Tayyba Fatima

Department of Management Sciences, Shifa Tameer-e-Millat University, Park Road, Tarlai Kalan, Islamabad, Pakistan
tfatima92@gmail.com
ORCID ID: 0000-0002-9101-3629

Tahir Mumtaz Awan

Department of Management Sciences, COMSATS University Islamabad, Park Road, Tarlai Kalan, Islamabad, Pakistan
tahir_mumtaz@comsats.edu.pk
ORCID ID: 0000-0002-5283-2277

Muhammad Kamran

Faculty of Management, University of Warsaw, Poland
kamran@wz.uw.edu.pl
ORCID ID: 0000-0002-5154-0504

Michał Szostak

Institute for Management Research, Collegium Civitas, Warsaw, Poland
michal.szostak@civitas.edu.pl
ORCID ID: 0000-0002-7774-2964

Mudassira Sarfraz

Institute for Management Research, Collegium Civitas, Warsaw, Poland
mudassira.sarfraz@civitas.edu.pl
ORCID ID: 0000-0002-8295-8591

Changing the Attitude of Pakistani Females toward Mobile Phones' Perceived Innovation

ABSTRACT

Objective: Perceived innovation is considered a significant predictor of purchase intention. This study explores the influence of perceived innovation on purchasing intention and the mediating role of perceived quality, especially for female consumers. The impact of four dimensions of perceived innovation on purchase intention is studied separately.

Methodology: A survey of 227 female respondents revealed that female attitudes toward innovation have changed. The hypothesized relations were tested with a sample of 227 respondents by applying different statistical tests. Mediation analysis was conducted by using process macro.

Findings: The study results show that four dimensions of perceived innovation positively influence purchase intention. Perceived quality significantly mediates all relationships. There exists partial mediation in all relationships.

Value Added: The study analyses a valuable part of the growing cell phone market in Pakistan, and the methodology can be used for broader research.

Recommendations: The study suggests that marketers can develop innovative marketing and service strategies to attract more females. Further, the focus should be placed on product innovation and technology innovation.

Key words: perceived innovation, perceived quality, purchase intention, female attitude

JEL codes: L2, L8, M3, O3

Introduction

The rapid development of technology and its related products are considered an important driver of innovation (Rafique et al., 2020). In the last few years, innovation has become a competitive edge for different companies, specifically for IT companies (Malaquias & Albertin, 2018). This rapid technological advancement has shortened the lifecycle of technology-related products. No innovation will lead the company to lose the market. As Peter Drucker said, "Innovate or Die", which means innovation is key to competitive advantage (Prajogo & Sohal, 2006). Customers assign more value to innovative products and increase brand preferences, leading to purchase decisions (Pappu & Quester, 2016). Innovation should not be considered only as a corporate strategy, but with customers' perspective in mind, it should be viewed as their perception of innovation (Hassan & Wood, 2020). If customers do not perceive innovation in products or services, then it is not for the benefit of the enterprise (Gupta et al., 2016). Extensive research has been carried out regarding the acceptance of technology and consumers' perception toward innovative products (Arts et al., 2011; Fellnhofer, 2017; Wu & Chen, 2014). Some studies also discussed gender differences related to technology usage. Males and females show different behaviors in web usage, internet usage, mobile apps, etc. (Gilbert et al., 2003; Lee & Lee, 2010; Liébana-Cabanillas et al., 2014). Lian and Yen (2014) studied online shopping behavior and analyzed gender differences. Further, scholars have also witnessed the acceptance of technology-related products in developed countries (Costa et al., 2021). The body of research has shown that there are gender and age disparities in how people see and use online technology in general (such as online shopping), in the context of online hospitality and tourism in particular (e.g., tourism online shopping) (Escobar-Rodriguez et al., 2017), tourism and mobile shopping (Tan & Ooi, 2018) hotel tablet usage, (Kim, 2016) as well as Lian & Yen (2014); Facebook commerce (Liébana-Cabanillasa & Alonso-Dos-Santos, 2017), e-learning (Tarhni et al., 2014). However, depending mostly on the kind of technology or application employed, these studies have found uneven and contextual impacts of age and gender on technology adoption (Kang et al., 2018). However, less attention was paid to understanding women's behavior toward innovation and purchasing innovative products.

