The Development Of Marketing And Augmented Reality[1]

Doğuş YÜKSEL
Gazi University, Institute of Social Sciences, Ankara e.dugus.yuksel@gmail.com

Metehan TOLON
Gazi University, Faculty of Economics and Administrative Sciences, Ankara
metehan@gazi.edu.tr

Abstract

In the 1900s, the economic, social, cultural and technological developments that have taken place since the first introduction of the marketing term have affected social structure and in turn, marketing.

With today's changing conditions, competition has increased and organizations have become more difficult to survive. Technological developments have created new areas on the market. In this competitive environment, businesses have started to compete with each other to be early adapters and to dominate the market in these new areas.

Augmented reality is one of those developments and together with the marketing practices; it has begun to attract the attention of businesses and consumers day by day. In this article, it is aimed to examine the usage of this technology, which combines the virtual world with the real world, to identify its limitations and to shed light on businesses, consumers, academicians and future researches and to make suggestions.

Keywords: Augmented reality, postmodern marketing, development of marketing

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Introduction

In the research, it has been considered appropriate to examine the development of marketing and the understandings that have emerged over the years. Considering these, within the scope of the study, it has been revealed at which point marketing starts and in which direction it develops. Which understanding includes augmented reality and marketing has been reflected in the main outlines.

In the following section, the emergence of the augmented reality technology, its historical development and the proposed definitions have been examined from different sources. The use of the augmented reality in marketing communication has been discussed and its usage areas have been examined.

In the last section, current and future limitations are evaluated by considering marketing and augmented reality technology together and some suggestions have been put forward to businesses, consumers, academicians and future researchers.

The study also includes suggestions for the future, it has been naturally avoided from the definite statements within the scope of the research.

The Development of Marketing

Bartel's "The History of Marketing Thought" is one of the most important works written on the development and history of marketing. Bartel has studied the development and history of marketing he has dealt with until the 20th century in eight periods. These are (Bartel, 1988):

- **1900-1910 Period of Discovery:** The term "marketing" was used for the first time in these years. It is believed to be used for the first time, especially between 1906 and 1911.

- **1910-1920 Period of Conceptualization:** The development of marketing concepts, classification and definition of the terms have occurred in these years.

- **1920-1930 Period of Integration:** The basic structure of marketing thought was put forward and marketing principles were established.

- **1930-1940 Period of Development:** The existing areas of marketing continued to be developed and some new approaches to the explanation of marketing were undertaken.

- **1940-1950 Period of Reappraisal:** Marketing was re-addressed in line with the new needs of the period. The concepts and practices were reviewed and new terms were created.

- **1950-1960 Period of Reconception:** Traditional approaches to the study of marketing were supplemented by increasing emphasis upon managerial decision-making, the societal aspects of marketing, and quantitative marketing analysis. Some approaches from management and social sciences were introduced into marketing.

- **1960-1970 Period of Differentiation:** New marketing concepts emerged and marketing thought reached a wider perspective. These include management, environmentalism, holism, systems and internationalism.

- **1970- beyond Period of Socialization:** Social issues became more important in terms of marketing.

2.1. Marketing management philosophies

Various opinions have been put forward regarding the solution of marketing problems within the changing time and conditions. Over time, these different views have shaped marketing understanding. Marketing concepts are examined under the following headings:

2.1.1. Traditional marketing

Developments in education, communication, technology and globalization have brought a series of changes in marketing understanding by changing the market. The understanding that comes from the rise of the classical marketing is called traditional marketing concept.

2.1.1.1. The production concept

Within this approach, the enterprises mainly focused on improving the production line and, at the same time, increasing the distribution of the products. During this period, there were times when the demand was more than the supply. So, businesses gave importance to production to meet this demand. As a strategy, they chose to benefit from the scale economy by producing more (Erdoğan, 2012).

2.1.1.2. The product concept

In this approach, businesses think that high quality and improved new features of the products are the reason for customer preference. As a result, they are constantly striving to improve their products (Kotler, and others, 2005).

