

[Poster] Classifications of Augmented Reality Uses in Marketing

Ana Javornik

Università della Svizzera italiana

ABSTRACT

This research investigates which uses of AR have emerged so far in marketing and proposes classification schemas for them, based on the intensity of the augmentation, different contexts of consumption and on marketing functions. Such differentiation is needed in order to better understand the dynamics of augmentation of physical surroundings for commercial purposes and consequently to distinguish between consumer experiences.

Keywords: Augmented reality, Marketing, Typology, Augmentation of consumption.

1 INTRODUCTION

Interactive technologies in marketing have been defined as various tools that allow different parties to engage in mediated communication to facilitate exchange between them [1]. They have proven relevant for marketing due to their ability to establish innovative, more functional and enjoyable interactions [2], to engage consumers with brands [3] and to expand the possibilities for both consumers and brands in terms of promotion, market research, prices, product customization, customer service and customer relationship management. Along those lines, augmented reality (AR) technology has started to be implemented in the last six years and represents a steadily growing area of interactive technology for commercial purposes. AR in its different formats accessible through various devices offers tools to upgrade consumer experience and provide new options for delivery of offerings.

However, the existing literature in marketing has yet not provided a clear distinction of different augmented reality formats and there currently exists no definition or explanation in which manner augmented reality applications support marketing functions. This paper provides three types of classification. Firstly it looks at the existing augmented reality uses in marketing based on their characteristics and contexts of consumptions. Secondly, it classifies the existing uses based on the marketing functions these uses are trying to fulfill. Thirdly, it categorizes how the AR tools engage consumers based on their utilitarian and hedonic needs.

2 THEORY

The novelty that augmented reality brings to marketing is linked to at least three factors. Firstly, advanced AR tools are able to establish real-time interactivity between products, physical spaces, brands and consumers. It aligns the digital environment on smart devices with the real time surrounding in such a way that the boundaries between them disappear. This creates a stronger physical-virtual proximity between the brand and the customer.

IEEE International Symposium on Mixed and Augmented Reality 2014
Media, Art, Social Science, Humanities and Design Proceedings
10 - 12 September 2014, Munich, Germany
978-1-4799-6887-9/13/\$31.00 ©2014 IEEE

The online and mobile interactivity that was previously based on exchange of textual, visual, video and geolocation information across platforms is now seamlessly incorporated into existing physical environment. Secondly, AR's capability for simulation enables marketers to digitally promote and present their products in a much more efficient way than before. Consumers' risk of uncertainty, linked with online purchases of products they haven't tried or seen before, diminishes due to product simulations and virtual try-ons. Thirdly, AR advanced visual representations create superior customer experience, offering powerful tools to break through the advertising overload and immerse customers into a radically different experience. Given its relative newness, AR marketing often elicits "wow" effects from customers.

The novelty of AR in marketing can be analysed through: technological advancements and applications, marketing functions and customer needs. Firstly, from the user experience / context point of view, we propose a classification of the marketing AR tools following the division of *outdoor* and *indoor* AR tools by [4]. In the context of marketing, outdoor would thus refer to the AR technology and applications, which are provided and used in public places for marketing purposes. Indoor AR technology refers to applications and tools that consumers can use in their private space, without the need for an additional content or technological input from public spaces. Secondly, from the firm's perspective, it is relevant to recognize which marketing functions can be supported through AR and how. Marketing functions are defined as involvement in the following areas: sales force, advertising, customer service, product management and marketing research [5]. Thirdly, when taking the position of the consumer's experience, we can distinguish two basic categories of needs that a consumer aims to satisfy through consumption: utilitarian and hedonic [6]. The utilitarian needs are linked to functional use of certain product or media, while the hedonic is connected with the experiential part and has to do with enjoyment. Quite often, media experience or content can represent a mixture of both.

3 EMPIRICAL PART

51 cases of AR marketing tools were collected through an online search. The process of collection included: a) collection AR campaigns available on the websites of market leaders in production of AR marketing campaigns; b) search of the most popular AR campaigns through search engines and YouTube (since the latter is the most often used channels for display of AR campaigns due to its multimedia content); c) search for as many different formats of AR marketing as possible.

3.1 Methodology

We analyzed the following dimensions of these campaigns: a) types of indoor and outdoor AR tools and characteristics of the augmentation; b) marketing functions that these AR tools support and c) how the content of these AR applications aims to satisfy consumer needs.

3.2 Analysis

When defining the different types of augmented reality tools and the spatial context of their consumption, we analyzed them through the premise of augmentation of marketing offerings. Most of the analyzed cases (70.5%) were those for which individual smart devices are needed. Less often, public AR technology was adopted (33%), such as fixed public interactive screens, interactive stores and 4D projections. In two cases, the same application was available through both fixed public interactive screens and smart devices. It could be assumed that the reason for the higher number of private AR applications is its lower production cost. Based on the analysis, we propose that augmentation can occur on different levels. Low augmentation is linked to image recognition through which a smart device unlocks the content and augments it with additional informational, visual or video material. More advanced levels of augmentation can include personalized content and gamification content, where interactivity between the user and the augmented content occurs on multiple levels. The highest level of augmentation includes interactivity among the user, augmented content and the space - real time simulation aligns digital content with the spatial surrounding and adapts commercial content in a functional or experiential way.