It is essential to understand the female attitude toward innovation and technology, as they are also taking part in every sphere, and many trends has changed (Fellnhofer, 2017) not only in developed countries but also in developing countries, i.e., Pakistan. Females become independent to make small purchase decisions for themselves (Khan et al., 2022). Scholars have witnessed the changing female attitude toward technology and adoption of e-learning (Kanwal et al., 2020). Teacher acceptance of technology (Shah et al., 2021) and female acceptance of digital media in universities (Safdar et al., 2020) is also being discussed. However, it has been clarified that most scholars have discussed technology acceptance in terms of education (Hanif et al., 2022) and online shopping (Kanwal et al., 2022). But less attention is paid to purchase decisions, especially for female consumers. Therefore, understanding female behavior toward innovation and purchase intention toward IT-related products, i.e., mobile phones is the focus of this research. Generally, it is noticed that females show less interest in innovation and do not know about new mobile phone technologies (Holkkola et al., 2022). To increase innovation adoption, one must motivate consumers' behavior toward innovation and test it (Stryja & Satzger, 2018). Keeping the discussion in mind, this study aimed to understand whether or not the innovative features of mobile phones impact the purchase intention of female consumers in Pakistan. Past researchers have shown a significant relationship between perceived innovation, perceived quality, and purchase intention (Wu & Ho, 2014). However, this study fills the gap by studying the purchase intention of innovative products of female consumers of mobile phones, which was ignored in the past. To carry out this study, data was collected from the female consumers from Pakistan, to understand their behavior toward innovation and technology-related products, to what extent female consumers assign importance to innovation and how they perceive quality of product on the basis of innovation perception and ultimately develop their purchase intention.

Literature review

Perceived innovation

Innovation is a very complex phenomenon, as no definite definition and model have been accepted (Van de Ven, 1986). West and Anderson (1996) said that innovation is processed to benefit groups such as organizations through new products and processes. Gloet and Terziovski (2004) defined it as a discovery and intervention implementation and the process by which new outcomes (products systems or processes) come into being. Innovation is viewed from different perspectives, i.e., from customers and firm perspectives, respectively. This study focuses on innovation as consumers' perception. Perceived innovation is the "extent to which consumers' perceived product can provide new and useful solutions to their needs" (Pappu & Quester, 2016). According to Veryzer Jr (1998), creating new merchandise services or courses of action and new methods for creating desired qualities are all part of innovative thinking. In the view of Johannessen et al. (2001), there are six categories of creativeness, which are new goods, new services, new ways of doing things or outcomes (industrial creativeness based on technology), new market evolution, new reservoirs of supply, and new governing methods (Salunke et al., 2011). Based on creative analysis, innovation is a step-by-step development in wares, manufacturing, facilities, organizational and marketing systems, which is helpful for consumers in their own value creation. According to Rogers (2002), from the buyer's point of view, creative novelty is a new idea or product conceived by a buyer of a particular thing. Atuahene-Gima (1995) stated that according to the consumer's point of view, the novelty of the product is based on buyers' experience of use and the amount consumed for the new product. According to Moore and Benbasat (1991), relative predominance, compatibility, and complexity have a tendency to influence consumers more as far as innovation, characteristic of information technology, is concerned.

The present study is based on two aspects: female consumers' viewpoint and how female consumers understand innovation in innovative technological products. These two aspects are used to measure perceived innovation. As a result, to

understand female consumers' viewpoint about the creative novelty of products and to estimate the sensed originality by consumers, four attributes, i.e., marketing, product, technology, and services, are used in this study. These attributes are adopted from a study by Wu and Chen (2014) aimed to understand the perception toward innovation. These four attributes were based on the revision and adjustment of three concepts, including characteristics of detected novelty like benefits, rapport, complexness, trial-ability, and visibility as presented by Moore and Benbasat (1991) and Rogers (2002).

