

Entertainment or Efficacy? The Determinants of Hedonic and Utilitarian Motivation Towards Augmented Reality Applications in Retail

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ABSTRACT

In an information era, new technologies and innovations become the catalyst for dynamic interactions and enriched customer experiences. A range of new technologies such as robotics, quantum computing, Artificial Intelligence, Virtual, Augmented Reality dominates the ways a brand strengthens its relationship with its customers. Whilst Augmented Reality has been existent since a long time, its applications are witnessing more impact over the last decade. When internet came as first technology hitting the retail sector studies focussed on consumer motivations to shop online, but over a period of time studies focussed on imbedded technologies and currently on AR as a technology enriching customer shopping experience. Augmented reality has seen a sudden boom in retail especially after 2020. Any new technology especially a service bound technology needs adoption on the part of the consumer. Hence, this study aims to explore the implications of AR in e-retail. Over a range of studies covering AR existence, this study further intends to draw conclusion on the type of motivation that would lure the customers into using AR for shopping products online. There has been myriad of studies exploring the hedonic and utilitarian motivations in order to understand consumer attitude towards augmented reality applications. This study reviews range of studies on consumer motivation towards usage of online retailing as well as AR as a means to shop. These are further synthesized into consumer hedonic and utilitarian factors towards AR. The review concludes that hedonic factors such as curiosity, fun dominate the usage of AR, but utilitarian factors influence final decision making by the customers. Hence, AR features that are inclusive of both type of motivations are imperative for the success of retail in future.

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INTRODUCTION

Retail sector is governed by complexities of stages a customer goes through before buying a particular product. In a world where building customer relationships is imperative, co-creation of value in the customer-brand relationship journey starts broadly from awareness, purchase and after-purchase of the product or service (Gronholdt et al., 2015). Immersive technologies have become an integral part of human existence over the past few years. In a highly competitive dynamic environment; creating fruitful customer experience becomes a catalyst for creating unparalleled competitive advantage. Since a long time, customers have not just been interested in product quality, delivery and value for their money but also a seamless, memorable as well as unique buying and consuming experience (Pine, 1999). Technologies such as virtual reality, augmented reality have been directly linked with the enhancement of such customer experiences (Dieck and Han, 2022). Since the pandemic, the relevance for AR based shopping has increased providing impetus and high potential towards its growth (Rauschnabel, 2021). In retail such technologies foster innovation, digitalisation in online retail thereby ensuring a fruitful purchase experience for the customer. With an expected growth of 388.51 billion dollars globally by 2026 (Matyunina, 2022). The retail technology market would imbibe cloud-based software systems for a coherent inventory management and CRM tools for managing their customer base in order to provide a seamless service delivery experience (Matyunina, 2022). Currently global augmented reality retail market stands at USD 2.36 billion with an expected rise of 46% by 2032 (futuremarketinsights). The interactive representation of retail products via AR usage brings out immersive experiences in retail. Since 2020 Asia has seen a rise in digital consumption (Matyunina, 2022). Owing to rising number of internet users as well as high internet revenues, the Asian retail has largest share for retail investment and funding in retail technology (Matyunina, 2022). This recent growth has witnessed a keen interest by marketers in augmented reality applications as a means for strategic implementation and gaining some competitive advantage.

Increased buying power, rising competition, growing smartphone penetration have acted as facilitators for rising demand for retailers to implement augmented reality into their marketing strategy (Karpov and Makarov, 2022). Further, Karpov and Makarov (2022) states that AR works hand in hand with Artificial Intelligence which boosts the spatial and facial recognition systems of augmented reality. Whilst research has been more fragmented, greater amount of implications and impact of augmented reality has been more for the retail sector (Homburg et al., 2017). Gaioshko (2014) opines that integration of AR into marketing efforts will boost sales, build better customer relationships and add value to customers shopping experience. Virtual fitting rooms (VFRs), advertising campaigns, product trials and interactive representations are a few areas where the benefits of AR implementation can be seen (Gaioshko, 2014). Hence, the traditional drawbacks such as stocking issues, compartmentalisation, physical retail store setup costs can drastically reduce by making use of AR based applications. Consumer adoption is one of the challenges which can affect the growth and impact of such technology-based applications. Studies suggest that adoption of any sort of technology for a consumer is influenced by their eagerness and individual capacity (Walker et. al, 2002). Whilst the consumer has already experienced autonomous technology in retail via payment methods, product delivery, service support etc. (Ameen et. al, 2021), the implications of augmented reality on the product buying experience yet remains as an under explores area specifically in the Indian context. Consumer motives to use AR for buying is an integral part of consumer adoption process. Therefore, it becomes imperative to understand the driving force behind consumer's intention to use augmented reality for buying products.

