).Hence, we posit the following hypothesis:

H1: Service quality shows a positive impact on adaptive performance.

Usage Behavior/ Usage (UB):

Usage "measures everything from a visit to a website to site navigation to the retrieval of information, to a transaction execution" (Delone& McLean, 2003). Consumer satisfaction is "a pattern of user behavior where they are committed to the brands they use and repeatedly have used the same service technology" without trying to switch to a similar service as the year's pass (Oppong et al., 2014). MoreoverGanguli& Roy (2011), existing clients prefer to choose the same brand regardless of the price problem. There is a range of approaches adopted by businesses to improve consumer satisfaction, such as offering rewards such as complimentary samples and gifts (Lee et al., 2001). Curiously, the company seeks to strengthen its commitment to its customers by raising the amount of utilization of its resources by improving its facilities' consistency, the texture of its knowledge,

and the efficiency of its processes (Saleem& Rashid, 2011; Laforet& Li, 2005). By-the degree of use, consumers will become addicted to the service and this, in effect, will create an unintended incentive to be faithful to the company (Lin & Wang, 2006). In fact, Opponget al. (2014) and Ganguli and Roy, (2011) argued that the use would enhance the M-Banking. Here we can deduce that when employees use mobiles devices they are actually using mobile technology which has positive effect on their performance and enhance it.

Allen and Bryant (2011) have revealed the association between work performance and technology usage by considering 200 workers in start-up business organizations. The employee's consent that they compete for their tasks more effectively with new technology. Mobiletechnology enhances employees' workable knowledge and ability (Kahle-Piaseckiet al ,2012). When we look it from top management perspective we can see that mobile technology is the cheapest way of enhancing employees communication skills, productivity and flexibility (Beutner&Pechuel, 2012; Lu et al., 2015).

The usage of an "information system" is described as "the use of a task-based system by the individual" (Burton-Jones &Gallivan, 2007; p. 659). The use construct takes into account the user, the system, and the associated activities. Usage of mobile has been evaluated in several ways: by single time usage or continuing usage, by a single person or group of persons, either by self-revealed items or by experimental data. Researchers generally view use as a direct antecedent of net benefits in IS work and as a mediator between knowledge content and net services (Straub et al., 1995; Melville et al., 2004;Kohli& Grover, 2008; Rai et al., 2002; Petter&Fruhling, 2011; Wang et al., 2007). Based on the above it is assumed that;

H2: Usage of mobile devices mediates the relationship between service quality and adaptive performance of managers.

Mobile Banking

Mobile banking empowers consumers to perform required functions regarding their accounts directly from their mobile phones to improve banking services' connectivity and effectiveness (Nour&Soltani, 2019). These days, all banking services can also be achieved via mobile banking, including depositing and transferring money and receiving alerts on the nearest ATMs and other services (Maina&Mungai, 2019). Mobile banking (compared to conventional banking) has become more helpful in saving time for bankers and customers. Financial transactions and the ability to interact can be handled more quickly and effectively (Sharma & Sharma, 2020).

Latest advancements in digital technology result in significant improvements and constant echoes in financial market with mobile banking (Gupta, 2013; Zhou, 2012; Lin, 2011). Mobile Banking appears to be an M-commerce application that is procured by banks or other institutionwhich enables consumers to analyze the various mode of data utilizing mobile applications such as PDAs (Personal Digital Assistants), smartphones, or mobile devices (Al-Jabri&Sohail, 2012). This app can use for transactions such as savings deposits, transactions and financial transactions (Alkhaldi, 2016; Arcand et al., 2017). Mobile Banking is very unusual. It has different and similar standards of device consistency, quality of knowledge and quality of service compared to preceding e-Banking platforms like computer systems, kiosks and laptop computers (Tam & Oliveira, 2017). For example, owning a smart device will also allow customers to engage in financial transactions without any such physical fixed devices. As a result , mobile banking allows users to instantly connect and trade sequentially with the virtual world, but this has also changed the way banking services are used (Aboelmaged&Gebba, 2013). Managers may have several relative advantages of mobile banking, such as accessibility, convenience, ease of payment, security and control.

H3: Mobile Banking will mediate the relationship between service quality and adaptive performance.

H4: Usage and mobile banking will sequentially mediate the relationship between service quality and adaptive performance.

Adaptive Performance

According to Plamondon, Pulakos, Arad, and Donovan (2000), "adaptive performance" is all about analyzing and understanding changes in the workplace and making adjustments to effectively respond to those changes. Adaptive performance is generally embraced by multifaceted workers keen to modify and adapt their responses relative to changes in the working environment and challenges. High adaptability is one of the most sought capabilities of employees by organizations because employees with high adaptability can respond positively to the current world's dynamic business environments (Niessen et al., 2010). Theemployees' point of view, adaptability enables the employees to progress and prosper in their careers relative to employees' reluctance to change (Pulakos et al., 2000).