Perception of innovation of female consumers

Generally, females have less knowledge regarding innovation and emerging technology and are reluctant to use new technology. Previous researchers used different models to understand the technology adoption process. Different researchers categorized consumers based on technology adoption. A new trend to understand the adaptation process is the role of gender. Sim and Koi (2002) said that male consumers are more willing to use new technology. Past studies have found that men are more willing to use innovative products than women (Van Slyke et al., 2002). More often, it was noticed that females show negative perceptions regarding complexity, compatibility, and trust regarding innovation perception. Wu (2003) reported that female consumers show a negative attitude toward purchasing innovative products. However, more recent research shows different results. That research shows the change in female attitudes toward innovation. Okazaki (2005) said females are more willing to use e-services and improve their attitude than men. Women show a positive attitude toward using e-services and innovation adoption if they have a trust factor (Thakur & Srivastava, 2014). Totten et al. (2005) stated that females are more likely to use cellular technologies than men, also proven by Lee and Lee (2010).

Perceived quality

Perceived quality is one of the essential elements of brand equity, as pointed out by Aaker (1996). It is a general perception of customers about a brand's brilliance

and the quality of its products and services (Aaker, 1996). It is defined as to what extent consumers consider it superior and excellent compared to other products. Perceived quality differs from a product's real/actual/objective quality as it is subjective (Zeithaml, 1988). DA (1983) added that perceived quality is defined by customer recognition, while real quality is based on product performance. A product's real/objective quality depends upon the customer's experience, but perceived quality depends upon the perception of customers, which is not formed by only one attribute (Jacoby & Olson, 1977; Monroe, 1973). Aaker (1996) and Zeithaml (1988) said that perceived quality is the key factor that manipulates and establishes customers' choices. Petrick (2002) argued that perceived quality is crucial in determining purchase behavior. Furthermore, Dodds et al. (1991) states that perceived quality of innovation creates a balance between what the customers are getting and what they are paying for the product. In conclusion, perceived quality is the idiosyncratic perception of quality evaluated based on customers' knowledge and information provided. Customers' purchase intention depends on this perceived quality (Wu & Chen, 2014; Wu & Ho, 2014).

Purchase intention

According to Fishbein and Ajzen (1975), an intention is a personal affinity of an individual to perform certain behaviors. Applying it to purchase intention, demonstrates consumers' willingness to perform certain purchase behaviors. Purchasing intention is consumers' willingness to buy a specific product (Grewal et al., 1998). Zeithaml (1988) said it is likely that an individual would like to buy a certain product, specifying actual purchase behavior. Real purchase behavior is determined by purchase intention. Positive purchase intention leads to the actual purchase of products (Morwitz & Schmittlein, 1992). Consumers' perception of product value and quality leads to positive purchase intention (Dodds et al., 1991; Zeithaml, 1988). Perceived quality is an indicator of purchase behavior. Perceived quality manipulates the customers' choice and actual product purchase (Wu & Ho, 2014). Consumer interest and satisfaction both are considered as predictors of purchase intention. Product quality determines purchase intention (C.-M.Chen et al., 2018).

Signaling theory

The mechanism underlying the association between perceived innovation and perceived quality is understood by using the signaling theory. Spence (1974) first provided the idea of the signaling theory. According to the theory, a market is a place having all kinds of information, i.e., positive and negative. Signalers (organization, firm, or manager) have complete information, while receivers (HR, investors, or consumers) need that information to make decisions about different matters (purchases, investments, etc.). Firms then circulate the information into the market regarding their offerings using different signals (marketing activities, product development, etc.) (Spence, 1974). According to Pappu and Quester (2016), consumers perceived the quality of products using different variables as signals, i.e., brand name, advertising, price, warranty, etc. However, firms also use some other signals to convey project quality. Recent researchers suggest that consumers also use other attributes, such as innovation, as a quality signal. According to Henard and Szymanski (2001), if firms having a positive reputation for innovation in customers' minds, then customers perceive innovation as a signal for quality.

Relationship between perceived quality, perceived innovation, and purchase intention

Fleeting market demands lead consumers to become more curious about product quality. Customers consider product innovation as the measure of quality (Johannessen et al., 2001). Innovation is considered a prime component in improving product quality by creating a new product or service or increasing the efficiency of a product and its functions (Johne, 1999; Veryzer Jr, 1998). According to Schepers et al. (1999), innovation not only refers to technological advancement but also to enhancing product quality through introducing new ways of promoting products and introducing novelty in services. By improving the mods of innovation, firms try to increase purchase intention. Atuahene-Gima (1995) said that customers perceive the quality of innovative products as more significant than of the older ones. Hence, it can be argued that higher perceived innovation leads to higher

perceived quality and increases customers' purchase intention. Ottenbacher and Gnoth (2005) also proved this relation.