RESEARCH METHODS

This study is an attempt to provide a comprehensive review of various motives for consumers to use augmented reality for shopping while taking into consideration the hedonic and utilitarian motivations in shopping. The research question forming the basis of this study mainly is what triggers consumer motivation in order to shop via augmented reality based applications? Hence, the objective of the study is to explore various consumer motivations that attract the customer into using augmented reality for buying products online. The study incorporates systematic literature review to identify the consumer shopping motives towards usage of augmented reality. According to Dewey and Drahota (2016) by critically analysing research after careful selection, systematic literature review provides solution to research questions. SLR involves a well-structured search of myriad of researches in order to reach one perfect solution. Hence, the approach to conducting an SLR has to be focussed, transparent, clear and integrated (Pittway, 2008).

As the main idea of narrowing down literature into three aspects: consumer motives to shop online, consumer motives to use technology, consumer motives towards usage of AR to shop (Fig. 1). The need to specify on two main types of consumer motivation i.e utilitarian and hedonic; and narrowing to motivation factors impacting customer usage of AR for shopping. Taking a generalised approach, the study has included range of literature to identify consumer motivations from generalised perspective towards specific perspective in order to understand the consumer motive to use AR in retail. Whilst online shopping motivation covers studies from early 2000s, the studies pertaining to hedonic motivations towards online shopping and AR shopping range between 1992-2022. The reason to restrict the behaviour towards online only to bare minimum studies is to avoid repetition of motivational factors as well as focus more on the current technological changes i.e. AR and its implications. In order to highlight studies that emphasize only on utilitarian and hedonic motivations the selection of studies has been done very meticulously. In total 42 papers were included in the final review which closely studied consumer hedonic and utilitarian motivational factors. Further, a few papers have been taken from highly credible conference proceedings. As Augmented Reality research is still booming hence, such conference papers provide depth to the study.

The key terms used to procure the data were “hedonic and utilitarian motivation”, “online shopping”, “augmented reality”, “customer motivation”, “technology adoption”, “factors”.

The whole analysis leads us to segregation of motivation factors, journal name, authors and year of publication (Table 1). Finally, the extracted hedonic and utilitarian motivations are presented as a part of final representation and conclusion (Table 2).

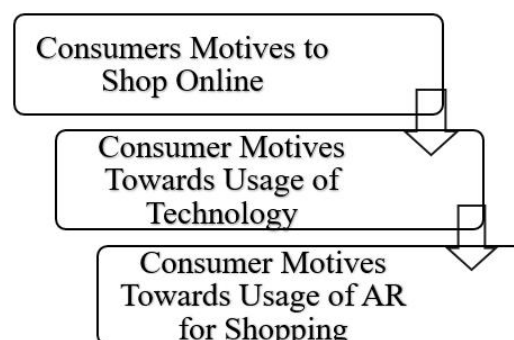


Fig. 1: Flow of Literature Review

LITERATURE REVIEW

Background- Augmented Reality

According to Azuma (1997) Augmented Reality is a middle ground between Virtual Reality and Virtual Environments. Whilst Virtual Environments involve complete immersion into a virtual environment. Hence, VE has more implications for Virtual Reality which uses peripherals to enhance the overall customer experience. On the other hand, Augmented Reality (AR) imbibes certain elements and features to foster engaging and interacting real environment for an enriched customer experience (Azuma, 1997).