The significant ways technology improves managers' adaptability skills is that it improves collaboration among different layers of management and front end. As a collaboration among the employees is improved, skills, knowledge, and capabilities are shared freely through effective communication across the SMEs (Pollack & Adler, 2016). By sharing knowledge, skills, and abilities through communication, managers do obtain not only first-hand market/competition insights but also ideas, feedbacks, opinions, and suggestions from employees from all layers of the management (Usman et al., 2018). This improves managers' decision-making process as

they could adapt their performance and make creative decisions to handle challenges and tackle difficult situations (Pollack & Adler, 2016).

Mobile and technological devices simplify or further automate routine tasks that traditionally consumed most of the managers' times. For example, instead of manually crafting daily reports, modern mobile technologies enable the managers of SMEs to manage the preparation and filing of daily reports instantly (Usman et al., 2018). Also, complex tasks of the management are being simplified using technology such as competitors' analysis, and market reports can be done instantly with the help of technology (Kitsios&Kamariotou, 2018). This simplification saves a lot of managers' time, and this time can be used for more creative thinking and decision-making. As a result, the managers' creativity and innovation are enhanced, and they become more flexible in handling multiple scenarios improving their adaptability skills (Kitsios&Kamariotou, 2018).

One of the significant benefits of technology, such as mobile applications is that they enable SMEs to manage their time effectively. Through mobile technologies and applications, managers can track their time on different activities and analyze their time consumption. Using such analyses, they can set their priorities by allocating most of the time to the most productive activities (Forth & Bryson, 2019). As managers manage their time effectively, they will sense and identify ways to further improve their time management by adapting their performance (M'zungu, Merrilees, & Miller, 2019). Also, they are more creative and find innovative ways to do a task effectively in a new way to save time further and enhance efficiency. So, by educating and tracking time through technology, the managers' adaptability skills are improved (Correa et al., 2018).

Research Methodology

The importantobjective of this non-experimental predictive study is to examine the perceptions of business managers regarding the impact of service quality, usage of smartphones and mobile banking in predicting adaptive performance. The use of quantitative surveys aimed at small and medium-sized enterprises situated in Pakistan's capital cities has been distributed. The target audience was the business professionals with the job title of manager or director. If managers or directors can identify perceptions of the acceptance, service quality, usage of mobile devices, and mobile banking, SMEs' can resolve deficiencies and make more efficient use of mobile devices to improve performance.

As part of the more extensive study, 422 responses were received, and the response rate is 50%. The method of research for this thesis is covariance-based (SEM). A study sample of at least 200 cases is usually considered and appropriate for SEM (Babin, Hair, Black, & Anderson, 2010; Kline, 2011). Hair et al. (2010) have explained that adopting a broad sample size, like at least 200 cases, increases SEM results. To test the hypotheses, SEM were developed.

The Scale of Service quality (SERQ) consisting of 4 items was adapted from Kim et al., (2004), The mediating variable Usage of a mobile device (USE) having eight items scale was adopted from the study of Yueh et al., (2015). The variable Mobile Banking scale having eight items was adapted from the study of Rogers (2003).The last dependent variable Adaptive performance scale having 8 items was adopted from the study of Linda et al., (2013**)**.Responses have been computed by a 5-point-Likert Scale as anchored by 1 (strongly disagree) following 5 (strongly agreed). The clusters sampling technique will be used to draw the sample size for the study.

RESULTS AND ANALYSIS

Table 1.Respondents' Profile

Variable	Categories	Frequency	Percentage
Gender	Male	332	78.7
	Female	90	21.3
	Total	422	100.0
Age	Less than 20	11	2.6
	21 To 30	153	36.3
	31 To 40	160	37.9
	41 To 50	75	17.8
	51 To 60	19	4.5
	More than 60	4	0.9
	Total	422	100.0
Marital Status	Married	292	69.2
	Unmarried	130	30.8
	Total	422	100.0
Establishment Composition	Trading	137	32.5
	Manufacturing	79	18.7
	Services	206	48.8

	Total	422	100.0
Job Tenure	Less than 1 year	15	3.6
	1 To 2	51	12.1
	3 To 4	59	14.0
	5 To 6	56	13.3
	7 To 10	91	21.6
	More than 10	150	35.5
	Total	422	100.0

In this research study, data about gender, age, marital status, establishment composition, job tenure was calculated through SPSS. Four hundred twenty-two responses were received, in which 332 male respondents and 90 female respondents. 2.6% respondents age are less than 20 years, 36.3% of respondents age are between the range of 21 to 30 years, 37.9% of respondents' ages are between the range of 31 to 40 years which shows highly response rate in this range of age, 17.8% of respondents age are between the range of 41 to 50 years, 4.5% of respondents age are between the range of 51 to 60 years and 0.9% of respondents age are more than 60 years which shows least response rate. 69.2 % of respondents are married and 30.8% of respondents are unmarried. There are three categories of establishment composition: Trading, Manufacturing and Services. 32.5% of respondents belong to trading sector, 18.7% of respondents belong to manufacturing sector and 48.8 % of respondents belong to services sector which shows highly response rate. 3.6% of respondent's job tenure is less than 1 year, 12.1% of respondent's job tenure is between the 1 to 2 years, and 14% of respondent's job experience is between the 3 to 4 years, 13.3% of respondent's job tenure is between 5 to 6 years, 21.6% of respondents job tenure is between 7 to 10 years, 35.5% of respondents job tenure is more than 10 years which shows highly response rate in the job tenure categories.

