LITERATURE REVIEW ON BRAND BUILDING THROUGH AUGMENTED REALITY

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Abstract

The plant-based large-tonnage waste of numerous industries in Myanmar, in most of them, is not effectively used. The data of scientific and technical information indicate that on the basis of similar and similar in nature wastes, rather expensive products can be obtained in the form of carbon adsorbents of relatively high quality, intended mainly for solving the problems of deep purification of industrial effluents and emissions. No publications available on the feasibility and effectiveness of such a disposal of the named Myanmar wastes were found. The paper describes the results of experimental research by the authors, focused on solving this important problem of the national economy of the country.

Key words: Consumer empowerment; Augmented Reality; Interactive Marketing; Internet in Marketing; Online Consumer Behavior; Augmentative and Alternative Communication

Introduction

AR is an interactive technology that adds virtual elements to the physical surroundings of the user’s view. Addition of virtual elements like images, videos or text can be done using various devices like wearables, smartphones, tablets, projectors, interactive screens etc. Ease of mobility, advancement in technologies and reduction in the related costs makes AR fit into the current digital prospect which embeds geolocation features, thereby increasing its contribution and relevance towards developing powerful applications (JavornikA., 2016). Majority of research in AR was done in the areas of tracking and interaction techniques followed by calibration process (Zhou F., Duh H. B and Billinghurst M., 2008).

Application of AR in Marketing

The technology of AR has been applied to various fields such as education, health care, aviation, hospitality, and cultural heritage. Marketing is the new field that has been identified and added to this list (Yang S., Carlson J. R. and Chen S., 2020). Although prior research indicates potential of AR for marketing purposes and companies using the technology in their campaigns. It could be defined as a strategic notion where virtual information or objects are imposed in the user’s view of physical world, in collaboration with other media, to reveal or demonstrate benefits for the consumers in order to achieve goals of the organization. AR marketing can model on existing approaches and extend its scale, ranging from advertising, inbound marketing and storytelling (Rauschnabel A. P., Felix R. and Hinsch C., 2019).

Majority of the studies of AR by marketing researchers focused on two contexts – retailing and advertising (Yang S., Carlson J. R. and Chen S., 2020). Some of the current researches exploit the advances of virtual reality in the context of retailing in order to focus on the possibility of adoption of immersive technologies in marketing, even if there is no provision of data on customer’s acceptance of this introduction (PantanoE. and Servidio R., 2012). AR has emerged as a ground of convergence of old and new media, especially in advertising because marketers are increasingly pursuing new ways to engage with customers, (Liao T., 2015).

Advertising has become an indispensable and important part of communication tools in many of the modern business as it drives value that activates brand preference and has potential to inform, convince and support customers in terms of purchase decisions(Zephaniah C.O., OgbaI.E., and Emekalzogo E., 2020). Language of AR companies has been consolidated with the frame of advertising where they help marketers to create content.
that pulls customers, which is relatively more valued, than the content that pushes. Some of the AR companies are presenting their tools not only to create customer engagement, but also a way to measure the effects of marketing (Liao T., 2015).

AR Mediums for Marketing Communication

Most of research in adoption of AR in advertising focused on utilitarian values. Two most common scenarios in application of AR in marketing included AR on mobile devices and interactive displays/screens (Feng Y. and Xie Q., 2018). Smartphone applications are seen as a major driver for advertising media because it helps organizations to curate customized advertising to a diverse audience (Kim Y. and Kim W., 2014). Increased use of mobile devices has enabled advertisers to take advantage of the opportunity with AR in mobile. In addition to that, hardware and software required for AR is not as complex as VR and hence the application can be accessed anywhere, thereby increasing the number of day-to-day active users. Thus, AR has enabled advertisers to give immersive experiences to users without making them feel overwhelmed of the technology (Kiu C. et al., 2018).

Creativity Using AR

AR advertising allows users to point IT devices to product or image of the product. In turn, user is shown digital and interactive information/ objects imposed to the physical surroundings. In the process, users can view the objects in all angles, zoom in and out, change the complexion and measurements of the object, view what the product would look like in use. Many advertisers are hoping for the engagement generated by AR to convert into sales. It is especially useful for e-commerce environment where AR would help in gaining extra sensory information about the product (Hopp T. and Gangadharbatla H., 2016). Affective and cognitive app experiences influence satisfaction and trust of consumers which in turn effect their loyalty felt towards retailers (Molinillo S. et al., 2020).

