

Impact of Augmented Reality on Consumer Purchase Intention with the Mediating role of Customer Brand Engagement: Moderating role of Interactivity in Online Shopping

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Abstract

Purpose: *The association of augmented reality in developing customer brand engagement and purchase intention is the most highlighted element of this study. The purpose of the study is to explore the impact of augmented reality in the creation of customer brand engagement and purchase intention.*

Methodology: *In order to analyze the constructed hypotheses, the study focused on online survey strategy through convenience data sampling technique. The prospective study analyzed path analysis of structural equation modelling via AMOS and moderated regression analysis via SPSS-22. Questionnaires were distributed among 490 respondents out of which 450 were in a useable form with a response rate of 91.8%.*

Findings: *Findings of the study indicated significant association of augmented reality with customer brand engagement and purchase intention along with partial mediation and significant moderating effects. The study also predicted that augmented reality applications and devices can be used as creative tools for attracting customers and spreading awareness. The present study is limited to electronic household equipment's only and findings may be applicable in other sectors as well.*

Originality: *The current study examined role of interactivity as a moderator, finding that augmented reality generally has a positive impact on customer brand awareness and purchase intention. This means that augmented reality can enhance purchase intention if consumers have proficiency in using such applications.*

Keywords: *Augmented reality, interactivity, customer brand engagement, purchase intention, online shopping.*

Introduction

In today's business competitive environment, organizations are striving to discover innovative ideas in order to support and promote their offerings. In spite of the undeniable fact of traditional marketing to promote a product, it has gradually failed in meeting the prerequisites of the present markets. Normally depending on customer loyalty, crusades utilizing conventional marketing practices have almost failed in pulling audience they once did; in this way influencing professionals to confront a major challenge (Reitmayr & Drummond, 2006). Particularly, the extension in the number of internet users together with the increase in literacy levels have brought a constant change for the marketers in the digital era with customers moving away from traditional media to digital media (Singh & Pandey, 2014). Traditional media has suffered a great deal of loss due to lack of interest and resulted in a decrease of

brand equity along with purchase intention (Kenyon & Sen, 2012). Today's era demands of digital advertising in order to promote and make customer aware of an organization's offering along with cost effectiveness. Marketers are diverting their promotional endeavors from product features and advantages to concentrating on the customer. Moreover, not all customers are indistinguishable; they have distinctive statistic profiles, income levels, business necessities, and ways of making decisions which drive their purchasing patterns. Currently, marketing channels are required to offer something beyond a single way of communication, at the same time creating valuable and customer-specific data (Preece et al., 2015). Acquiring such information should be possible from many sources including collection from both online and offline sources, following recent purchases, gift registries, personal shopper files, responses from quick response codes, digital channels brand engagement and many others. The reason for gathering information builds upon the comprehension of individual choices and decisions, thus creating such dynamic campaigns that match with every individual customer's preference.

Beside the above arguments for a move towards new media, a nonstop two-route exchange of data between the user and the essential issue of a communication framework is by all accounts of much more noteworthy significance with regards to maintain customers. Interactivity, an element absent from traditional promotion, offers the ability to expand promotional functions far ahead that conventional promotion is able to accomplish (Li & Leckenby, 2007; Miles, 2007). Interactivity can provide a natural method to deal with product assessment through the interface properties of 3D representation and when combined with a real world environment it can actualize considerably greater range of potential outcomes and applications (Schlosser, 2003).

Augmented reality (AR) has been developed as an interactive tool in the marketing context with an increased set of use in retailing with the development of smart device applications. Augmented reality has the ability to cover the physical environment with virtual features i.e. images and information capable to interact with the physical environment in real time that provide further new opportunities for content delivery to consumers. Augmented reality, as a result, has the ability to modify consumer activities which includes product and information search (Javornik, 2016). As the use of augmented reality has increased in the past few years, a need exists to better understand it's applicability in consumer psychology. The current study intends to provide an insight of consumer psychology under the light of augmented reality with media characteristics i.e. by the use of technology. Technology is considered as a vital source of improvement and has notably reformed online shopping practices of consumers and brand activities (Kim & Peterson, 2017). The evolution of web 2.0 and 3.0 which possess an active participation in online shopping, business to consumer and consumer to consumer interaction through social media forums with an increased use of hand held devices. Challenges related to consumer reactions to more established interactive advances drove the route to a rich assortment of research (Pagani & Mirabello, 2011; Sheth & Solomon, 2014), the conceivable effect of rising AR innovation on consumers has just been discussed about in not very many cases (Huang & Hsu Liu, 2014) and, moreover, no efficient research plan has been proposed.