Relationship between perceived innovation dimensions and perceived uality, and Puprchase I ntention

Product innovation is an essential factor for company success. Product features improvement and innovation lead to positive customer response (Afzali & Ahmed, 2016). If customers are satisfied with the already purchased product, innovation in product features leads to higher perceived quality and increases the purchase intention (Afzali & Ahmed, 2016; Joensuu-Salo & Sorama, 2016). Consumers perceive product innovation as a signal of higher quality and ultimately there is a higher probability of product purchase.

> **H1a.** *Product innovation has a positive impact on purchase intention.*
> **H1b.** *Perceived quality positively mediates the relationship between product innovation and purchase intention for mobile phones.*

Service innovation contributes to higher product sales. Service innovation is the development of new methods and ways to reach customers (Eisingerich et al., 2009). Service innovation is related to more significant benefits (profits, improved market share, cost saving). Customers show a positive attitude towards service innovation. Peppers and Rogers (2005) said that service innovation has a positive impact on purchase intention. If companies can develop novel ways to benefit their customer through innovative services, it leads to higher purchase intention (J.-S. Chen et al., 2018). Quality perception acts as a bridge between service innovation and purchase intention. As innovative service increases quality perception in customers' mind and leads to higher purchase intention.

> **H2a.** *Product innovation has a positive influence on purchase intention.*
> **H2b.** *Perceived quality expressively mediates the relationship between service innovation and purchase intention for mobile phones.*

Studies have identified the role of marketing in different aspects. Marketing innovation is a recent phenomenon. Scholars considered it a way to achieve a competitive advantage (Malhotra et al., 2013). Technology advancement improved the way of marketing innovation. Innovative marketing strategies enable the brand to address customers innovatively, leading to higher product perception (Gupta et al., 2016). Customers show higher purchase intention for those brands for whom they perceive marketing innovation as a signal of quality (Gupta et al., 2016).

H3a. *Product innovation has a positive influence on purchase intention.*
H3b. *Perceived quality significantly mediates the relationship between marketing innovation and purchased intention for mobile phones.*

According to Rogers (2002), technology innovation measures the probability of consumers' willingness to try a new product. He also added that in technology-related product, innovation in technology is viewed by those customers who are innovators (seeking new technology). Past studies used TAM to understand the technology adaptation process (Thong et al., 2006; Xu et al., 2012). Researchers suggest that consumers relate technology innovation with higher product utility and perceived quality (Hartman et al., 2006). Kim and Kim (2017) proved a positive relationship between technology innovation and purchase intention through higher product utility (quality).

H4c. *Product innovation has a positive influence on purchase intention.*
H4d. *Perceived quality significantly mediates the relationship between technology innovation and purchased intention for mobile phones.*

The framework below is proposed based on literature to understand the purchase behavior of female consumers.

Figure 1. Theoretical Framework
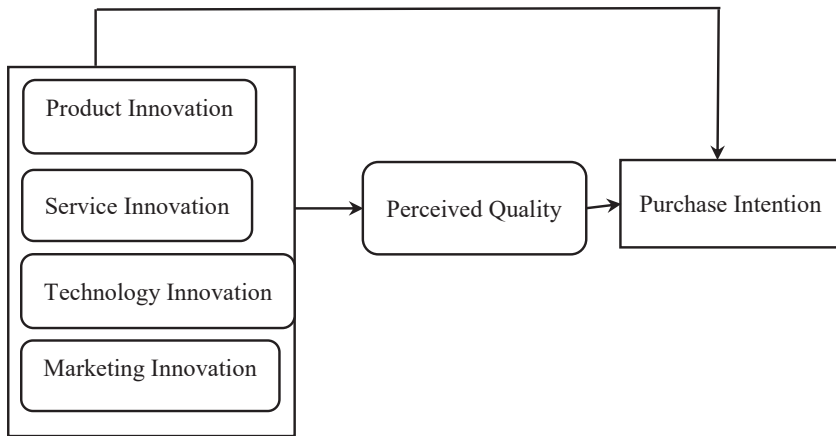
Source: own elaboration.