AR ads get positively ratings for their creativity, informative and effectiveness (Yang S., Carlson J. R. and Chen S., 2020). Majority of advertising executions aim at capitalizing the novelty that comes with AR, but do not concentrate on providing a real benefit to the consumers. Adding to that, there is not much research in the context of brand related outcomes due to AR advertising (Hopp T. and Gangadharbatla H., 2016). AR has the potential to contribute a lot to Integrated Marketing Communications, enabling consumers to interact with other consumers by introducing different and novel ideas in order to achieve advertising objectives, thereby leading to sharing of content about the brand by consumers in social media. In spite of being in the time where technological advancements are prevalent, it is observed that there is shortage of awareness of AR among the consumers (Yussof F. M., Salleh S. M. and Ahmad A. L., 2019).

Branding Through AR

Customers usually lack certainty about the brand through advertisements, which increases uncertainty, leading to their curiosity to know more about the brand. As AR being a technology that contains superior sensory information, it creates a new context which does not fit into the consumer’s normal world, in turn triggering curiosity to know more. Therefore, AR advertising generates uncertainty prompting customers to know more about the product (Yang S., Carlson J. R. and Chen S., 2020). Shiva G. and Raajan N. R., (2013) suggest that the companies can put AR to use for advertising multiple products of a brand efficiently. Projection mapping can also be added to the above list which turns surfaces to interactive displays (Feng Y. and Xie Q., 2018).

Customers Engagement Through AR

Based on the advertising literature on AR advertising and overall attitude towards advertisements, studies suggest that that engaging advertisements could improve the attitude towards the advertisements. Experiences and emotions or feelings of the customers are encapsulated by the cognitive and affective elements whereas the involvement of the customers is captured by the social and behavioural elements (Vivek S. D., Beatty S. E. and Morgan R. M., 2012). According to research under Hierarchy of effects model, for processing attitudes towards an ad, attention is a necessary component (Yang S., Carlson J. R. and Chen S., 2020). Feng Y. and Xie Q., (2018)
use Foote Cone Belding model, that impacts how users order the process of learn, feel and do, in order to generate responses of the consumers for out-of-home AR advertising.

Customers’ personal traits such as cognitive involvement and self-congruence determine the impact of virtual elements (Javornik A., 2016). Self-congruence influences the way consumers feel about the brand. When consumers see themselves being present next to the brand logo in Snapchat filter advertisement, their perception of self-brand congruity increases, in turn results in positive attitude towards the brand or improved purchase intentions (PhuaJ. and Kim J., 2018). According to Blippar, one of the most popular AR applications, the time that the customers actively engage averages 75 seconds through AR campaigns compared to 2.5 seconds of passively engagement in traditional advertisements such as radio or TV ads (FengY. and Mueller B., 2018). AR has been adopted as a new tool in campaigns by the advertisers in order to increase customer engagement (FengY. and Xie Q., 2018). Customer lifetime value and referral value are two of the four components of customer engagement value besides customer influencer value and knowledge value (Scheinbaum A.C., 2016).

**BuildingLoyalty**

Customer engagement differs from brand loyalty in that it focuses majorly on the experience rather than the transaction. Moreover, it is positively aligned with the notion of loyalty in the model of hierarchy of effects. First the customer processes the information in order to form beliefs, then uses these beliefs to form attitudes and then makes decisions as a result those attitudes. Customers who engage deeply probably will move faster in the stages starting from beliefs to behaviour, thereby forming favourable attitudes that may make them feel more loyalty. Hence this suggests that customer engagement is a predecessor to loyalty (Vivek S. D., Beatty S. E. and Morgan R. M., 2012). Customer loyalty is the tendency to favour a specific product or service even in presence of its substitutes in the marketplace. Retaining an existing customer reduces the cost by 5 times rather than acquiring a new one. Although projecting an accurate ratio might be an ambivalent task, in view of economical understanding, it is better to plan on retaining than to acquire a new one (Srivastava M. and Rai A. K., 2018).

Advertisers try to effect loyalty of a customer by building a strong positioning and generating an emotional attachment towards the brand with a well understanding of their target audiences (Zephaniah C. O., OgbaI. E., and EmekaIzogo E., 2020). Brands need to engage customers digitally in order be part of their customers’ digital-self (Scheinbaum A. C., 2016). A positive linear effect has been observed on the customer loyalty with respect to e-CRM strategies (Zephaniah C. O., OgbaI. E., and EmekaIzogo E., 2020). The initiatives for relationships are taken up by the companies and the outcomes for such interactivity was usually gauged in terms of exchange of goods and services. These initiatives planned by the companies were based on whether the customer was a first-time buyer or does repeated purchases. Accordingly, the strategies were categorized as either offensive where the concentration was to acquire new customers or defensive where the concentration was on retaining the existing customers. Relationship marketing has long since included both of the offensive as well as defensive strategies, gradually research was done much in defensive side. The activities aimed at engaging customers need not always be initiated by the companies, but can also be done by the customers themselves on the basis of what they feel about the brand that does not guarantee the purchase of the brand. These activities can be executed in various contexts such as online or offline, via third parties etc. This shows that the customer has gone beyond just being a mere audience to interacting within various contexts (Vivek S. D., Beatty S. E. and Morgan R. M., 2012).