Data Normality Analysis:

Table 2.Data Mean, SD, Skewness, Kurtosis and Correlation

Sr.#	**Variables**	**Mean**	**SD**	**Skewness**	**Kurtosis**	**1**	**2**	**3**	**4**
1	Service Quality	3.75	0.69	-0.54	0.29	**1**			
2	Usage	3.82	0.68	-0.73	0.34	**.396****	**1**		
3	Mobile Banking	3.93	0.69	-0.99	0.89	**.452****	**.498****	**1**	
4	Adaptive Performance	4.01	0.63	-1.19	2.08	**.540****	**.580****	**.588****	**1**

**. Correlation is significant at the 0.01 level (2-tailed).

The data collected is normally distributed. In 1979, Bulmer advocated a bench mark: the projected skewness value must be between +1 and-1, and Balandam and Mac Gillivray (1988) initiated that the estimated kurtosis value should be between +3 and-3 forecasts. Complete elements usually have been approved as the estimated skewness value is in the middle of +1 and-1, but some are slightly inflated. The estimated kurtosis values are within +3 and-3, which, in relation, indicate the data is distributed, and it is evident that data is normally distributed and has the capacity for further analysis.

The correlation analysis shows the association between the constructs. Table 2 shows Pearson's (r = 0.396) service quality and usage, which shows a significant and positive relationship. The service quality is correlated with mobile banking (r = 0.452) and offers a positive and meaningful relationship. Services quality is also associated with adaptive performance (r = 0.540) shows a positive significant relationship. Usage is strongly linked with mobile banking (r = 0.498) and has a robust positive relationship at the 0.01 level. Usage is also positively and statistically highly associated with adaptive performance (r = 0.580). Mobile banking is highly positively and significantly related with adaptive performance (r= 0.588) at 0.01 level.

Table 3.Confirmatory factor analysis

Construct	**Item**	**Loading**	**C.R**	**Cronbach alpha**
Service Quality	SERQ1	0.59	0.70	0.68
	SERQ2	0.83		
	SERQ3	0.47		
	SERQ4	0.50		
Usage	USE1	0.72	0.83	0.83

	USE2	0.74		
	USE3	0.69		
	USE4	0.61		
	USE5	0.53		
	USE6	0.56		
	USE7	0.50		
	USE8	0.54		
Mobile Banking	RB1	0.66	0.81	0.79
	RB2	0.67		
	RB3	0.71		
	RB4	0.62		
	RB5	0.66		
	RB6	0.50		
Adaptive Performance	AP1	0.70	0.87	0.84
	AP2	0.67		
	AP3	0.70		
	AP4	0.68		
	AP5	0.69		
	AP6	0.61		
	AP7	0.56		
	AP8	0.51		

The Confirmatory factor analysis table shows the values of the factor loading, composite reliability,and Cronbach's alpha. Most of the values of factor loading are above the 0.50 threshold so the measure is assumed to be adequate. Composite reliability for all constructs are also above the threshold 0.7 which means that convergent validity was present and scales met the criteria of validity. Cronbach alpha for service quality is 0.68, usage is 0.83, mobile banking is 0.79, and adaptive performance is 0.84. Cronbach's alpha's thumb rule is
0.7 and above is considered acceptable, 0.8 and more significant is considered better, and 0.9 and above is considered the best.

Table 4.Discriminant Validity

Sr. No.	Variables	1	2	3	4
1	Service Quality	**.613**			
2	Usage	.396	**.614**		
3	Mobile Banking	.452	.498	**.639**	
4	Adaptive Performance	.540	.580	.588	**.643**

Table 4 shows the discriminant validity by comparing the bivariate correlation among the variables. All the above mentioned values in diagonal form are the square root of the AVE (Hair et al., 2010) and these values were exceeded the vertical and horizontal bivariate correlation of the each construct which met the minimum criteria and it was assumed that discriminant validity is confirmed in Table 4.

Test of Multicollinearity

As a general guideline, if the Value of VIF is less than five, then there is no multicollinearity problem. If the VIF value ranges from 5 to 10, there is a moderate MC problem, and if the VIF value is equal or greater than 10, there is a serious multicollinearity problem. Multicollinearity test was carried, and all VIF values in Table 5 were found to be less than five and did result in no multicollinearity.

Table 5.Collinearity Statistics

Variables	Tolerance	VIF
Service Quality	0.757	1.322
Usage	0.716	1.398
Mobile Banking	0.675	1.482

Structural Equation Model

SEM is advanced statistical multivariate technique that can test prediction, association and differences simultaneously for a hypothesized model with options to improve and modify it. SEM can be applied for confirmatory as well as structural models and path models where required. The confirmatory factor analysis was run through SEM in AMOS for factorial validity and then to test the hypothesis and inferential statistics. SEM technique involves regression, path assessment and factor assessment. In other words, SEM is an amalgamation of both factor analysis (CFA) and multi-regression analysis. AMOS 26 has been used in current study for establish measurement model. It was also used to identify anomalies, changes, correlations, dependence and independence between the variables under observation and dialogue.