Augmented reality industry is growing rapidly with an estimated \$56.8 billion of revenue to be generated by 2020 (Markets and Markets, 2015). On the other hand, Fortune has predicted to generate revenue of \$200 billion by the end of 2020 (Gaudiosi, 2015). As AR technology is rapidly emerging, there is a need to investigate its importance in consumer psychology. With this need, marketers can identify the use of AR as an important tool in online shopping. Marketing industry has been continually changing and adjusting to consumers' needs with a specific end goal to capture attention. Accordingly, marketing is the most fundamental in relation to fruitful business. Augmented reality plays a specific

lively part in contemporary marketing. Assume pointing your smart mobile phone at a particular area that triggers a 3-D video or looking through a webcam that enables you to add accessories to yourself (Russell, 2012). The idea of augmented reality came into existence in the 1990's; however this doesn't imply that it has not shown itself some time before (Sung, 2011). Morton Helig in 1957 began to make AR a reality by building a machine called Sensorama. The machine was made in 1962 but due to excessively costly film, it could not make a public appearance. While relating this to AR it can be observed that it could give the deception of reality utilizing diverse human sense. The machine offers a multi-sensory condition, which enables users to encounter the vibe of sight, hearing, smell and even touch (Mattes, 2013). It was capable to provide stereoscopic 3-D pictures in wide angle view, supply stereo sound, give a moving seat that tilts at whatever point important and wind and fragrance will likewise be activated amid the film by looking through binoculars with films inside (Mattes, 2013). Proceeding onward, the genuine AR term was designed by Tom Caudell, a Boeing analyst was the first to portray it utilizing a computerized show normally utilized as a part of flying machines; it at that point mixes the virtual illustrations into physical reality (Cassella, 2009). In today's computerized world, augmented reality has been characterized in a more detailed way where "augmented reality is the communication of superimposed graphics, sound and other sense upgrades over a real-world environment that is shown continuously and in real-time" (Peddie, 2013).

Problem Statement

As discussed above, in pursuit for more unique and innovative approaches to capture customer's attention, many brands have understood the capability of AR and have received it as a major aspect of their promotional efforts. This innovation gives an engaging visualization experience by intensifying user's impressions. Information generated from computer is perceived by the user in real-time in a real environment. This mix of real and computer created imagery has been found to enhance human perception and to enhance understanding of complex 3D situations while enhancing and enhancing importance and engagement for the user. The vast majority promotional campaigns, that are already effectively connected with technology, depend on an experiential approach which centers on a brand's offerings (products and services), as well as an entire experience developed especially for the consumer (Yuan & Wu, 2008). Brand experiences are sensations, emotions, and behavioral reactions evoked by brand-related stimuli that are a piece of a brand's plan and personality, packaging, communications, and environments which highly influence purchase decisions.

The focal issue for this study is about the reality that it is indistinct whether an AR framework is additionally convincing for brand image which can further result in purchasing intention with the moderating effect of interactivity (communication, control and responsiveness). In order to further undergo, the independent variable i.e. augmented reality and the dependent variable i.e. purchase intention have been analyzed through brand image as a mediator while interactivity (communication, control and responsiveness) as moderator between the independent and mediating variable.

Research Objectives

Specifically, the present study addresses following research objectives:

- To explore the relationship between augmented reality and customer brand engagement.
- To explore the relationship between augmented reality and purchase intention.
- To explore the relationship between customer brand engagement and purchase intention.
- To explore the relationship of interactivity (communication, control and responsiveness) between augmented reality and brand image.

Research Questions

Specifically, the present study addresses following research questions:

- What is the influence of augmented reality on customer brand engagement and purchase intention among online consumers of Pakistan?
- How does interactivity (communication, control and responsiveness) moderate the effect of augmented reality and customer brand engagement among online consumers of Pakistan?