**Augmenting Satisfaction through AR**

At first there was dominance in research related to satisfaction. Companies were constantly aligning their marketing strategies with an objective of maximizing customer satisfaction. However, the loop holes began to appear and companies were thinking of a change because the it was evident from the profit point of view. The focus shifted in order to concentrate on loyalty, as mere satisfaction was not enough to make customers loyal. It was observed that of the customers that were believed to be satisfied or very satisfied, 65-85 percent of them will defect. Whereas a 5% increase of customer retention increased net present value in profits by 25-95% over 14 industries (Oliver R. L., 1999).
The behavioural and attitudinal approaches that influence customer loyalty were used to construct four combinations to define types of loyalty based on whether they were high or low, categorized as no loyalty, latent loyalty, spurious loyalty and loyalty. Increased loyalty and recommendations among the customers lead to higher profits, higher market share, reduction in day-to-day operational and marketing costs, low switching behaviour and less price sensitivity. Hence, in a customer relationship program, loyalty is the ultimate goal, where organisations count on their loyal customers to promote their brands (Ladhari R., Souidenn N. and Ladhari I., 2011).

Relationship management reduce costs of acquiring new customers by increasing the association of loyal customers with the brand. Relationship revenue model was proposed stating that revenue can be increased either by increasing prices or by increasing the patronage concentration of the customer (Lee-Kelly L., Gilbert D. and Mannicom R., 2003). The benefits of using an interactive technology are assessed by perceived ease of use and usefulness. As suggested by the relationship marketing paradigm, in order to obtain these benefits, consumers need to maintain a loyal relationship and engage in a behaviour that reflects sustainable relationship with the interactive technology (Huang T. L. and Liao S., 2015).

**Loyalty Through AR**

As exciting as it appears to be, the effects of interactive media on customer’s consideration of advertised products is a little known. Resources cannot be invested heavily until it is known that these platforms generate significant results. In traditional advertising, consumer hardly interacts with what is presented, whereas in interactive advertising, consumer actively participates in the process and traverses through information (Bezjian-Avery A.A., Calder B. J. and Iacobucci D., 1998). The study also shows that interactivity interrupts persuasion.

Effectiveness of interactive media depends on consumers preference for verbal or visuals and the second one is the content of advertising intrinsically being visual or verbal. The effectiveness is measured using engagement in terms of time spent as it effects the recall of the brands and persuasiveness creating strong positive preferences (Bezjian-Avery A.A., Calder B. J. and Iacobucci D., 1998). The major advantage that advertisers get with traditional media is that they have control over the time of the messages and their content which does not hold true for interactive marketing communications, in that they need to share that control with the consumers (McMillan S. J. and Hwang J. S., 2002).

AR advertisement has more interactivity and personalized touch to the content when compared to the 2D advertisement. It provides a realistic context for experiential learning by emphasizing on learning, growing and developing by interaction (Sung J. and Cho K., 2012). Generation of cognitive response in form of brand knowledge is greater for the virtual experience when compared to a direct experience, even though they provide same results for brand attitude and purchase intentions (Javornik A., 2016). In fact, gradually, interactive and touch screen displays might replace the traditional static signage (Pantano E., 2016).

Brands are shifting their focus from share battle with contenders that are known and visible to growth battle with contenders that are unknown. Reaggregation has been an important sector that reflects interest of people, done using Search engine marketing, rather than segmentation in which a section of demographics is selected hoping that a portion of them would care (Tobacco wala R. and Jones V. K., 2018). With the help of AR, advertisers are able to improve customer retention and provision of exciting and quality content makes consumers want to interact with the advertisement again and again (Kiu C. et al., 2018).