Method

To achieve the desired results, data were collected from female consumers residing in first-tier cities of Pakistan. Data were collected at one point in time from each individual in a non-contrived setting. They were correlational and quantitative in nature. The statistical tests performed to assess the hypothesis were correlation, regression and mediation. The study population included female mobile phone users from first-tier cities in Pakistan. Data were collected from 227 females residing in the twin cities of Rawalpindi/Islamabad. Data were collected on a convenient basis from those females who were willing to participate in this study.

Measures

Three items of product innovation and marketing innovation were adopted from Wu (2003). Technology and service innovation items were adopted from Johannessen et al. (2001) and Salunke et al. (2011), respectively. While Perceived

quality was measured using five items adopted from Petrick (2002). To measure purchase intention, items were adapted from Dodds et al. (1991). All the items were measured on a 5-point Likert scale.

Reliability analysis was conducted to measure to what extent the assessment tool produces stable and consistent results. Its value should be in the range of 0.7–1. The result is shown in Table 1. As all α-values lie in between 0.7 to 1, the data are considered reliable. The questionnaire's overall reliability is 0.870, which is considered good and reliable for further study.

Table 1. Reliability Analysis of Measures

Variables	No of Items	Cronbach Alpha
Marketing Innovation	3	0.788
Product Innovation	3	0.795
Technology Innovation	3	0.800
Service Innovation	3	0.731
Perceived Quality	5	0.880
Purchase Intention	4	0.790

Source: own elaboration.

The validity of all variables is analyzed separately through factor analysis, which showed that all variables are loaded in a single factor, and as the overall validity of all variables is loaded in four separate constructs presented, that data are valid and further analysis can be conducted on them.

Results

Demographic analysis

In this research, data were collected only from female respondents, where 26% belonged to the age group below 25, 25.8% of the respondents belonged to the age group 26–30, and the 36–40 age group covered 25%. Around 15% of

the respondents were in the age group of 31–35 years. 8% of the respondents belonged to the age group above 40. The professional status of the respondents showed that 63.9% of them were working females, while 24.7% of them were students, and 11.5% of the females were housewives. When buying mobile phones, most of the females (34.4%) focused on innovative features of mobile phones, and 26% of the females considered the overall quality of mobile phones as an important factor, while 24.2% of the female mobile phone users focused on personal satisfaction while buying mobile phones. The economic value of mobile phones is considered important by 11.5% of the respondents. Whereas only 4% of the females focused on the popularity of mobile phones. 20.3% of the females buy mobile phones once in two years, and 18.5% seldom buy cell phones. However, 13.2% buy cell phones once every five years, and 14% once every 6 months. Most of the female consumers, 39.2%, spend an average amount on mobile phone purchases. 21.6% of the females spend a high amount, and 19.8% spend a fair amount. While 13.7% spend above average amounts and only 5.7% spend a small amount on the purchase of a mobile phone. Analysis of the respondents shows that 32.2% of the females use Samsung, and 25.1% use iPhones. 22.9% use Huawei phones, and only 12.3% use Q mobile phones. While 7.5% of respondents use mobile phones of other brands.

Table 2. Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
MI	1.00	5.00	3.8968	.81356
PI	1.33	5.00	4.1865	.68052
TI	1.67	5.00	4.0310	.76240
SI	1.33	5.00	4.0280	.71506
PQ	1.20	5.00	4.1259	.72077
PINT	1.75	5.00	3.9911	.65672

Descriptive statistics of all variables are provided in Table 2. The table show the mean value and standard deviation of all constructs. The results indicate that all variables have a maximum value of 5 and a minimum value of 1. Whereas

the mean of most variables is 4 and two show 3. Moreover, standard deviation shows the dispersion of variables.

Normality analysis

The purpose of normality analysis is to check whether the data are normally distributed or not, and the consistency of responses toward variables is noticed in it. A number of statistical techniques, such as regression analysis, t-tests, correlation, and analysis of variance, rely on assumptions regarding normalcy when analyzing data. According to the central limit theorem, a sample size of 100 or more observations does not significantly affect a violation of normality (Ghasemi et al., 2012). Regardless of sample size, however, the assumption of normalcy must be adhered to in order to draw valid results.