When the concept of marketing myopia is addressed within the scope of the product concept, rather than looking at the big picture of what customers want, focusing on product development involves moving away from customer needs and desires (Levitt 1960). In line with this explanation, the product concept leads to marketing myopia.

2.1.1.3. The selling concept

After the great economic crisis, time came to a point when the main issue was not to produce but to sell. While increasing competition on the market made it difficult to sell, the sale had to be given importance. In business organizations, sales were separated from production and became a different segment (Kotler, 1976).

In the selling concept, the supply is higher than the demand. It is thought that the basic strategy to make profit in this period was to increase the sales volume. Therefore, personal sales and advertising were intensively emphasized. Deceptive-misleading advertising and sales techniques were tolerated by businesses (Tekin, 2009).

2.1.2. Modern marketing

Modern marketing concept began to exist in the 1960s. This understanding comes from the approach of "identify and fulfill market demand" instead of "create and sell goods". Modern marketing tries to reach the target audience by using the principles of freedom, participation, feedback and transparency. Businesses that embrace this insight focus on responding to demands and needs of the market (Tek, 1997).

2.1.2.1. The marketing concept

Marketing management approach focuses on consumer desires and needs. In this concept, businesses see creating customer satisfaction as the way to achieve their goals. The most important point in this approach is that the relationship established with the customer is not short-term but is made long-term by customer satisfaction and, in turn, customer loyalty (Altunışık, Özdemir and Torlak, 2014).

2.1.2.2. The societal marketing concept

Social marketing is questioning whether the idea of pure marketing is sufficient in this era when environmental problems, resource shortages, worldwide economic problems exist and social services are neglected. It asks the question that whether the firms that predict and satisfy the demands of individuals are indeed doing the best for the consumer and the society in the long run (Kotler, 2005).

2.1.2.3. The relationship marketing concept

Relational marketing is called as all marketing activities for the establishment, development and maintenance of successful associative changes. Businesses have focused not only on the functioning of the producer-consumer relation but also on the character and structure of the relationship that has been experienced in this process. As a result of these relationships being successful, businesses are going to gain competitive advantage by retaining existing customers (Altunışık, Özdemir and Torlak, 2014).

2.1.2.4. Postmodern marketing approach

By the end of the 20th century, modern society has come to the postmodern stage since production is based on information technology (Babacan and Onat 2002). Postmodernism, derived from the words post and modern, means beyond modern and explains a new era or state after the modern stage. In the development stages of marketing, it has always been focused on the idea of a one-sided influence. It is assumed that one party has the power to influence and direct the other party. This party has always been the seller. Today, however, the need to shift towards a marketing paradigm where both the interests and benefits of both sides involved in the exchange are taken into account has emerged. This means that not only the producers but also the consumers, who play a passive role in the process of change up to now, take an active role in marketing. This view is regarded as postmodern marketing (Odabaşı, 2004).

According to Odabaşı (2004), "surrealism" is one of the distinguishing elements of postmodernism. Surrealism can be defined as the losing the sense of reality and accepting simulations, instead. Regarding this definition, the use of augmented reality in marketing can be discussed in postmodern marketing. More widely known by customers with Snapchat and PokemonGo, this technology is one of the technological developments that businesses should focus on in the postmodern era. In the following sections of the article, augmented reality technology and its use in marketing are discussed.

2. Augmented Reality

In order to address the concept of augmented reality correctly, the emergence of this concept, its historical development and the definitions put forward have been examined under this heading

2.1. The emergence and historical development of the concept of augmented reality

In the 1970s and 1980s, a small number of researchers continued to work on augmented reality in such institutions as the US Air Force and NASA. While not yet in the early 1990s, scientists who developed an AR system to help assembly workers in Boeing raised the term "augmented reality." (Feiner, 2002). Caudell and Mizell are known to be the first ones who mentioned the term (Carmigniani and others, 1992). However, augmented reality technology dates back to much older times.

During the World War II, the British army, with the help of the project The Mark VIII Airborne Interception Radar Gunsighting they implemented, developed a system that provided pilots with various information about the flight. In this system, the information about the position of the enemy aircraft was displayed on the radar information screen in a way that it did not obstruct the real image on the windshield of the warplanes (Vaughan-Nichols, 2009).