Confirmatory Factor Analysis (CFA)

CFA is a particular form of structural equation model that is probably understood in the same way to establish and observe factor structures. With the help of AMOS 26, the diagram was made with observed and latent factors to be correlated independently. After measurement model was fitted well, then structural model is run for prediction. There are a few criteria set to test the goodness of model fitted. The CFI comparative fit index,must range from 0 to 1, showing the fitness of the model. Besides, if the CFI value is 0.90 or greater, it is said to be good fit (Hu &Bentler, 1999).

According to Hu andBentler (1999), the assessment of RMSEA (Root mean square error of approximation) should be below 0.08, while the lesser is better for fitness of the model. However if the value of RMSEA is less than 0.06, the model is excellent fit. If GFI (goodness of fit index) and AGFI (adjusted goodness of fit index) are greater than 0.90, it is highly valued for model fitness.

The overall measurement model is intended to test the questionnaire's validity and accuracy, as shown in Figure 2.Table 6, which demonstrates the convergent validity of the constructswith factor loadings of all items. Such type of validity has expected that two or more variables are significantly associated to each other to assess the same conceptual model.

In our analysis, we evaluate the fitness of the overall model. Table 6 shows that CMIN / DF is 2.419, RMR is 0.053, GFI is 0.886, AGFI is 0.859, CFI is 0.903 and RMSEA is 0.058. All values shall meet the threshold values and the adequate standard.

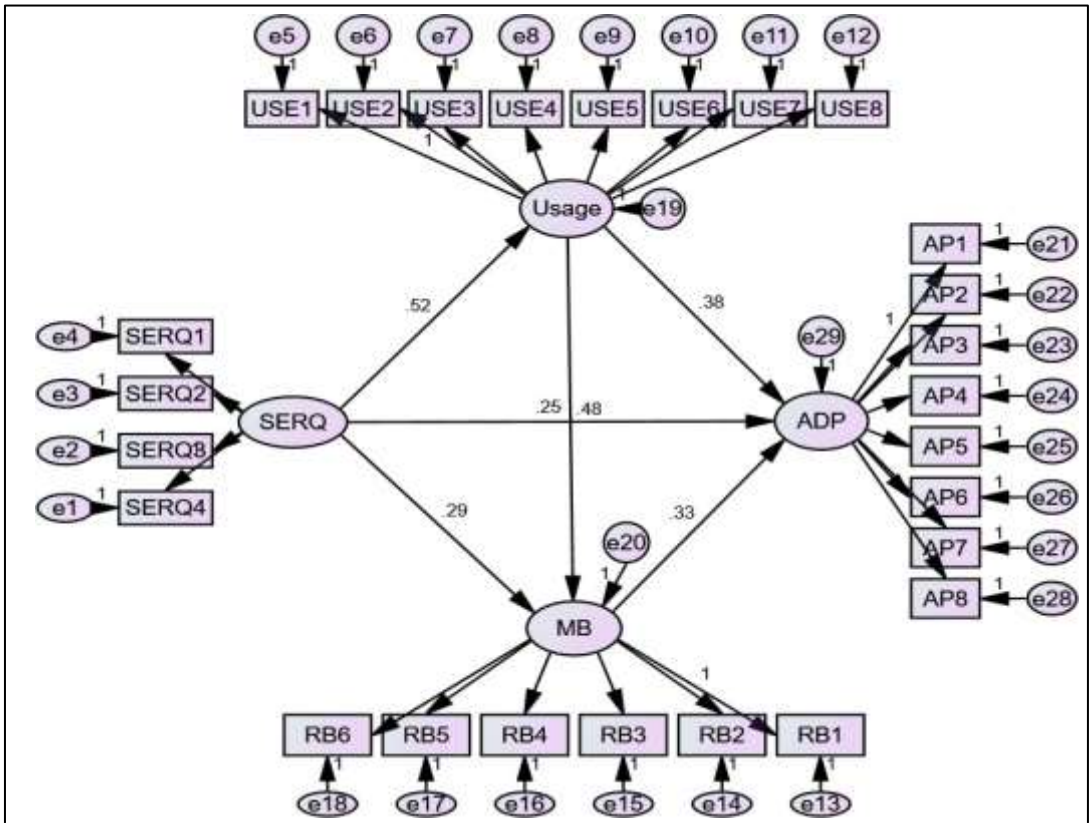

Fig.1: Hypothesized Measurement Model

TABLE 5.Model Fit Indices

Model	Hypothesized	Thresholds
CMIN/DF	2.419	< 3

RMR	0.053	Closer to 0
GFI	0.886	≥ 0.9
AGFI	0.859	≥ 0.8
CFI	0.903	≥ 0.9
RMSEA	0.058	≤ 0.08

Hypothesis Testing

Direct effect

After evaluating the model's fit, AMOS develops a structural model to determine the relationship between the variables. Table 6 shows the direct impact of service quality on adaptive performance. Service quality has a positive and significant effect on adaptive performance (β=0.251, p<0.002), and service quality has a positive and significant direct impact on usage (β=0.517, p<0.001), Service quality has also direct and positive significant impact on mobile banking (β=0.290, p<0.001), Usage has direct positive and significant impact on mobile banking (β=0.485, p<0.001), Mobile banking also show direct and positive impact on adaptive performance (β=0.333, p<0.001) (so H1 has been accepted).