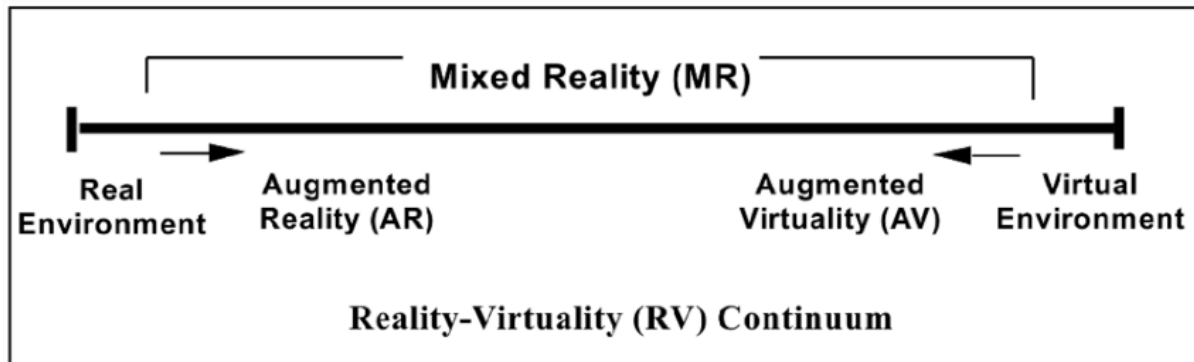


Fig. 2. The reality-virtuality continuum: Milgram and Kishino (1994)

Milgram and Kishino (1994) continuum can be attributed to depicting a clear distinction between AR and VR. Augmented Reality (AR) is a simplifying medium for the user which brings reality to virtual information such as live video streaming (Milgram and Kishino, 1994). Hence, it enriches user perception of the real world making it more engaging and impactful. As opposed to this, Virtual Reality (VR) engrosses the user in an illusionary environment having no real time connect.

Berryman (2012) describes AR using anecdotal stories to explain the impact of Augmented Reality. For instance, a driver is able to see through thick fog via usage of AR enabled windshield screen displaying the current placement of cars and other objects on the road. Berryman (2012) defines AR as a set of technologies that integrate real with the digital. Further, elaborating the definition Carmigniani et. al (2010) state that AR involves few common elements such as trackers, displays and other input devices. For a user to receive the digital and real information simultaneously, the display acts as the first facilitator; a pointing device such as smartphone acts as second facilitator; and tracking device acts as a facilitator for aligning the digital with display (Carmigniani et. al, 2010). All these integrated into a well designated software form the basis for application of specific AR. Carmigniani et. al (2010) suggest potential benefits of AR applications on having an impact on all senses augmenting hearing, smell and touch as well. AR serves many uses to enhance hearing for the deaf; augment sight for the blind as well as people with poor sight (Carmigniani et. al, 2010).

Consumer Motives to Shop Online

There have been various researches highlighting the reasons for success of E-commerce and in particular e-retailing which in short is termed as e-tailing. Over the years these success factors have evolved and there have been continuous additions to the same in the context of attractiveness to the consumer. Wolfenbarger and Gilly (2003) introduced four parameters- website design, reliability, privacy and customer service for measuring quality of an online retailer to understand consumer motives and online success factors. Here, customer service is restricted to interaction by the customer service professionals only. These four parameters highly affect the consumer impression of quality and further have an impact on loyalty (Wolfenbarger and Gilly, 2003). This implies that quality is a determinant factor of success for online retailers. In contrast, Zhou et al. (2007) considered a holistic view while taking into account the whole

shopping experience rather than just the virtual medium. Zhou et al. (2007) state that perceived outcome, shopping orientation, online experience, shopping motivation, satisfaction and consumer demographics are critical to the success of online retailers.