The first equipment that comes to mind when it is referred to augmented reality technology is the headlight monitors (HMD, Head-Mounted-Display). These were first developed in the 1960s by Ivan Sutherland, the pioneer of computer graphics, and his students in Harvard and Utah Universities (Poupyrev and others, 2002).

2.2.The definitions of augmented reality

According to Azuma (1997), augmented reality is a kind of virtual environment, or as it is known, virtual reality and he defines AR in following three keys;

- Augmented reality combines virtual objects in real surroundings.

- It occurs interactively in real time and in the environment.

- In AR, Real and virtual objects are compatible with each other.

Augmented reality is a technology that blends or overlaps computer generated virtual objects. AR supports physical reality by integrating virtual objects into a physical environment. Thus, the computer generated virtual objects become a part of the real physical world (Milgram and Kishino, 1994). Milgram and Kishino have defined the place of augmented reality in mixed reality with the help of the process of virtuality in a simple way (Figure 1).
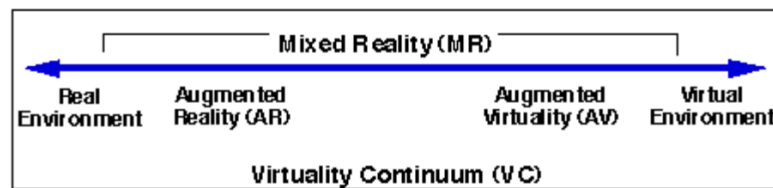

Figure 1:Simplified representation of a "virtuality continuum".

Augmented reality adds the computer generated images to the real world vision of the user and gives additional information to the user through the computer model. This technology is different from the virtual reality that the user enters into the virtual world created by the computer. Instead, AR system brings the computer to the real world of the user by enriching the real environment with the virtual object. By using an AR system, the user's real-world perspective can be improved (Tang, Kwoh, Teo, Sing and Ling 1998).

Augmented reality is to add virtual objects to the real world (Kato, Hirokazu and Billinghurst, 1999).

When the definitions of augmented reality are addressed in general, it has been focused on the difference between virtual reality and augmented reality. Basically, augmented reality can be described as the enrichment of the real environment with virtual data.

2.3. The Use of augmented reality technology in Marketing Communications

The increasing use of mobile phones along with the world's population and the ever-evolving technological features of devices that has emerged as an outcome of this increase (cameras, screens, processors, memory, memory, etc.) have allowed augmented reality technology to emerge from the laboratory environment and meet consumers (Chehimi, Coulton

and Edwards 2007).

In recent years, augmented reality technology represents a growing area of interactive technology for commercial use (Javornik, 2004). When the long term benefits are taken into consideration, the place of AR in the market has been debated. AR is not only an effective promotional tool anymore (Woods, 2009), but also it has begun to make a positive contribution to the customer-brand relationship (Owyang, 2010). By creating an empirical value perception for the customer, it has become a tool that provides customer satisfaction (Chou, 2009; Yuan and Wu, 2008).

In terms of branding, promotions, market research, price, product customization, customer service and customer relationship management, AR can be used both for customers and consumers (Javornik, 2014) to increase opportunities and to have a more functional and entertaining communication (Shankar, Venkatesh, Hofacker and Naik, 2010).

With the use of AR technology on the market, brands and agencies have started to compete with each other to discover this technology. Markets increase customer loyalty through AR experiences that bring a truly new definition to the interactive media. By using augmeted reality, markets and agencies quickly adapt interactive media campaigns that are personalized, measurable and flexible (Augment, 2017).

Most of the mobile applications that use augmented reality (Blippar, Augment, Aurasma, Alive, Layar, Sweeper, etc.) focus on interactive marketing campaigns. The second way of using AR is based on placing 3D models or holograms around, changing their position and scaling them (Augment, 2007). Undoubtedly, these applications offer a unique experience for customers. The applications mentioned and many more have been existed in marketing thanks to augmented reality technology (Woods, 2009).