Significance

The present study takes on an empirical perspective on the role of augmented reality on purchase intention from perspective of online consumers of Pakistan. Furthermore, the study has also focused on the moderating role of interactivity (communication, control and responsiveness) with the mediating role of brand image. The current study intends to provide an understanding of the enhancement of purchase intention via augmented reality with the involvement of brand image and media characteristics which is of significant importance in online shopping. Limited research work has been done on augmented reality in marketing context. Therefore, the present study serves as a reference material and future guideline for upcoming studies. This study might be useful for the enhancement of augmented reality in the entire electronic equipment sector to get insights of how purchase intention is influenced by augmented reality.

Literature Review

Augmented Reality

Augmented reality is an interactive mode of technology that adjusts physical environment with superimposed virtual components. The virtual layer which is placed between the physical situations and the user can include textual information, pictures, recordings or other virtual things to the individual's viewing of physical environment. The gadgets that empower such superimposition can be cell phones or tablets, wearables (head-mounted presentations), fixed interactive screens or projectors (Carmigniani et al., 2011). AR technology has been examined to a great extent in the field of computer technology and human-computer communication. The definition of AR by Azuma et al. (2001), perceived as the most acknowledged one, emphasizes on not just the co-existence of virtual and genuine in a similar space, but also interactive alignment and common enlistment of computer produced sources with physical reality. It underlines the embeddedness of AR progressively (deviating from virtual reality) and its interactive element. AR devices hold a key advantage as they are portable and wearable and are almost mobile in a

manner (Reitmayr & Drummond, 2006). This advantage applies only to a few devices as others are fixed devices that are incapable of mobility (Van Krevelen & Poelman, 2010; Preece et al., 2015).

Recently, brands have been utilizing and testing different AR applications in various contexts to inspect the most suitable settings for their utilization. Up until this point, AR has utilized smart gadgets and expansive intuitive screens, either secretly or openly in retail is among the most common ones (Javornik, 2014). AR applications on smart gadgets enable consumers to see a virtual item arranged in the environment, (for example, a virtual furniture in a physical room) or to get to extra computerized content by examining an item's logo or a related picture, (for example, a filtered magazine's promotion that changes into a video on a tablet's screen). Subsequently, large interactive screens can present a larger piece of the physical environment on the screen, to which the virtual components are included (for example an AR setup in a shopping center with a motivation behind raising awareness about endangered species, that was displayed on a large screen the undermined creatures that appeared to be strolling around the shopping center like a part of that specific environment). Moreover, AR applications permit likewise growth of an item, for the most part by filtering an item or product with a smart gadget that would be able to envision an improved view. A few cases of such applications are for example those that provide extra information of items on a rack, demonstrate reviews specifically connected to the items, change the appearance or colors of the product on a screen or add gaming components. At long last, some applications allow an augmentation of an encompassing space with virtual components. That is utilized for perceiving how an item would look like in a specific environment (for example a specific color of furniture would look like in a room) or for getting extra substance about surrounding space (for example the screen appears on the camera perspective of the road where an adjacent coffee point is and which stores have a deal).

With respect to the above arguments, AR technology is now used to create awareness in the general public. AR technology can help boost sales and create a brand engagement. Therefore, it is hypothesized:

H1: Augmented reality has a positive impact on customer brand engagement.

H2: Augmented reality has a positive impact on purchase intention.

Customer Brand Engagement as a Mediator

Consumers that shop online have an increased commitment with a brand (Kim et al., 2008) and are indirectly involved in the failures and success of that specific brand (Ashforth & Mael, 1989). It can be assumed that customers involved in online shopping tend to have a positive and optimistic attitude towards a brand (Writz et al., 2013). Surprisingly, a consumer's brand engagement not only increases their overall brand engagement but can help increase organizations sales as well. Customer brand engagement has its roots deeply associated with relationship marketing that emphasizes the idea or interaction and customer experiences (Vivek et al., 2012). As per Mollen and Wilson (2010) customer brand engagement is defined as the affective and cognitive commitment of an active relation with a specific brand via a website or computer mediated devices designed to communicate brand value. Brand engagement captures a collaborative association with a specific brand furthermore, requires the view of experiential incentive notwithstanding instrumental incentive to be obtained from communications with the brand.