The Skewness acceptable range is between -1 and 1, whereas for Kurtosis, it is -3 to +3. To demonstrate a normal univariate distribution, values for asymmetry and kurtosis between -2 and +2 are deemed appropriate (George & Mallery, 2010). According to Hair et al. (2010) and Byrne (2010), data are deemed normal if the skewness falls between -2 and +2, while the kurtosis falls between -7 and +7. The values of skewness and kurtosis for Marketing Innovation are -0.435 and 0.065; for product innovation -1.00 and 1.656; for technology innovation, is -0.522 for service innovation. The acceptable range, for skewness is (+1,-1). Skewness values for perceived quality and purchase intention are -0.883 and -0.879 while kurtosis values are 1.331 and 1.078 for both variables, and -0.128 for service innovation, -0.453 for marketing innovation, and 0.195 for technology innovation. All values lie in the acceptable ranges which is (+3,-3) for kurtosis. As skewness and kurtosis values for all variables lie in an acceptable range, data are considered normal for further analysis.

Correlation analysis

Correlation analysis was conducted to examine the relationships among the variables. A correlation value equaling 0 means no correlation, whereas a highly positive correlation is represented by +1 and a highly negative one with -1.

The correlation values of this study lie within a good, acceptable range with all positive correlations with a 99% confidence interval. Table 2 shows the result of the correlation analysis.

Table 2. Correlation Matrix

|	MI	PI	TI	SI	PQ	PINT
MI	1					
PI	0.272**	1				
TI	0.671**	0.400**	1			
SI	0.682**	0.410**	0.764**	1		
PQ	0.546**	0.419**	0.661**	0.733**	1	
PINT	0.559*	0.350*	0.648**	0.681**	0.696*	1

Source: own elaboration.

Mediation analysis

After completing all the prerequisites of regression, the regression analysis was run on the data by considering the framework's mediation. Mediation using model four was checked by using process macro, and β-value, p-value, and R^2 were analyzed to ensure whether the mediator has any mediating impact on the relationship or not. A mediation analysis was run, and the result of the analysis demonstrated that mediation exists in the model. Hence, Figure 2 shows the mediation model, which was tested for each dimension separately by applying the Sobel test.

Sobel (1982) presented this easy test statistic. X and Y are independent variables, and the Sobel test is used to investigate the hypothesis that a third variable (M) mediates or influences the connection between the two variables. The Sobel test looks at whether adding a mediator (M) to the regression analysis significantly lessens the impact of the independent variable (X) on the dependent variable (Y) (Preacher, 2020). The hypothesis is tested that there is no statistically significant difference between the total effect and the direct effect after accounting for the mediator; if the result is significant, then full or partial mediation can be supported (Allen, 2017).

Figure 2. Mediation Model
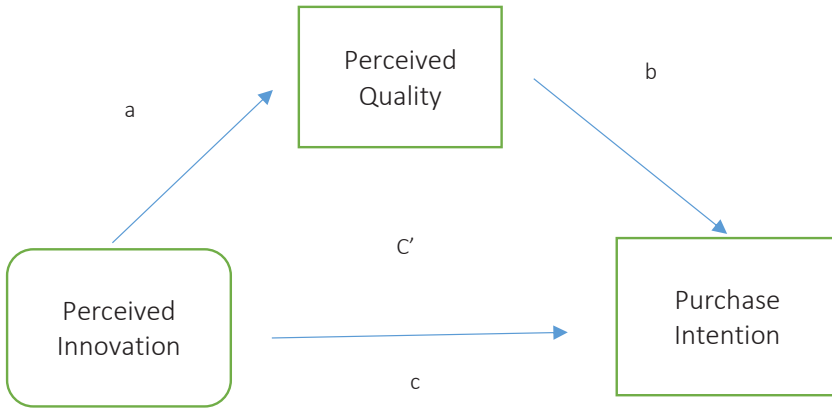
Source: own elaboration.