Customers usually try and fit the novel stimuli to cognitive shortcuts which are pre-defined schema structures. When the fit is not proper, processing of information is shifted from self to the environment. This in turn reduces the appraisal of the process. Novel stimuli are usually thought as difficult to classify cognitively. This difficulty results in arousal, which is in turn correlated to exploratory behaviour. Experiments show that the effect of hedonic value of simple stimuli decreased as the novelty of the stimuli decreased. Whereas in the case of complex stimuli, hedonic value decreased relatively or increased significantly, even when the novelty decreased (Hopp T. and Gangadharbatla H., 2016).
Immersive experiences blur the line between physical and virtual worlds using technologies. AR is one of the immersive technologies that comes under the area of mixed reality in the reality-virtuality continuum (SuhA. and Prophet J., 2018). Based on the situated cognition point of view, AR is helpful in a way because it makes consumers discharge few tasks of cognition onto the environment by placing objects onto immediate physical surroundings for solving problems (ScholzJ. and Duffy K., 2018).

Communicating Value through AR

Not only does AR help in conveying the product value, it also creates playfulness to the experience and increases the willingness of the consumer to buy products online (Huang T. L., and Feng H. L., 2014). Consumer Researchers have identified that consumers may make purchasing decisions overridden by their creative energies such as fun, usually dictated by their mood, which precedes the rational model that assumes buying best quality at best prices (Saren M., 2011).

The experiential value generated from presence, when objects are simulated, media richness when environment is simulated and narrative experience when cause and effects are simulated is different and produces different effects of persuasion. Object simulations that generate presence focus on the interaction between virtual products and consumers (Huang T. L., and Feng H. L., 2014). The levels of presence that the customers perceive is greater when they experience virtual-reality based setting as compared to a traditional, physical stores(Pizzia G., VannuccibV. and Aiello G., 2019). Added to that, environmental simulations also focus on the sensory simulations generated from reliable environments and the rich cues embedded within them at a social level.

Media richness theory states that the medium’s ability to generate and convey various cues and sensory simulations defines the richness of the medium. Accordingly, environment simulations help in generating rich media experience. This generates active experiential value that needs consumers to proactively search and participate in order to obtain the experience. But various cues and sensory simulations also place load on the cognitive processing of information of a customer, thereby reducing the willingness to involve in the experience. In case of reactive experiential value, the consumer is an audience who admires, responds to and understands the visual sensory simulations from AR. Therefore, in order to obtain reactive experiential value, the consumer does not need to be proactive in the experience. Narrative experiences created by cause and effect simulations produce reactive experiential value by dividing the experiences into chunks so that consumers can process the chunks according to their capability thereby encouraging them to participate in the experience (Huang T. L., and Feng H. L., 2014).

With the help of cause and effect simulations, AR induces customers to participate in the experience, gradually supporting them to actively controlling the objects and environment, rather than merely admiring the content(Huang T. L., and Feng H. L., 2014). Long-lasting experiences related to a brand which are stored in the memory of the consumer should affect the customer’s satisfaction and loyalty (Brakus J., Schmitt B. H. and Zarrantonello L., 2009). The companies can convert its first-time buyers into loyal customers by transforming their way of receiving the information from being reactive to active, so that they obtain more benefit and value(Huang T. L., and Feng H. L., 2014).

Technology Diffusion and AR Communications

Technology has always affected advertising. The first of its type saw print ads, radio and Tv ads. Later links were created and gave rise to search engine marketing followed by mobiles and social media. At present, data at a focal point, has many applications to use and leverage such as AI, IoT, immersive technologies like AR, VR and many more (Tobaccowala R. and Jones V. K., 2018). The most commonly used theoretical frameworks by the researchers include flow, situation cognition, media richness, S-O-R and TAM in order to study the impact of features of immersive technology on user’s experience and how would they help in leveraging performance of the user (SuhA. and Prophet J., 2018). PlotkinaD.  and SaurelH.,(2019) use TAM to study the effects of the Virtual try on application and the importance of perceived hedonic and utilitarian value on attitude towards purchase intention.Sishi D., (2018) studies the impact of various technologies like AR and VR on 5-stage Engel
Kollat Blackwell model as perceived by the consumers and sales agents in context of high involvement purchase decisions. Consumer’s interactivity with the technology has a positive effect on attitude towards the brand. Overtime, this positive impact results in favourable behavioural outcomes such as loyalty (McLean G., et al., 2020).

Technology Acceptance Model (TAM) predicts the user’s intention to using a technology based on perceived ease of use and perceived usefulness. Perceived ease of use is the extent to which individual views usage of technology to be free from effort, gradually allowing them to become skilful in using it whereas perceived usefulness is the degree of confidence of individual that using technology will improve their performance. Thus, a technology should improve the efficiency and productivity by enabling completion of tasks in a timely manner (McLean G., et al., 2020). Studies emphasize not only on the intentions of customers in using the technology but also the means by which customers can keep using the technology. Apart from leveraging AR in terms of functional technology, companies should take advantage in providing an experiential value to the customers using this technology. AR mitigates the risk that comes from knowing less information as the experience formed by it makes customers feel as if they are examining the product directly (Huang T. L. and Liao S., 2015).