According to customers, they only get involved with a brand only when their needs, wants and the price paid are fulfilled by any specific brand. Consumer brand engagement is perceived to be positively and directly associated to brand relationships and the intention to purchase a specific times (Brodie et al., 2011). It is an understood fact that if consumer's online shopping creates value and actually get the item or product as mentioned in the advertisement will create value, which can further increase trust in that specific website and increase purchase intention in future. On the other hand, strategic moves asserting to up bring customer brand engagement levels are most likely to increase customer loyalty programs (Hollebeek, 2011). Stronger brand engagement can lead to strong relationships in the form of membership, allowances, and discounts and further other offers to such consumers that in turn results in purchasing intention of a specific brand in future (Algesheimer et al., 2010). This has also been supported by Chiou et al. (2010) who stated that word of mouth can increase and have a direct impact on purchase intention. Thus, it is hypothesized that:

H3: Customer brand engagement has a positive association with purchase intention.

Interactivity as a Moderator

Newhagen et al., (1995) were the first to introduce interactivity. Interactivity was viewed by them as a psychological factor in email messages of a viewer. In their study, interactivity was based on efficacy which is based on two constructs i.e. the psychological sense of efficacy by viewer and the sense of media device by the viewer. Interactivity is mostly interrelated to the sender's beliefs that the retailer could process the message into a valuable input and then act on the query in any manner. Later on, Wu (1999) applied these two elements of efficacy to internet users by renaming them into internal and external based system efficacy. Wu (1999) suggested that internal based system efficacy can be translated into internet users where they are going and where they are. Interestingly, externally based system efficacy can be portrayed into users' feeling of how responsive a website is.

Previous studies have also identified a new dimension of interactivity known as communication which is defined as the medium through which users believes that a website have a two way communication facility (Song & Zinkhan, 2008). A few studies have analyzed interactivity on a website with availability and unavailability. Therefore, if a website has options i.e. search options, background colors (some colors might be disturbing for a user) than another website, the first one is said to have a higher degree of interactivity. Online shopping should have these features in order to make a purchase successful. It can also instill confidence in the customers and the customers almost have an intention to purchase in future and refer the website to friends, peers and community.

The current study has presented interactivity as a moderator between augmented reality and customer brand engagement. Generally, whenever the customer finds a website interactive and user friendly, it can strengthen brand engagement interacting via any smart device or application. Literacy stands a factor in order to interact with such devices and applications. As most of the devices and applications available are compatible but demand the user to be a literate one. Therefore, it is hypothesized that:

H4: Interactivity moderates the relationship of augmented reality and customer brand engagement.

Purchase Intention

Purchase intention is a type of commitment to one's self to buy or purchase a product again whenever needed or intend to shop (Halim & Hameed, 2005; Fandos & Flavian, 2006). It holds an important place because organizations intend to increase sales of a specific brand or product in order to earn a lump sum amount of profit. Purchase intention relies on a number of factors such as customer satisfaction, loyalty and retention. A brand has certain features or advantages that instill intention to purchase in customer. These features include the image of the brand, quality, and knowledge of the product, product involvement and attributes. Current study intends to show whether augmented reality can enhance purchasing behavior in online shopping and also reveals the important aspects such as knowhow of smart applications and devices which is quite necessary to build brand engagement. Consumers purchase intentions are mostly affected by word of mouth (Kenyon & Sen, 2012) whether it is a negative or positive one. In order to make a purchase, it is an understood fact that consumers will undergo a research phase in order to grab the best deal (Horn & Salvendy, 2006). In the process of search, the consumer will review different aspects of the product i.e. price, performance, reliability, durability and certain other elements before placing an order.

The unidimensionalist view of attitude, purchase intention is the result of an attitude that refers the willingness of a customer to make a purchase from any specific retailer (Kimery & McCord, 2002). Despite the fact that the genuine buying attitude is impressively fascinating for the marketing researcher, purchase intention is broadly utilized as the representation of the actual purchase conduct particularly in consumer behavior studies since it is neither impossible nor practical in order to experimentally undergo the actual purchase conduct (Reibstein, 2002). Online shopping is gaining fame in Pakistan as customers can get detailed information about the product which in Pakistan cannot be easily provided by the retailer. Youngsters in Pakistan are almost shifting trends from traditional shopping to online shopping as it is quite reliable mode of purchase. Marketing managers are mostly concerned about purchasing intentions as this helps them in predicting sales. The data can also help managers to make further best decision to their top product demand and promotional strategies.