Marketing Innovation → Perceived Quality → Purchase Intension

Regression Equations:

$M = \alpha + bX + e_m$

$0.0195 + 0.5488x + e$ 1

$Y = \alpha + cx + bm + e_y$

$-0.0092 + 0.2717x + 0.5461m$ 2

Total Effect Model

$Y = \alpha + cx + e_y$

$0.0198 + 0.5714X + 0.552$ 3

It is obvious from the above equations that the indirect effect of X on Y is (ab), which is equal to 0.29969. While Equation 3 shows the total effect of both X and M on Y. Which is greater than the total direct effect and total indirect effect of Equation 2. All results are substantial at a 99% level confidence interval. The Sobel test was conducted and found that mediation exists in the model (z = 6.92, p = .000). Thus, it was found that perceived quality partially mediated the relationship between marketing innovation and purchase intention. Moreover,

R-square value showed that overall 53% of change occurred in the model due to all independent variables.

Product Innovation → Perceived Quality → Purchase Intension

$M = \alpha + bX + e_m$

$-0.0154 + 0.4223x + e$ 4

$Y = \alpha + CX + bm + e_y$

$-0.0042 + 0.0861x + 0.6609m$ 5

Total Effect Model

$Y = \alpha + cx + e_y$

$-0.0143 + 0.3652X + 0.0626$ 6

It is clear from the above equations that the indirect effect of X on Y is (ab), which is equal to 0.2790. While Equation 6 shows the total effect of both X and M on Y. Which is greater than the total direct effect and total indirect effect in Equation 5. All the results are substantial at a 99% level of confidence interval. The Sobel test was conducted and found mediation exists in the model ($z = 6.05$, $p = .000$). Thus, it was found that perceived quality partially mediated the relationship between product innovation and purchase intention. Moreover, R-square value for product innovation including perceived quality was 0.49. Which shows that overall 49% of change occurred in the model due to all independent variables.

Technology Innovation → Perceived Quality → Purchase Intension

$M = \alpha + bX + e_m$

$-0.0172 + 0.6666x + e$ 7

$Y = \alpha + CX + bm + e_y$

$-0.0094 + 0.3582x + 0.4567m$ 8

Total Effect Model

$Y = \alpha + cx + e_y$

$-0.0173 + 0.6626X + 0.0626$ 9

It is clear from the above equations that the indirect effect of X on Y is (ab), which is equal to 0.3044. While Equation 9 shows the total effect of both X and M on Y, i.e., 0.6626. Which is greater than the total direct effect (0.3582) and total indirect effect (0.3044) in equation 8. All results are substantial at a 99% confidence interval. Thus, there is partial mediation. The Sobel test was conducted and found mediation exists in the model (z = 6.52, p =.000). Thus, it was found that perceived quality partially mediated the relationship between technology innovation and purchase intention. Moreover, R-square value for technology innovation including perceived quality is 0.49. Which shows that overall 49% of change occurred in the model due to all independent variables.

Service Innovation → Perceived Quality → Purchase Intension

$M = \alpha + bX + e_m$

-0.0085 + 0.7271x + e   10

$Y = \alpha + CX + bm + e_y$

-0.0054 + 0.3826x + 0.4142m   11

Total Effect Model

$Y = \alpha + cx + ey$

-0.0089 + 0.6838X + 0.0490   12

It is clear from the above equations that the indirect effect of X on Y is (ab), which equals 0.3011. While Equation 12 shows the total effect of both X and M on Y, i.e., 0.6838. Which is greater than the total direct effect (0.3826) and total indirect effect (0.3011) in equation 11. As all steps are significant at a 99% level of confidence interval, there is no full mediation. The Sobel test was conducted and found mediation exists in the model (z = 5.77, p =.000). Thus, it was found that perceived quality partially mediated the relationship between technology innovation and purchase intention. Moreover, R-square value for service innovation including perceived quality is 0.47. Which shows that overall 47% of change occured in the model due to all independent variables.