**Interactivity of AR Advertising**

Most studies focus on the satisfaction, attitude and reactions towards AR apps rather than broad outcomes related to the brands. Augmentation generates flow experience which is associated with greater immersion (Rauschnabel P. A., Felix R. and Hinsch C., 2019). Absorption into the new media and losing track of time are coined into one term as flow (McMillan S. J. and Hwang J. S., 2002). It allows people to have a positive experience by putting an effort to take on a difficult task, by their own accord, pushing their minds to limit. They continue doing it simply because they enjoy it (ArduraI. R. and Artola A. M., 2016). Users perceive distortion in temporal experience and lose reflection on what they are doing in higher order of flow (John J. J. and IpSooChing J. M., 2019).

It was found that interactivity leads to loyalty and trust. Flow produced by interactivity effects the consumer cognitive responses, their intentions towards purchasing, using the application again in future and outlook on the brand (Javornik A., 2016). Interactivity is categorized as structural and perceived, where structural interactivity is what designers expect users to perceive, whereas perceived interactivity is what the user actually perceives about the offering. In case of predicting the impact of interactive media on user’s perception, perceived interactivity was found more important than the structural interactivity, especially in the case of online marketing (Gao Q., Rau P. P. and Salvendy G., 2009).

There is always focus on consumer’s perception in traditions of marketing, advertising and communications. Individualization places emphasis on interactive marketplace rather than the traditional marketplace. Online environments make it possible for the marketers to build personalized profiles for the customers to cater to individual preferences (Lee T., 2005). Consumer perceptions has been the key topic in terms of advertising research, because it was said that perceptions have more influence than reality that is defined objectively. Perceived interactivity not only helps to understand how to get inside of the customer’s mind but also ‘how and why’ customers react or respond to the content (McMillan S. J. and Hwang J. S., 2002). In case of website, it could be defined as psychological state of the site-visitor experienced during the process of interaction (Wu G., 2005).

Positive relations were found between intentions of the consumers to interact with the advertisement, attitude towards advertisement, attitude towards brand and purchase intentions (Gao Q., Rau P. P. and Salvendy G., 2009). Scholars stated four perspectives on how interactivity can be defined. It can either be viewed in terms of process of exchange of message, a feature of technology, how user perceives the experience of using that technology and a combination of the three. Interactivity has many dimensions. With advancements in technologies and evolution of new media, the interactive potential changes. This means the concept of interactivity is still evolving with changes being made (Park M. and Yoo J., 2020). Structuration theory has been an attractive theoretical framework in understanding the communications in case of interactive marketing. It is
important to note that structural changes will lead to adjustments in the evaluation of effectiveness. Although there are predetermined measures of success being defined for the marketing communications, structuration theory allows for new measures in evaluating success with changes in the structure. The theory says that interactivity could be treated as outcome or a process (Stewart D. W. and Pavlou P. A., 2002).

Playfulness is the enjoyment that is perceived when dealing with users, systems or the content (Park M. and Yoo J., 2020). Elaboration is the number of mental images generated during information processing by an individual and quality is the clarity of those images generated (Park M. and Yoo J., 2020). While self-efficacy has been employed as an antecedent variable, researchers have found it to be a moderating variable, as internal competencies perceptions drive elaboration, evaluation of the experience and performance outcomes in interactive environment. Hence, the users with high self-efficacy in the domain make users explore the environment leading to high elaboration. Conversely, users with low self-efficacy in the domain explore less leading to low elaboration. It was determined that the message elaboration conditions have a high influence on the degree of connection between attitude towards the advertisement and attitude towards the brand (HoppT. and Gangadharbatla H., 2016).

Conclusion

Labrecque, L. I., et al., (2013) observed that the internet and other digital technologies are empowering the consumer. When the consumer is empowered, companies need to move from communicating through mass media to communicating to each consumer as individual. AR is the technology that allows the marketers in enabling consumers form their own perceptions about the product or brand through superior communication strategies. Consumer is allowed to break free from the traditional unidirectional communication methods which make a consumer passive. Through AR technologies, consumers take an active part in marketing communications as they get to know more about the product without using it in its physical form. The AR technologies allow the consumer to compare performance of competing brands, compare the same brand in different scenarios thus supporting truly informed judgements. Such informed judgements foster deep relations between consumers and brands, resulting in superior loyalty.

References


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