Theoretical Framework

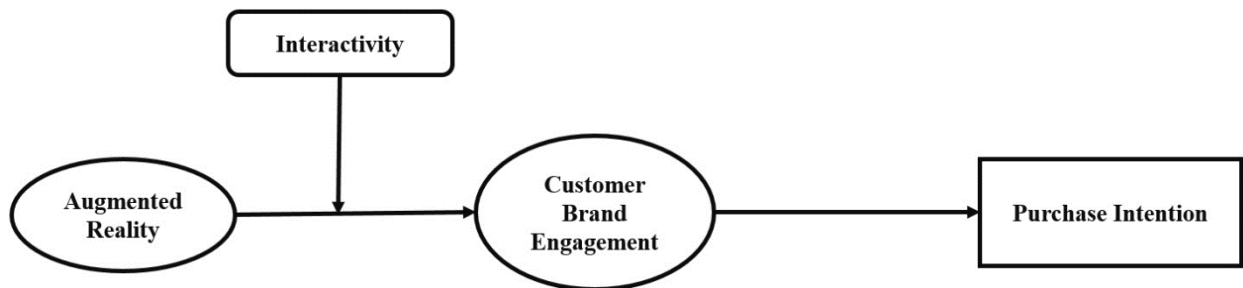


Figure 1: Model of the study

Methodology

The study followed positivist paradigm, deductive approach and quantitative techniques as adopted by few other studies in the similar domain (Brodie et al., 2011). Data was collected at one point in time. Therefore, time horizon was cross sectional.

Population

The purpose of study was to examine the influence of augmented reality on customer brand engagement and purchase intention of online consumers of Pakistan. Hence keeping the purpose of study in view, population was carefully selected. Target population for the study was online buyers of electronic equipment or appliances in Pakistan. Data was collected from students and faculty members of several public and private sector universities of Pakistan who had experience of buying electronic equipment online. Data was collected as per the ease of the researchers.

Sample size and sampling technique

For research in business, sample size of 30 to 500 is considered enough (Wright & Crimp, 1995). Considering comprehensiveness of results as well as time and budget constraints, the sample size determined for this study was 450. In order to ensure representation of multiple cities Pakistan, responses were collected from online consumers belonging to different cities. Convenience sampling technique was used for identification of sample.

Instrument

For the purpose of data collection, a 48 items questionnaire was prepared using scales for measuring selected variables adapted from reliable and validated sources (refer to Table 1). 7 questions were related to demographic information including age, gender, qualification, income level, employment, marital status and buyer of which category of electronic equipment. 41 items were adapted from established scales to measure independent and dependent variables.

Data collection method

Data for the present study was collected using an online questionnaire distributed through convenience sampling technique on Facebook and Google groups. Groups representing different brands were considered for data collection. Web survey approach was selected for gathering responses since it is better than many conventional methods in terms of saving time and cost. The nature of this study also made it feasible to opt for web survey. Online questionnaire was posted on Facebook and Google groups and members of these groups were invited to fill the questionnaire through private messages as well until 450 useable responses were collected. Participation in the online survey was voluntary and no monetary or non-monetary benefits were offered. Participants were able to fill the questionnaire only once and no changes were allowed to be made in their response after submitting the form online.

Measurements

Table 1 shows number of items for measuring each variable and sources of these items and which recent studies have validated these scales. The variables were accounted for by using 5-Point Likert scale indicating: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

The data was analyzed through frequency distribution, reliability analysis, correlation, moderated regression and structural equation modelling through path diagram. Most of the data was analyzed in SPSS version 22 except path analysis in AMOS version 22.

Table 1: Variables, no. of items and sources and recent validation

Variable	No. of Items	Items Source
Augmented reality	7	Bulearca & Tamarjan (2010)
Customer Brand Engagement	10	Hollebeek et al. (2014)
Purchase Intention	3	Augusto de Matos et al. (2007)
Interactivity	21	Liu, (2003); McMillan & Hwang (2002); Wu, (1999)