Discussion

This study intended to explore mobile phone innovation's impact on female consumers' purchase intention. Further, it explored the mediating role of perceived quality between different dimensions of perceived innovation and purchase intention. The results show that different dimensions of perceived innovation, marketing innovation, product innovation, technology innovation and service innovation, positively impact purchase intention, and perceived quality positively mediates all the relationships. These results are consistent with previous studies. Previous studies showed that the relationship between product innovation and purchase intention is positively mediated by perceived quality (Afzali & Ahmed, 2016; Johannessen et al., 2001). C.-M. Chen et al. (2018) proved that novelty in service methods positively impacts purchase intention, and perceived quality acts as a bridge between service innovation and purchase intention. The present study suggests that if marketers can create new innovative methods for service, it positively impacts purchase intention, and perceived quality positively mediates this relation. Because novelty in service leads to higher perceived quality and, ultimately, higher purchase intention. Marketing innovation is a recent phenomenon. It is considered a competitive advantage for companies. Marketing innovation leads to higher perceived quality and purchase intention. Perceived quality positively mediates the relationship between marketing innovation and purchase intention. These results are consistent with the results of previous studies (Gupta et al., 2016; Malhotra et al., 2013).

Similarly, technological innovation has a significant impact on purchase intention. Consumers who seek technology innovation are more willing to buy new innovative products. Researchers suggest consumers relate technology innovation with higher product utility and perceived quality (Hartman et al., 2006). The result of this study also proved this relationship. Kim and Kim (2017) also proved similar results as the present study, i.e., a positive relationship between technology innovation and purchase intention through higher product utility (quality). However, this study was conducted to check the female attitude toward mobile phone innovation. The study results show positive results, while the literature shows different trends. Previous researchers show that females show less

interest toward innovation. Sim and Koi (2002) said that women are less willing to use new technology. Other scholars also report the same results (Van Slyke et al., 2002; Wu, 2003).

However, more recent researcher shows different results. That research shows the change in female attitudes towards innovation. Okazaki (2005) said females are more willing to use e-services and improve their attitudes than males. Women show a positive attitude toward using e-services and innovation adoption if they have a trust factor (Thakur & Srivastava, 2014). Results of the study by Totten et al. (2005) show that females are more likely to use mobile phone technologies than males, which was also proved by Lee & Lee (2010). Different scholars justify this change in attitude in different ways. Joensuu-Salo and Sorama (2016) said that previous innovation studies were biased. Scholars focused only on those sectors for innovation studies, which are male dominated. Other scholars said that females are now stepping into different fields. Changes in their education and career trends lead to changes in their behavior toward perceived innovation. Furthermore, it was also proven that females are more willing to adopt new technology to communicate with others than males (Jackson et al., 2008). Innovation in mobile phone technologies assists consumers in communicating more frequently as females assign more importance to a flexible and open work environment where open-channeled communication is essential (Sandberg & Werr, 2003). So, the result of the present study is positive, which is justified by this change in trend. It means that females are not a homogenous group, and their characteristics are not permanent; they change with global advancement. The study findings provide valuable recommendations to future researchers and help the marketers to gain market attention through innovation.

Conclusion

Every research study has some limitations that need to be addressed in the future. Firstly, to increase the generalizability of the study, data need to be collected from a larger sample in the future, as in this study, the sample size was very limited. Secondly, considering the future study's purpose and objective, other probability sampling techniques could be used to reduce the bias of convenient sampling as used in the current research study.

The other factors that also significantly impacted perceived quality, i.e., brand awareness and loyalty, are not studied in this study. Furthermore, this study includes the impact of innovation on one product, i.e., mobile phone; other products and services should also be focused on in the future. A comparative study between different brands of mobile phones should be conducted in the future to understand which brand is more innovative. Further comparative study should be conducted among females from different fields.

The upshot of this study specifies that perceived innovation performs an essential role in consumer purchase decisions. Different dimensions of perceived innovation have a positive impact on purchase intention. This study aids in understanding the changing behavior of female consumers toward innovation. Female consumers consider perceived innovation as a signal of perceived quality and then purchase those mobiles that are more innovative. This points to the fact that firms should emphasize evolving innovative marketing strategies, technology innovation, service innovation, and product innovation to attract female consumers. Another thing is that Pakistani females are mainly using Samsung mobile phones. Other companies should consider this and determine whether it is the innovation perception or something else. As 34% of females use mobile phones because of innovation, this shows the changing attitude of females toward innovation.

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