Wolfenbarger and Gilly (2001); Childers et al. (2001); Parsons (2002) studied the hedonic (shopping for pleasure) and utilitarian (that is goal-oriented shopping) motives to understand the consumer intentions. Wolfenbarger and Gilly (2001) emphasise only on utilitarian affects taking into account factors such as convenience, selection and availability of information. Their study indicates that online shopping gives a sense of freedom and control to the consumers. As opposed to this, Childers et al. (2001) state that both utilitarian and hedonic dimensions are significant in online shopping behaviour. Further, alongside enjoyment, navigation, convenience and substitutability have a strong bearing on decision making and shopping motives.

Although Parsons (2002) agrees with Childers et al. (2001) but his study states that online success is far more than website development. Shopping for social motives providing a sense of belongingness to a community is a major hedonic driving force. It also supports the personal motive of being up to date with the technology (Childers et al., 2001). Therefore, pleasure and convenience both influence online shopping behaviours and attitudes. In addition to this personal innovativeness mediated by attitude affects intentions to shop online (Limayem et al., 2000). This implies that innovative consumers are more likely to favour online shopping. Chiang (2001) studied the motives and reasons that led consumers to shop online rather than offline while incorporating three variables- price, convenience and product type. The study reveals that convenience and price act as a motivating factor for consumers when considering switching from offline to online. Monsumu et al. (2004) proposed Technology acceptance model (TAM). They argue that attitude towards online shopping and intention to shop online are not only affected by ease of use, usefulness and enjoyment, but also exogenous factors such as consumer traits, situational factors, product characteristics, previous online shopping experiences, and trust in online shopping. An age-old view suggested by Hirschman and Holbrook (1982) categorizes consumer either into 'fun seekers' or 'problem solvers'. This observation has become a constant, continuous connotation to represent retail buying behaviours in customers (Fischer and Arnold 1990; Babin, Darden and Griffin 1994). Consumers shop with different types of motives. Hirschman (1984) categorises shopping motives into reflection and sensation. Reflective behaviours are more thought and cognition oriented but the sensational is more excitement oriented. Thus, either a consumer will shop for utilitarian or hedonic reasons.

Hedonic and utilitarian motivations are opposite to each other in terms of customer buying decision making. Whilst hedonic motivations are related to satisfying intangible benefits such as joy, excitement, utilitarian shopping motivation is rational in nature (Campbell, 2002). But it is imperative to note that both the motivations are not mutually exclusive. Studies reveal that both utilitarian and hedonic motives play a role in the whole buying process making it a holistic experience (Kim, Sullivan and Forney, 2007). We live in an era where easy access, availability of product, payment methods and product information are enough to drive sales (Abhay, 2020). Therefore, utilitarian as well as hedonic motivations can be highly intertwined making it difficult to identify which category of motivation is dominating the overall purchase decision (Arnold and Reynolds, 2003).

Utilitarian and Hedonic Motives to Shop Online

A deliberate purchase to fulfil particular task while considering aspects of the product in question such as price, features, usage is utilitarian in nature (Hoffman and Novak, 1996). Deriving utilitarian value is based on an assessment of sacrifices, value for money, time and cost saving benefits in order to acquire the offering (Teo, 2001). Customers shop with a specific agenda. The utilitarian motivation is influenced by product offerings, pricing/saving, product information and convenience of the shopper (Arnold and Reynolds, 2003). Product traits and efficiency become the dominant factor in case of utilitarian motivation (Babin et al., 1994).

The ability to compare different sellers, comparing prices over a range of products while saving travel time and cost are distinctive traits of online utilitarian shopping (Mathwick et al., 2001). Overby and Lee (2006) studied the value dimensions for customer shopping online leading to their intentions to purchase. Whilst Utilitarian and Hedonic motivation acting as a mediator the study intended to analyse the customer's preference towards a specific retailer. The basic finding suggest that both utilitarian as well as hedonic motivation play a role for an online shopper (Overby and Lee, 2006). Further, utilitarian value influences the choice of online retailer rather than hedonic (Overby and Lee, 2006). Hence, it can be clearly stated the preference towards an online retailer is only utilitarian. The study further concluded that in terms of frequency of shopping utilitarian motives are higher with frequent buyers but for infrequent buyers the hedonic motives are higher (Overby and Lee, 2006). Overall utilitarian motivation has more weightage when it comes to preference of a specific retailer.