Results

Demographics

Demographics indicate questionnaires were distributed between both the genders consisting of 67.8% males and 32.2% females of the total sample respectively. Most of the respondent's age comprised of 26-30 years with a total sample of 28.2% while 21-25 years with a 24% while 16-20 years with a total sample of 22.7% of the sample while 31-35 years with a 14.2% of total sample while 36-40 years with a total sample of 8.4% and 41 years and above with a total sample of 2.4% respectively. 39.1% of the sample consisted of MS/M.Phil. degree holders, 22% were Master's degree holders, 19.6% were graduate degree holders, 12.4% were at intermediate level and 6.9% of the sample comprised of doctorate degree holders. Most of the sample's income comprised of a salary of 32.2% between PKR 26,000-50,000 while 30.2% of the sample's salary comprised of less than PKR 25,000. 24.4% of the sample's salary comprised between PKR 51,000-75,000 while 8.4% of the sample's salary comprised between PKR 76,000 to 100,000 and 4.7% of the sample's salary was above PKR 100,000 respectively. 58% of the sample was full time employed while 22.6% of the sample was studying while only 14.7% of the sample was self-employed and 2.7% of the total sample was part time employed and 2.4% of the sample was unemployed. 52.7% of the sample was unmarried while 47.1% of the sample was married and 0.2% of the sample was separated respectively. 30.2% of the sample was cell phone buyers via online shopping while 23.1% of the sample was gaming consoles and TV (LED's) buyers while 13.3% of the sample were cell phone buyer and 10.2% of the sample were buyers of other electronic appliances.

Table 2: Reliability

Variables	Cronbach's Alpha	No. of Items
Augmented reality	.662	7
Customer Brand Engagement	.836	10
Purchase intention	.746	3
Interactivity	.675	21

Table 2 indicates the reliability analysis for augmented reality, customer brand engagement, purchase intention and interactivity. The reliability of augmented reality is .662 for 7 items; customer brand engagement is .836 with 10 items, while the reliability for purchase intention and interactivity is .746 and .675 with 3 and 21 items respectively. The reliability of communication and responsiveness is below default value which is .5, although weak but still acceptable. The reliability default value should be above 0.5 which indicates an average reliability, 0.6 indicates better reliability, 0.7 indicates good reliability, 0.8 indicates best reliability and 0.9 or above indicates excellent reliability respectively. The value of reliability should be above -1 and below 1 (Gliem & Gleim 2003).

Table 3: Correlation

Variables	AR	PI	CBE	I
AR	1	-	-	-
PI	.462**	1	-	-
Sig.	.000			
CBE	.623**	.667**	1	-
Sig.	.000	.000		
I	.693**	.611**	.647**	1
Sig.	.000	.000	.000	

** Correlation is significant at 0.01 level

Table 3 indicates that a significant relationship exists between purchase intention and augmented reality possessing a positive relationship of .462 at 0.000 level, a positively significant relationship of .623 at .000 level exists between customer brand engagement and augmented reality exists while a positive relation of .667 with purchase intention statistically significant at .000 level respectively. A positively significant relationship of .693 at .000 level exists between interactivity and augmented reality, a positively significant relationship of .611 at .000 exists with purchase intention and .647 statistically significant at .000 relationship exists with customer brand engagement respectively.

The default value of relationship should range from 0 to 1. In case the value is below 0, this indicates a negative relationship. On the other hand, significance default value is 0.05. If the value exceeds the figure, insignificant association may be reported and vice versa.

Figure 2: Path diagram through SEM (Impact of augmented reality on purchase intention with the mediating role of customer brand engagement cognitive processing)