Table 6.Direct Effect

Direct paths	Standardized Estimates	p-value
Service Quality ---> Adaptive Performance	0.251	0.002
Service Quality ---> Mobile Banking	0.290	0.001
Service Quality ---> Usage	0.517	0.001
Usage-----> Mobile Banking	0.485	0.001
Usage-----> Adaptive Performance	0.376	0.001
Mobile Banking---> Adaptive Performance	0.333	0.001

Note. ***p-value <0.001, **p-value<0.01, *p-value<0.05

Analysis of Indirect Effect.

The specific and indirect effect estimand was used in AMOS 26 to determine the Path analysis and mediation effects. The summary of the path analysis is shown in Table 8. The first H1of the study is confirmed that there is a positive and significant relationship between Service quality and Adaptive performance and supported with result (β = 0.251, p = 0.002) (Table 7).

H2 speculates that Usage of mobile device mediates the relationship between Service Quality and Adaptive performance. Results supported H2 with statistically significant and positive relationship (β = 0.194, p = 0.001).

Similarly, H3 shows that Mobile banking mediates the relationship between Service quality and Adaptive performance. This hypothesis was also tested by using the specific and indirect effect estimand and results has been found statistically positive and significant (β = 0.097, p = 0.001), therefore we confirm and support this hypothesis.

H4 Posits that usage and mobile banking sequentially mediate the relationship between service quality and adaptive performance. To test the serial mediation of usage and mobile banking, specific and indirect effect estimand was tested by performing bootstrapping. Results were found statistically positive and significant (β = 0.082, p = 0.001), and zero is not fall between the lower and upper limits of confidence interval, So usage and mobile banking sequentially mediate the relationship between service quality and adaptive performance. Therefore, H4 is confirmed and supported.

Table 7.Path analysis results						
Hypotheses	**Path**	**Estimate**	**SE**	**P**	**CI**	**Result**
H1	SERQ ---> AP	0.251	0.081	0.002	[0.127; 0.397]	Supported
H2	SERQ---> Usage---> AP	0.194	0.090	0.001	[0.171; 0.478]	Supported
H3	SERQ---> MB---> AP	0.097	0.065	0.001	[0.062; 0.286]	Supported

H4	SERQ---> Usage--->MB---> AP	0.082	0.060	0.001	[0.054; 0.257]	Supported
	Total Indirect Effect	0.373	0.056	0.001	[0.293; 0.480]	

Note. ***p-value <0.001, **p-value<0.01, *p-value<0.05

Contributions, Recommendations, Conclusion

Contributions

The current study has theoretically contributed to the existing literature on the Service quality and Adaptive performance of managers in small and medium-sized enterprises in Pakistan for several reasons. First, on the basis of the theory of ISS, findings of current study show the relationship between Service quality and adaptive performance. In this way, current study contributes to broadening the concept of ISS and suggests that performance of managers can be enhanced through service quality. Second, although the usage of mobile device is considered as a requisite of pro-adaptive behavior, yet to best of our knowledge, no efforts have been made to studying the mediating effect of usage of mobile devices in the relationship between service quality and adaptive performance. Thus, this study contributes by developing linkage of service quality to adaptive performance through mediation of mangers' usage of mobile device in the context of small and medium enterprises.Third, several studies suggested a link between usage and mobile banking (Sharma & Sharma, 2019; Zhang et al., 2018; Rana et al., 2017; Zhou, 2012) but to best of my knowledge, no efforts have been made to investigating the mobile banking in the relationship between service quality and adaptive performance as well as no serial mediating effect of usage and mobile banking was tested in the relationship between service quality and adaptive performance of managers in the context of small and medium enterprises of Pakistan. Therefore, our study contributes by liking the relationship service quality and adaptive performance through mediation of mobile banking, in the same way, this study also contributes in liking the relationship between service quality and adaptive performance through serial mediation of usage and mobile banking. This is consistent with the recommendations of Delone and McLean (2003) in new contexts. Finally, In light of Chau et al. (2020) recommendations, the current study has led the conversation towards the positive effects of adopting mobile technology in enhancing the advantage of mobile banking of SME managers in Pakistan. The current study also provides relevant managerial implications for apps developers and banking sectors. First, the results of this study show that high-quality service should be provided by apps developers and banking sectors to enhance relative advantage of mobile banking. Service quality should be accurate, consistent, timely, and easy to understand and free of technical terms (Ponte et al., 2015).