	Public spaces	Private uses
Low augmentation	Public content augmented through smart devices or fixed interactive screens, Augmented advertising	Static content augmentation through image recognition
Medium augmentation	Personalized and gamified augmentation through static screens	Personalized and gamified augmentation through personal devices
High augmentation	4D projections, Interactive stores, Virtual try-on displays	Spatially dynamic augmentation with personalization (customization; e.g. IKEA, RayBan Mirror)

Table 1: Classification of AR augmentation level and usage space

In terms of marketing functions, the analyzed cases show that most often AR technology supports advertising/promotion, customer service and product management.

	Marketing functions		
	Advertising / Promotion / Branding	Product management	Customer service
AR tool	Promotion / advertising through augmented content, gamification, 4D projections; Interactive stores	Personalized augmentation and simulation (virtual try-on); Interactive stores; Augmented content	Technical assistance through AR apps (e.g. car assistance); Wearable technology

Table 2: Prevalent marketing functions supported through AR

In most of analyzed cases, AR tools provided content augmentation for the purpose of advertising, promotion and branding (72.5%), most often by the use of smart devices. 4D projections, where projected content augmented store openings, also belong to this category. Further on, products are managed through augmented personalization; for instance customers can assemble their own jewelry and try items on through simulation. This also represents a very popular use of AR (33%). Finally, some applications focus on the post-purchase phase and offer customer assistance through the augmented application (7.8%). Certain AR applications fulfill multiple functions (e.g. interactive stores).

We also investigated what type of content engagement do the existing AR tools offer. The purely hedonic, entertaining content occurs in highest number of AR applications (45%) in our sample. Prevalently utilitarian content appears in 27.5% AR apps. 27.5% of cases present both utilitarian, functional content in combination with hedonic (edutainment campaigns, virtual try on).

	CONSUMER NEEDS		
	Utilitarian	Hedonic	Both
AR tools	Wearable, Content augmentation with functional information	Augmented advertising; Gamified augmentation; 4D projections	Virtual try-on, Edutainment

Table 3: Consumer needs satisfied through content engagement

3.3 Limitations

These typologies and initial research are based on the data available on the Internet. To further confirm the categories, it would be necessary to investigate firms' and users' perspective through bigger samples and primary data collection. An additional marketing function that AR could support, but was not available for analysis, is marketing research, as it collects important additional information about consumers.

4 DISCUSSION AND CONCLUSION

The provided classifications can serve as first orientations of possible opportunities that this technology offers for augmented interactions between brands and consumers. It can lead to clearer distinction of AR marketing in terms of its link to space, customer engagement and purposes for marketing and enables marketing community to investigate more in-depth the characteristics of augmented touchpoints and their relevance for marketing offerings and for users. Besides its findings, it also opens many questions to be explored. Firstly, classifications can further develop more precise distinction of different AR tools based on types of interaction, virtual content and touchpoints. Further research about AR in marketing should also focus, among others, on understanding how utilitarian and experiential value can be most successfully combined, in which contexts one is preferred over the other and why and to which extent these practices differ from other marketing activities. Moreover, it would be crucial to understand how effects of AR campaigns change when they are synchronized and combined with other marketing channels.

REFERENCES

- [1] Varadarajan, R., Srinivasan, R., Vadakkepatt, G. G., Yadav, M. S., Pavlou, P. A., Krishnamurthy, S., & Krause, T. (2010). Interactive technologies and retailing strategy: A review, conceptual framework and future research directions. *Journal of Interactive Marketing*, 24(2), 96-110.
- [2] Shankar, V., Venkatesh, A., Hofacker, C., & Naik, P. (2010). Mobile marketing in the retailing environment: current insights and future research avenues. *Journal of interactive marketing*, 24(2), 111-120.
- [3] Calder, B. J., Malthouse, E. C., & Schaedel, U. (2009). An experimental study of the relationship between online engagement and advertising effectiveness. *Journal of Interactive Marketing*, 23(4), 321-331.
- [4] Carmigniani, J., Furht, B., Anisetti, M., Ceravolo, P., Damiani, E., & Ivkovic, M. (2011). Augmented reality technologies, systems and applications. *Multimedia Tools and Applications*, 51(1), 341-377.
- [5] Kotler, P., Keller, K., Brady, M., Goodman, M., & Hanser, T. (2012). *Marketing Management*. Harlow: Pearson Education.
- [6] Solomon, M. R., Polegato, R., & Zaichkowsky, J. L. (2009). *Consumer behavior: buying, having, and being* (Vol. 6). Upper Saddle River, NJ: Pearson Prentice Hall.