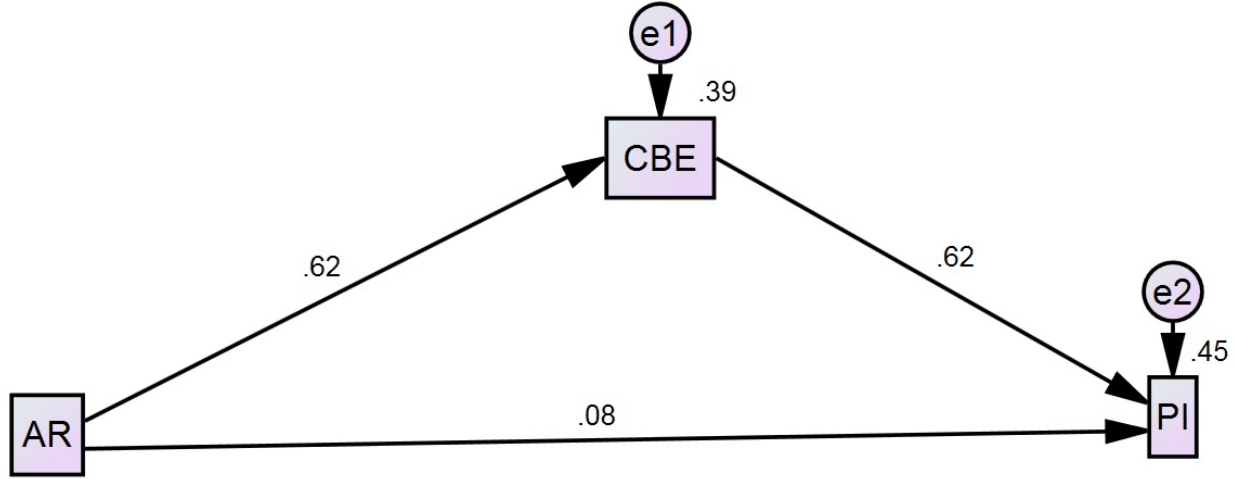


Table 4: Analysis of path diagram through SEM

Variables	β	R ²	Sig.
*AR => PI	.623		.008
**AR => PI	.075	.449	.093
***AR => CBE => PI	.620	.388	.000

*Total Effect

**Direct Effect

***Indirect Effect

Table 4 depicts that augmented reality has a positively significant total and indirect effect on purchase intention of .623 and .620 with R² indirect value of .388 statistically significant at .008 and .000 which proves partial mediation while a direct effect of .075 with R² value of .449 statistically insignificant at .093 level respectively which proves full mediation. The R² of direct and indirect effect indicates the effectiveness of the model, thus accepting the proposed hypothesis respectively. Thus the analysis proves a partial mediation

Table 5: Moderated regression - Impact of interactivity (as a moderator) between augmented reality and customer brand engagement

Variables	DV	β	R ²	ΔR^2	Sig.
AR	CBE	.363	.388	.386	.000
Interactivity		.736	.477	.475	.000

Table 5 indicates the effect of moderator i.e. interactivity on augmented reality and customer brand engagement. Interactivity has an effect of .736 which is statistically significant at .000 level between augmented reality and customer brand engagement. The results and significance indicates a clear

moderation of interactivity on augmented reality and customer brand engagement. As mentioned previously, that significant value that exceeds 0.05 proves insignificance while below states significance (Hayes, 2013).

Discussion

The results have proved that augmented reality highly effects customer brand engagement and purchase intention, but it is of vital concern to arouse the antecedents of augmented reality. The present study examines the usage of online shopping of electronic appliances in the creation of purchase intention by augmented reality devices and applications. The findings demonstrate that augmented reality devices and applications has a substantial effect on customer brand engagement and purchase intention while results indicates that interactivity moderates between augmented reality and customer brand engagement respectively. It is an understood fact, that when smart devices and applications were not available, consumers still possessed intention to purchase via customer to customer interaction or reviewing information online.

Numerous studies are available on the importance of purchase intention in marketing genre, while a lot are currently introducing new phenomenon and theories that can lead towards effective customer relationship building techniques (Laroche et al., 2013) and how these issues effect purchase intention (Lu et al., 2015). In this scenario, a great need for the influence of augmented reality on the creation of customer brand engagement and purchase decision is developing (Javornik, 2016). The proposed study is a mere attempt to fill this gap (Javornik, 2014; Javornik, 2016). Furthermore, there is a need to develop measurement scales for augmented reality (Scholz & Smith, 2016; Yaoyuneyong et al., 2016) while the scales for customer brand engagement, purchase intention and interactivity are already available in the marketing literature. The current study has already utilized all these scales and stands close to the reliabilities with the previous (Wu, 1999; McMillan & Hwang, 2002; Liu, 2003; De Matos et al., 2007; Bulearca & Tamarjan, 2010; Hollebeek et al., 2014).

The current study has explored that augmented reality have a statistically significant impact on customer brand engagement and purchase intention. If the consumer is literate enough to interact online via smart devices and applications, it is generally understood that the customer can discover the pros and cons of any item before making a purchase by reviewing information, specifications which in turn will influence engagement with a brand and increase purchase intention or vice versa. Similarly, augmented reality does not limit customer brand engagement and purchase intention. Furthermore, if a customer does not have adequate knowledge or familiar with the usage of smart devices and applications and does not possess enough skills for interaction, cannot influence purchasing decision and vice versa. On the other hand, interactivity was used a moderator between the predictor and outcome variable i.e. augmented reality and customer brand engagement of the study. Interactivity moderates the relationship between augmented reality and consumer brand engagement.