Future Recommendation

Future researchers must focus on the empirical investigation of the testing effect of information quality, system quality, service quality and mobile device usage on the mobile banking and adaptive performance of managers by comparing SMEs and large enterprises in Pakistan.

CONCLUSION

This study was designed to test an empirical investigation of serial mediation of usage of Mobile devices and mobile banking in predicting relationship between service quality and adaptive performance of managers in small and medium enterprises of Pakistan. The data was collected from the clusters of Pakistan's capital cities, and SEM was used to test the hypotheses. All four hypotheses are validated and supported by the results of the SEM analysis. The findings of this study show that (1) service quality shows a significant and positive impact on the adaptive performance of managers through serial mediation of usage of mobile devices and mobile banking in small and medium enterprises of Pakistan; and (2) the findings of this study will also help the academia, banking sector, SMEDA and practitioners to understand the importance of mobile technology and the impact of Service quality, usage of mobile devices and mobile banking in predicting adaptive performance.

REFERENCES

1. Aboelmaged, M., & Gebba, T. R. (2013). Mobile banking adoption: an examination of technology acceptance model and theory of planned behavior. International Journal of Business Research and Development, 2(1).
2. Adivar, B., Hüseyinoğlu, I. Ö. Y., & Christopher, M. (2019). A quantitative performance management framework for assessing omnichannel retail supply chains. Journal of Retailing and Consumer Services, 48, 257-269.
3. Al Salman, W., & Hassan, Z. (2016). Impact of effective teamwork on employee performance. International Journal of Accounting & Business Management, 4(1), 76-85.

4. Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. International Journal of Information Management, 37(3), 99-110.
5. Al-Jabri, I. M., & Sohail, M S. (2012). Mobile banking adoption: Application of diffusion of innovation theory. Journal of Electronic Commerce Research, 13(4), 379-391.
6. Alkhaldi, A. N. (2016). Adoption of mobile banking in Saudi Arabia: An empirical evaluation study. International Journal of Managing Information Technology, 8(2), 1-14.
7. Allen, D.G., & Bryant, P.C. (2011). Employment mode choices in early and late stage start ups: A preliminary exploration using fsQCA. American Journal of Entrepreneurship, 2, 1-17.
8. Arcand, M., PromTep, S., Brun, I., & Rajaobelina, L. (2017). Mobile banking service quality and customer relationships. International Journal of Bank Marketing.
9. Balandam, & MacGillivray. (1988).The Relationships between Skewness and Kurtosis Austral. J. Statist, 30(3), 319-337.
10. Batool, S., Bibi, A., Frezza, F., & Mangini, F. (2019). Benefits and hazards of electromagnetic waves, telecommunication, physical and biomedical: a review. European review for medical and pharmacological sciences, 23(7), 3121-3128.
11. Beutner, M., & Pechuel, R. (2012). Acceptance, chances, and problems of mobile learning in vocational education in enterprises. Proceedings of 11th International Conference on Mobile and Contextual Learning 190–196.
12. Blackford, M. G. (2003). A history of small business in America: UNC Press Books.
13. Bulmer, M. G. (1979). Principles of statistics: Courier Corporation.
14. Burton-Jones, A., & Gallivan, M. J. (2007). Toward a deeper understanding of system usage in organizations: a multilevel perspective. MIS quarterly, 657-679.
15. Chau, N. T., Deng, H., & Tay, R. (2020). Critical determinants for mobile commerce adoption in Vietnamese small and medium-sized enterprises. Journal of Marketing Management, 1-32.
16. Correa, J. A. G., Castañeda, S. L. S., Quintero, D. A. V., & Giraldo, G. E. (2018). Identification and Analysis of Project Management Success Factors in Information Technology SMEs. International Journal of Information Technology Project Management (IJITPM), 9(4), 73-90.
17. Dar, M. S., Ahmed, S., & Raziq, A. (2017). Small and medium-size enterprises in Pakistan: Definition and critical issues. Pakistan Business Review, 19(1), 46-70.
18. Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: a ten-year update. Journal of management information systems, 19(4), 9-30.
19. Deng, Z., Lu, Y., Wei, K. K., & Zhang, J. (2010). Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China. International Journal of Information Management, 30(4), 289-300.
20. Elliot, S., Li, G., & Choi, C. (2013). Understanding service quality in a virtual travel community environment. Journal of Business Research, 66(8), 1153-1160.
21. Ensari, M. Ş., & Karabay, M. E. (2014). What helps to make SMEs successful in global markets. Procedia-Social and Behavioral Sciences, 150, 192-201.
22. Feroz, A., Jabeen, R., & Saleem, S. (2020). Using mobile phones to improve community health workers performance in low-and-middle-income countries. BMC Public Health, 20(1), 1-6.
23. Forth, John, & Bryson, Alex. (2019). Management practices and SME performance. Scottish Journal of Political Economy, 66(4), 527-558.
24. Ganguli, S, & Roy, SK. (2011). Generic technology-based dimensions of quality of banking services: Impact on customer satisfaction and loyalty. International Journal of Marketing Bank, 29(2), 168-189.
25. García-Sánchez, Isabel-M., Hussain, N., & Martínez-Ferrero, J. (2019). An empirical analysis of the complementarities and substitutions between effects of ceo ability and corporate governance on socially responsible performance. Journal of Cleaner Production, 215, 1288-1300.
26. Gounaris, S., Dimitriadis, S., & Stathakopoulos, V. (2010). An examination of the effects of service quality and satisfaction on customers' behavioral intentions in e-shopping. Journal of Services Marketing, 24(2), 142-156.
27. Gupta, S. (2013). The mobile banking and payment revolution. European Financial Review, 2(36), 215254.
28. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis. Pearson Prentice Hall.
29. Harwiki, W, & Malet, C. (2020). Quintuple helix and innovation on performance of SMEs within ability of SMEs as a mediator variable: A comparative study of creative industry in Indonesia and Spain. Management Science Letters, 10(6), 1389-1400.
30. Hossain, S. F. A., Nurunnabi, M., Hussain, K., Saha, S. K., & Wang, S. (2019). Effects of variety-seeking intention by mobile phone usage on university students' academic performance. Cogent Education, 6(1), 1574692.