2.3.1. The use of augmented reality in traditional marketing materials

Online content has become very popular nowadays thanks to social media sites, blogs, news sites, portals. In these conditions, where online content is becoming more and more prevalent each day, the need to communicate with customers in new and interactive ways to make the content of traditional marketing materials more attractive has emerged. Augmented reality technology transforms the one-way transfer of traditional marketing materials into a communication.

One way to use AR in marketing campaigns is based on traditional marketing materials.

Printed materials are enriched with virtual data to create an attractive marketing campaign. The application interacts with the printed material and can present a more detailed content (video, 3D object, photo, sound, etc.) to potential customers.

For printed media, it is not possible to make any changes after printing. Although it is, still, not possible to make any changes in the printed material with the augmented reality technology, the availability of additional digital content and the fact that the content can be changed instantaneously increase the flexibility of printed materials.

2.3.2. The use of augmented reality in mobile advertisement

Mobile advertising will fail if it does not offer new, more engaging interaction for customers because the way an advertisement is delivered and content of it affect its customers' behaviors in the market and their attitudes towards the brand. Communication in mobile advertising can be achieved with an engaging media tool (Stern, Zinkhan ve Holbrook, 2007).

At this point, the use of augmented reality technology in marketing can make existing mobile ads more engaging and enhance the communication with customers by offering a new experience for them.

2.3.3. The use of augmented reality in E-commerce

E-commerce is the exchange of goods, services or money between firms or between firms and customers in online environments (Standing, 2000). In the past decade, e-commerce and internet shopping have become a very common option, especially for those who do not have any opportunity to go shopping and for the disabled. Still, e-commerce and online shopping have not been able to take the place of traditional shopping, especially in products such as clothing, shoes, accessories and furniture. The reason for this is that the features of the product such as its appearance, body, voice, etc. are often impossible to convey to a customer (Jacko, 2007).

The use of augmented reality in online shopping becomes important especially at this point. With the AR applications, customers are offered a more realistic product size compared to their actual size, a better shopping experience and user interaction (Smith and Lu, 2007).

Thanks to the augmented reality technology, now it is possible to convey the structure, appearance, body and even the voice of the product to the customer.

For example, for a customer, it is possible to determine whether the furniture to be bought will be appropriate for the place in terms of size, color and design. Moreover, with the help of the 3D visuals, it is also possible for the customers to test the moving parts of the furniture (covers, cabinets, clips, storage areas, etc.).

Conclusion

Today, consumers partially have the necessary technology to use the augmented reality applications. Although HMDs are generally the first thing to come to mind when it comes to augmented reality, smart phones and tablets are easily accessible to many augmented reality applications. In this case, businesses need to make educational marketing efforts such as the awareness and use of augmented reality technology.

Even though devices such as tablets and smart phones, where we use augmented reality applications, rapidly develop, these devices are still dependent on computers. Their memory and processor capacities are still limited. Moreover, these devices have ergonomic constraints, such as small screen sizes that restrict the development of satisfactory interfaces (Gervautz and Schmalstieg, 2012). In this case, to use augmented reality technology via HMDs in the future will be more convenient in terms of technical and ergonomic aspects.

It may be more difficult than expected to get people to use augmented reality because of the unusual and unfashionable appearance of HMDs (Hollerer and Feiner, 2004). Businesses should focus on supporting the adoption of these equipments to the public.

Additionally, the augmented reality glasses that are available today are being developed day by day, but they are still heavy and, therefore, not suitable for the outdoor use (Krevelen, 2007). Considering that outdoor users will want to use their hands free, it is expected that related augmented reality systems will be supported more effectively with wearable computers and more modern systems (Thomas, Piekarski and Gunther, 1999).

Users will be faced with an interface and technology that they are not accustomed to until today while using augmented reality technology. With this concern in mind, consumer behavior and user experience design are of great importance. Correctly designed interfaces and

user experience designs in an augmented reality campaign will help to establish the right interaction with the customer as easily as possible by providing ease of use.

Complex user interfaces may cause the user to ignore the environment and only depend on the application (Tang, Owen, Biocca and Mou, 2003). For this reason, AR applications should not contain excessive information content that may mislead users rather than informing them (Gervautz and Schmalstieg, 2012).

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