Sütütemiz and Saygılı (2020) studied the influence of utilitarian and hedonic motivation in online shopping. The main assumption underlying their study is that over the years these traditional forms of motivations have been an influence on traditional shopping. Sütütemiz and Saygılı (2020) study intends to experiment the implications of both types of motivations for online shoppers in Turkey and whether it influences the purchase intentions or not. The study concluded that for users shopping online both utilitarian and hedonic motivations play a key role while former being more dominant (Sütütemiz and Saygılı, 2020). Hence, the influence of these two is quite prominent in case of online shopping as well.

Customers emphasising on experiential benefits such as entertainment, fun, excitement is hedonic in nature (Babin and Attaway, 2000) According to Arnold and Reynolds (2003) hedonic motivation influences the buying decision-making owing to certain factors such as curiosity, idea shopping, social needs, gratification, adventure, and the role a buyer has in buying a particular product. Based on the above factors six customer profiles were identified namely gatherers, enthusiasts, providers, minimalists and traditionalists (Arnold and Reynolds, 2003). Monsuwé et al. (2004) add pleasure and escapism to the above factors defining hedonic behaviour in consumers. Thus, any buying decision made to ensure fun, enjoyment and directed towards the experiencing fall under hedonic motivation. The customer's shopping experience is key player in hedonic motivation.

Consumer Shopping motives towards Augmented Reality

With respect to technology, utilitarian performance/value is based on time and place convenience, ease of use, external motivation, personalisation and outcome expectation (Venkatesh et al., 2003). Deciphering hedonic motivation in case of technology usage is highly related to fun and enjoyment (Davis et al., 1992). The fact about AR is that it defies the customer's need to touch and feel the product before buying. This autotelic need of customers can be a threat to success of AR in online retail. In a series of experiments Gatter et. al (2022) analysed the consumer autotelic needs for AR based shopping experience. Sephora and Amazon app were used for the purpose of their study. Consumers with higher autotelic needs are more inclined to use augmented reality for shopping which is quite opposed to the general idea of touching the product before buying (Gatter et. al, 2022). Further, consumers with higher autotelic needs have higher levels of hedonic motivations use AR based apps for buying products (Gatter et. al, 2022). These are interesting findings from this study which reveal consumer inclination towards hedonic motivation and value when it comes to usage of AR for shopping online.

Kang (2014) studied association between convenience, emotions, monetary and social benefits with utilitarian and hedonic motivations for apparel shopping consumers. The study concluded that these four have strong association with utilitarian shopping motives (Kang, 2014). In case of hedonic motivations social benefits of AR based shopping did not have any influence while convenience, monetary and emotional benefits had more influence (Kang, 2014). Thus, the apparel shoppers did not intend to impress their peers by using AR.

Prototypical experiments using Microsoft HoloLens by Wiebach and Send (2019) highlight benefits of using Augmented Reality. The pre-experimental phase suggests that users of such immersive technologies are usually unaware of AR based shopping apps like IKEA Place, rather awareness of AR has been due to gaming apps like Pokémon Go (Wiebach and Send, 2019). Another interesting finding was that consumers do not have a specific differentiation between AR and VR (Wiebach and Send, 2019). Post usage has interesting insights. The users do mention challenges of using the peripheral such as correct hand gesture making the usage of such technology complex, and indicated an inclination towards mobile based AR shopping application (Wiebach and Send, 2019). Further, a positive perception and high levels of enthusiasm were witnessed for augmented reality. Factors such as less effort in learning, omnichannel touchpoints ensuring seamless integration and almost real representation of furniture in their homes increases opportunities for AR shopping apps (Wiebach and Send, 2019).

In a technological setup the usage of certain peripheral devices is imperative to enhance the customer experience. The major issue any consumer may face with these devices is that either they are not handy/user friendly or a combination of two three devices may be required to garner the whole customer experience. In one such study Ernst et. al (2016) imbibed the usage of AR smart glasses (ARSG) in order to replace bulky peripherals while the smart glass is creating hologram in order to create virtual replica of the product. The experiment concluded that ARSG makes the customer believe in virtual substitutability of products, thereby implying the influence of both factors i.e enjoyment and usefulness (Ernst et. al, 2016). As ARSG is by nature a utilitarian as well as hedonic peripheral, it satisfies both utility as well as pleasure motives for the customers, hence, the belief in virtual substitutability of product seems real to the customer, thereby, making the adoption smooth.