31. Hu, Li-tze, & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural equation modeling: a multidisciplinary journal, 6(1), 1-55.
32. Ismail, N. A., & King, M. (2014). Factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing firms. Journal of Information Systems and Small Business, 1(1-2), 1-20.
33. Júnior, E. M., Gobbo, J. A., Fukunaga, F., Cerchione, R., & Centobelli, P. (2020). Use of knowledge management systems: analysis of the strategies of Brazilian small and medium enterprises. Journal of Knowledge Management.
34. Kahle-Piasecki, L., Miao, C., & Ariss, S. (2012). Managers and the mobile device: mlearning and m- business Implications for the United States and China. Journal of Marketing Development & Competitiveness, 6(1), 58-68.
35. Kamboj, S., & Gupta, S. (2020). Use of smart phone apps in co-creative hotel service innovation: an evidence from India. Current Issues in Tourism, 23(3), 323-344.
36. Kim, H., Xu, Y., & Koh, J. (2004). A comparison of online trust building factors between potential customers and repeat customers. Journal of the association for information systems, 5(10), 13.
37. Kitsios, F., & Kamariotou, M. (2018). Open data hackathons: an innovative strategy to enhance entrepreneurial intention. International Journal of Innovation Science.
38. Kline, R. B. (2011). Principals and Practice of Structural Equation Modeling. The Guilford Press.
39. Kohli, R., & Grover, V. (2008). Business value of IT: An essay on expanding research directions to keep up with the times. Journal of the association for information systems, 9(1), 1.
40. Laforet, S., & Li, X. (2005). Consumers' attitudes towards online and mobile banking in China. International journal of bank marketing.
41. Lebioda, L., Hahn, I. S., & Martins, A. A. M. (2019). The influence of mobile technology usage behavior on perceived work performance improvement. International Journal of Development Research, 9(02), 25733-25738.
42. Lee, J., Lee, J., & Feick, L. (2001). The impact of switching costs on the customer satisfaction-loyalty link: mobile phone service in France. Journal of services marketing.
43. Lee, K. C., & Chung, N. (2009). Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective. Interacting with Computers, 21(5), 385-392.
44. Lin, H.-H., & Wang, Y.-S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. Information &Management, 43(3), 271-282.
45. Lin, H. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. International journal of information management, 31(3), 252-260.
46. Linda K., Claire B., Vincent H., Stef van B., Allard J. van der B., & Henrica C.W. de Vet. (2013). Development of an individual work performance questionnaire. International Journal of Productivity and Performance Management, 62(1), 6-28.
47. Maina, DW, & Mungai, J. (2019). Mobile banking services and financial performance of tier one commercial banks in Kenya. International Academic Journal of Economics and Finance, 3(4), 232-254.
48. Mehmood, N., Munir, M., & Batool, N. (2020). Investigating the moderating role of islamic work ethics on relationship between interpersonal justice and employee turnover intentions.
49. Melville, N., Kraemer, K., & Gurbaxani, V. (2004b). Review: Information Technology and Organizational Performance: An Integrative Model of IT Business Value. MIS Quarterly, 28(2), 283-322.
50. Munir, M., & Azam, R. I. (2017). Emotional Intelligence and Employee Performance: An Intervention Based Experimental Study. Journal of Business & Economics, 9(2), 1-19.
51. M'zungu, S., Merrilees, B., & Miller, D. (2019). Strategic and operational perspectives of SME brand management: A typology. Journal of Small Business Management, 57(3), 943-965.
52. Niessen, C., Swarowsky, C., & Leiz, M. (2010). Age and adaptation to changes in the workplace. Journal of Managerial Psychology.
53. Nour, B. A., & Soltani, M. (2019). A hybrid model of factors affecting adoption of mobile banking technology between customers of Iranian banks. Serbian Journal of Management, 14(1), 49-75.
54. Oppong, P., Adjei, H., & Poku, K. (2014). The role of information technology in building customer loyalty in banking:(a case study of agricultural development bank ltd., Sunyani). British Journal of Marketing Studies, 2(4), 9-29.
55. Petter, S., & Fruhling, A. (2011). Evaluating the success of an emergency response medical information system. International journal of medical informatics, 80(7), 480-489.
56. Pollack, J., & Adler, D. (2016). Skills that improve profitability: The relationship between project management, IT skills, and small to medium enterprise profitability. International Journal of Project Management, 34(5), 831-838.