Conclusion

The present study demonstrated the role of augmented reality in building up the view of purchase intention as hallowed substances in the minds of online consumers and its impact on customer brand engagement. To this end, the present study used two indicators as a mediator and moderator i.e. consumer

brand engagement and interactivity to examine whether these two can in some manner effect the relationship of augmented reality and purchase intention. It is found that augmented reality impacts consumer brand engagement and purchase intention, while interactivity control and responsiveness does not statistically significantly moderate the relationship of augmented reality and consumer brand affection and activation affect brand love or attachment.

It is understood from the results that augmented reality can effect consumer brand engagement and further enhance purchase intention as customer can get an insight of a product the brand offers with full reviews, dimensions, advantages, uses and disadvantages as well. The customer needs to be literate enough to handle with smart devices and applications. As smart devices and applications are user friendly and compatible, one does not find difficulty in developing a familiarity.

As the moderating effect of interactivity, two dimensions (i.e. control and responsiveness) out of three do not moderate between augmented reality and consumer brand engagement. It is an understood fact that the customer cannot control the amount of information or reviews about a specific brand or a product. Neither the customer can change the information currently displayed or design any product of a specific brand according to their need. On the other hand, responsiveness can also not be controlled as this is an element strictly organization related, therefore response for customer queries still stand at large.

Managerial Implications

Today's world has changed a lot due to technological innovations making almost everything possible which seemed impossible in the past. Every field has evolved with the passage of time. Nevertheless, marketing has also evolved with the passage of time. Technology has gained a huge importance and holds quite an important place in an individual's life. A lot of discussion these days is taking place in organizations regarding the importance of utilizing technology and promoting organizational offering in marketing paradigm (Laroche et al., 2013) and how social technology influences customer buying intention towards a specific brand (Wang et al., 2015). In this specific situation, there is desperate need to investigate the different means of technological innovation that can impact purchasing decisions (Saboo et al., 2015). Additionally, Javornik (2016) undersigned the need of technological innovation i.e. augmented reality to comprehend the improvement of brands. The current study's model in this manner is an experimental endeavor to satisfy these gaps in the literature (Carmigniani et al., 2011; Javornik, 2014; Javornik, 2016).

Augmented reality plays an influential role in customer's buying intention especially the literate one's (Song & Zinkhan, 2008). The study has proved and suggests a strategic move for brands repositioning via technological innovations that were experiencing minimized sales due to fierce competition. Repositioning brands can help organizations to gain a fair market share and earn a lump sum amount of profit. Such activities cannot only influence online shopping behaviors but can further create a word of mouth promotional technique. Previous literature has shown positive results of augmented reality on purchase intention (Rese et al., 2014; Jung et al., 2015). Policy makers and marketers should focus and adopt new technological innovations as literate customer's mostly prefer to surf and shop on these.

Marketing managers ought to construct such strategies that can easily grasp customers for their businesses in order to earn a profitable market share. Managers should be active on the social media and respond to customer queries through a team of social media experts. It is a general understanding, that whenever a customer's query is answered in a satisfying manner, the customer will not only make the

purchase but will recommend friends and peers for the consumption of that specific product. In this regard, the customer will generate a business for the organization and can also interact and introduce business offerings on the social media to the general population. On social media, most of the reviews available are generally customer written which instills confidence in new customers to consume that product. Such strategies will enable organizations to compete in the market for a long time.

Limitations and Directions for Future Research

The framework used in this study was tested through a self-administered questionnaire. Biased reviews might have been recorded by few respondents (Tax et al., 1998). In this case some additional surveys should be conducted in order to overcome unfairness. The sampling frame of the current study involved shoppers of electronic items in Pakistan. The results of this study cannot be generalized to other sectors or other services. Convenience sampling of the non-probability sampling technique was used rather than probability sampling. The sampling frame indicates typical electronic appliances users in Pakistan. Although this limits the researchers to generalize their findings, it is recommended to carry out probability sampling technique in order to improve the validity of the present research findings.

Nevertheless, the role of interactivity has been used as a moderator between the independent and mediator variables which mostly proved insignificant. Therefore certain other indicators i.e. familiarity can be used as a moderator in future studies. Several other factors can be used between augmented reality and consumer brand engagement which can indicate what factors lead in enhancing purchase intention. As in the case of this study, the hypothesis generated in the study were accepted while a few rejected but may vary in other sectors. It is believed that future studies which address these limitations can easily develop more insight understanding of augmented reality with other determinants as very limited studies are available in this context.

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