Zak (2020) in an extensive study looks at both customer as well as organisational factors leading to adoption of augmented reality in fashion retail. In order to ensure a more realistic and natural online apparel shopping experience, the various success factors for customer adoption of Augmented Reality are related to product information (intuitive, enjoyable, entertaining); customisation (colour, change of garment); advanced product visualisations and spatial product storytelling. Zak (2020) further highlights the benefits of AR based shopping such as user's willingness to buys, increased confidence, user friendly content and enhanced social media presence.

Chakraborty and Gupta (2017) discovered various dimension of Augmented Reality which lead to a change in consumer buying behaviour. Consumer personality, tech savviness, inquisitiveness towards new innovations, vivid shopping experiences associated with frequent online buyers who are gadget lovers are highlighted as various dominant factors defining consumer motives towards augmented reality shopping (Chakraborty and Gupta, 2017).

From a broader perspective, consumer response towards innovative technologies is impacted by value (convenience, enjoyment), social engagement motives and choice of shopping medium (Ylilehto et. al, 2021).

There have been studies focussing on impact COVID on consumer buying behaviour but these studies do not cover immersive technologies such as AR. Caboni and Pizzichini (2022) have studied the implications of COVID enforced consumers behaviour on increased adoption and usage of AR based shopping apps. The main factors ensuring usage of AR during COVID times are safety, convenience, health infused satisfaction moderated by novelty of the app and technological skills of the shopper (Caboni and Pizzichini, 2022).

A few studies suggest the need for demographics for development of AR based apps for shopping. SOR (stimulus-organism-response) model has been incorporated by Wang and Ko (2021) to study the impact of mobile augmented reality (MAR) app 'Youcam Makeup' on buying behaviour of 'millennial female consumers' on beauty products. Four key dimensions- interactivity, vividness, augmentation, and aesthetics have been used to understand user's perception towards AR usage (Wang and Ko, 2021). The study concluded that perception on the above four has more impact than

the user being given choice and control over the functionality of the app (Wang and Ko, 2021). Thus, in the case of beauty and makeup the content, colour display, graphics and a real time representation has more relevance to ensure further positive response from the customer in terms of ensuring purchase intention. Another important finding suggests that AR's playfulness leads to exploratory behaviour in the user further influenced by individualism and hedonic motivations (Wang and Ko, 2021).

Table 1: Consumer Motives

Consumer Motives	Journal	Author	Year
Pleasure and Escapism	Journal of retailing	Limayem <i>et al</i>	2000
Convenience, selection and availability of information;	California management review	Childers et al	2001
Enjoyment, navigation, convenience and substitutability;	Journal of Consumer marketing	Parsons	2002
Website design, reliability, privacy and customer service;	Journal of retailing	Wolfenbarger and Gilly	2003
Perceived outcome, shopping orientation, online experience, shopping motivation, satisfaction and consumer demographics;	Journal of Electronic commerce research;	Zhou et al	2007
Product traits and efficiency	Journal of Consumer Research	Babin <i>et al.</i>	1994
Product price, product features, product usage	Journal of Marketing	Hoffman and Novak	1996
Hedonic Motivations such as fun and excitement	Journal of Business research	Babin and Attaway	2000
Assessment of sacrifices, value for money, time and cost saving benefits	Internet Research	Teo	2001
Different seller comparison, comparing prices over a range of products while saving travel time and cost	Journal of Retailing	Mathwick <i>et al.</i>	2001
Product offerings, pricing/saving, product information and convenience of the shopper	Journal of Retailing	Arnold and Reynolds	2003
Curiosity, idea shopping, social needs, gratification, adventure, and buyer's role			
Frequent buyers have utilitarian motives, infrequent buyers have hedonic motives	Journal of Business Research	Overby and Lee	2006
Utilitarian as well as hedonic motive equally influence purchase decisions	The Retail and Marketing Review	Sütütemiz and Saygılı	2020
Fun and enjoyment	Journal of Applied Social Psychology	Davis et al.	1992
Time and place convenience, ease of use, external motivation, personalisation and outcome expectation	MIS quarterly	Venkatesh et. al	2003
Convenience, emotions, monetary and social benefits convenience of sitting at home	International Journal of Clothing Science and Technology	Kang	2014
Enjoyment and usefulness: virtual substitutability of products	Americas Conference on Information Systems	Ernst et. al	2016
Less effort in learning, omnichannel touchpoints ensuring seamless integration	Journal Proceedings-European Conference on	Wiebach and Send	2019