57. Ponte, E. B., Carvajal-Trujillo, E., & Escobar-Rodríguez, T. (2015). Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents. Tourism Management, 47, 286-302.
58. Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. Journal of applied psychology, 85(4), 612.
59. Queiroz, M., Tallon, P., Coltman, T., & Sharma, R. (2020). Digital Infrastructure, Business Unit Competitiveness, and Firm Performance Growth: The Moderating Effects of Business Unit IT Autonomy. Paper presented at the Proceedings of the 53rd Hawaii International Conference on System Sciences.
60. Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. Information systems research, 13(1), 50-69.
61. Rana, N. P., Dwivedi, Y. K., Lal, B., Williams, M. D., & Clement, M. (2017). Citizens' adoption of an electronic government system: towards a unified view. Information Systems Frontiers, 19(3), 549-568.
62. Rogers, E. M. (2003). Diffusion of innovations. Free Press. New York, 551.
63. Saleem, Z., & Rashid, K. (2011). Relationship between customer satisfaction and mobile banking adoption in Pakistan. International Journal of Trade, Economics and Finance, 2(6), 537.
64. Shaikh, A. A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. Telematics and informatics, 32(1), 129-142.
65. Sharma, R., Singh, G., & Sharma, S. (2020). Modelling internet banking adoption in Fiji: A developing country perspective. International Journal of Information Management, 53, 102116.
66. Sherazi, S. K., Iqbal, M. Z., Asif, M., Rehman, K., & Shah, S. H. (2013). Obstacles to small and medium enterprises in Pakistan. Principal component analysis approach. Middle-East journal of scientific research, 13(10), 1325-1334.
67. Siau, Keng, Lim, Ee-Peng, & Shen, Zixing. (2003). Mobile commerce: Current states and future trends Advances in mobile commerce technologies (pp. 1-17): IGI Global.
68. Slade, E., Williams, M., Dwivedi, Y., & Piercy, N. (2015). Exploring consumer adoption of proximity mobile payments. Journal of Strategic Marketing, 23(3), 209-223.
69. Straub, D., Limayem, M., & Karahanna-Evaristo, E. (1995). Measuring system usage: Implications for IS theory testing. Management science, 41(8), 1328-1342.
70. Tam, C., & Oliveira, T. (2017). Understanding mobile banking individual performance. Internet Research.
71. Taouab, O., & Issor, Z. (2019). Firm Performance: Definition and Measurement Models. European Scientific Journal, 15(1), 93-106. .
72. Ter Hoeven, C. L., Van Zoonen, W., & Fonner, K. L. (2016). The practical paradox of technology: The influence of communication technology use on employee burnout and engagement. Communication monographs, 83(2), 239-263.
73. Usman, M., Vanhaverbeke, W., Roijakkers, N., & Frattini, F. (2018). Researching open innovation in SMEs: World Scientific.
74. Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. International journal of management reviews, 9(1), 31-51.
75. Wang, Y., Wang, H., & Shee, D. Y. (2007). Measuring e-learning systems success in an organizational context: Scale development and validation. Computers in Human Behavior, 23(4), 1792-1808.
76. Wang, W. YC. Pauleen, D. J., & Zhang, T. (2016). How social media applications affect B2B communication and improve business performance in SMEs. Industrial Marketing Management, 54, 4-14.
77. Yang, K. (2010). Determinants of US consumer mobile shopping services adoption: Implications for designing mobile shopping services. Journal of Consumer Marketing, 27(3), 262-270.
78. Yueh, H., Huang, J., & Chang, C. (2015). Exploring factors affecting students' continued Wiki use for individual and collaborative learning: An extended UTAUT perspective. Australasian Journal of Educational Technology, 31(1).
79. Yusuf, MO., Lawal, B. I., & Oyewusi, M. B. (2020). Benefits of Effective Utilization of Mobile Technologies and Inquiry-Based Teaching Methods in University of Ilorin, Nigeria Mobile Devices in Education: Breakthroughs in Research and Practice (pp. 667-679): IGI Global.
80. Zhang, Y., Weng, Q., & Zhu, N. (2018). The relationships between electronic banking adoption and its antecedents: A meta-analytic study of the role of national culture. International Journal of Information Management, 40, 76-87.
81. Zhou, T. (2012). Examining mobile banking user adoption from the perspectives of trust and flow experience. Information Technology and Management, 13(1), 27-37.
82. Zhou, T. (2013). An empirical examination of continuance intention of mobile payment services. Decision Support Systems, 54(2), 1085-1091.