and almost real representation of furniture	Innovation and Entrepreneurship		
Product information (intuitive, enjoyable, entertaining); customisation (colour, change of garment); advanced product visualisations and spatial product storytelling User's willingness to buy, increased confidence, user friendly content and enhanced social media presence	Thesis publication	Zak	2020
Value (convenience, enjoyment), social engagement motives, choice of shopping medium	Baltic Journal of Management	Ylilehto	2021
Higher autotelic needs lead to higher hedonic motivation levels i.e. the need to touch the product is alleviated because of hedonic motives towards AR usage	Psychology & Marketing Journal	Gatter et al.	2022
Safety, convenience, satisfaction moderated by novelty of the app and technological skills of the shopper	International Journal of Retail & Distribution Management	Caboni and Pizzichini	2022
Choice and control over the functionality of the app; the content, colour display, graphics and a real time representation; AR's playfulness;	Asia Pacific Journal of Marketing and Logistics	Wang and Ko	2022

Table 2: Utilitarian and Hedonic Factors for AR

Utilitarian Factors	Hedonic Factors
<ol style="list-style-type: none"> 1. <i>Product</i>: Features, Price, Usage, Efficiency 2. <i>User Interface</i>: Website Design, Navigation, Friendly content, 3. <i>Consumer</i>: Demographics, Technological Skills, Frequent Buyers 4. <i>Convenience</i>: Selection and availability of information, substitutability, Seller comparison 	<ol style="list-style-type: none"> 1. <i>AR</i>: Playfulness, Novelty, Autotelic need for touch, spatial storytelling, seamless integration 2. <i>Product</i>: Real-time representation 3. <i>User Interface</i>: Colour display, Graphics, app features, less time consuming, Omni channel touchpoints 4. <i>Consumer</i>: Playfulness, Escapism, Value (convenience, enjoyment), Social engagement motives, Infrequent Buyers, Product information (intuitive, enjoyable, entertaining), Curiosity, gratification 5. <i>Convenience</i>: Less time consuming, Customisation, Place

CONCLUSION

AR based application are distinct approaches that imbibe technology to delivery enriching customer experiences. In Indian retail, augmented reality applications are still emerging while being in nascent stages of customer adoption. Consumer had positive attitude towards usage of AR owing to initial curiosity, fun and enjoyment factors but this is further influenced by utilitarian factors. Hence, hedonic factors make the initial impression leading to a change in consumer attitude. Further to this, it is imperative that even though hedonic motivation is influencing in the initial phase but the marketers need to imbibe more interactive and engaging features that reflect towards utilitarian factors. Factors that highlight product quality via AR, instant price comparisons, convenience will work in accordance with hedonic factors making the overall shopping experience fruitful and long lasting.

The studies on AR application and their impact on change in consumer behaviour are at the surface level. As AR is more prevalent in developed countries studies pertaining to the duration of experience of consumer while using AR for shopping and how that leads to change in hedonic motivations can be focussed upon. This can have dimensions such as experience with a retailer, user interface, product. Familiarity and other moderating variables such as frequency of purchase, culture and situation could be studied in order to strengthen the areas of study in AR application in retail in the Indian context.

COMPETING INTERESTS

The authors have no competing interests to declare.

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