EFFECTIVE OF AUGMENTED REALITY (AR) IN MARKETING COMMUNICATION; A CASE STUDY ON BRAND INTERACTIVE ADVERTISING

ELHAM BARATALLI, MOHD HELMI BIN ABD.RAHIM, BEHRANG PARHIZKAR, ZAHRA MOHANA GEBRIL

1,2,4 Post Graduate Centre of Limkokwing University of Creative Technology
3 The University of Nottingham Malaysia Campus

Abstract— In this research will examine the new way of digital marketing technology technique as AR which is combining the real world and virtual world in wide large targeting in “Big Idea” and Augmented reality allied the amusement of digital marketing in whole world. The objective of advertising is to come up with the augmented reality is the latest digital technology in the field of advertising area. Augmented reality in Marketing advertising (ARMA) have found a unique and interactive way to engage audience with the company brand. In summary, the primary intention of this project is to bring up or raise the awareness of augmented reality in present and future especially in the marketing and advertising filed.

Keywords— Advertising, Marketing Communication, Augmented Reality, Digital Media, Augmented Reality in Marketing

I. INTRODUCTION

Augmented reality is and excited technology which is based on computer vision to augmented of sound, Video, Graphic and other sensors based on the visual and real word object that are using camera. Augmented reality is unique interactive way to present the information in a real world. According to Vallio (1998) AR is the combination of virtual objects and real world and the users are given a chance to interact with these objects in real time. AR can provide users with sub immersive feeling by allowing interactions to occur between the real and virtual worlds (Uematsu & Saito, 2008). First Augmented Reality system was developed by Ivan Sutherland (Sutherland, 1965). Since that time there has been large amount of research done to explore Augmented Reality (AR).

Since Smart Phone devices have become presentable in whole world, Augmented Reality Browsers have been developed to run on them. According to Schmalstieg, (2012) Smartphone have the entire basic hardware system recruitment for AR, such as (Camera, Graphics, GPS compass and accelerometer). AR browsers utilise the device’s sensors (camera input, GPS, compass, et al) and superimpose useful information in a layer on top of the image from the camera which, in turn, is viewed on the device’s screen. The characteristics of Augmented Reality device systems can be further understood from three classical and widely used criteria for AR systems (Azuma, 1997):

1- Combine Virtual and real
2- Registered in 3D
3- Interactive in Real Time

Marker-less AR Systems uses a combination of an electronic devices’ accelerometer, compass and location data (GPS) to determine the position in the physical world, which way it is pointing and on which axis the device is operating. This technological approach has given rise to ‘mobile augmented reality’, denoting use of the technology with devices such as Smartphone and tablets (Dhiraj Amin and Sharvari Govilkar, 2015).

1.1 Augmented Reality in Marketing

In a simple state, Marketing is companies employ a range of strategies to determine the value of product or service and communicating the information to customer for better sell. In the beginning the entire marketer should know what are going to serve and who are the target audience then can follow the concentrate campaign in the aim to fulfil the customers need and build long term loyalty. Augmented Reality marketing is a digital element superimposed or added to another environment, be as print, television, or real world. According to the (Matt Szymczyk, 2014) example:” One of the most common forms of augmented reality used today with video includes the superposed 10-yard line on NFL broadcasts. The fact that people don’t realize this is AR is why it is so successful. It is seamlessly integrated into the broadcast experience and provides value for the broadcast viewer.”

1.2 The Advertising industry

The Advertising industry is currently in a state of flux, experiencing a period of unprecedented change and challenge to its methods, business models and industry structures; primarily as a result of the advent of new media (Pfeiffer & Zinnbauer, 2010). To exasperate this situation, analysts forecast that Augmented Reality (abbreviated as “AR” henceforth) will become a major disruptive technology and media type for marketers (Fenn, 2010), maturing to mainstream commercialisation within 5 years and generating revenues in the billions of dollars (Reuters, 2012). Some also believe that AR’s impact will not be incremental in nature but herald a
significant evolutionary step for advertising media (Trend One, 2010).

1.3 Definition of Augmented Reality
Augmented Reality is a concept of visual reality (VR). According to (Vallio, 1998) AR is the combination of virtual objects and real world and the users are given a chance to interact with these objects in real time. Augmented reality is and excited technology which is based on computer vision to augmented of sound, Video, Graphic and other sensors based on the visual and real word object that are using camera. Augmented reality is unique interactive way to present the information in a real world. AR can provide users with sub immersive feeling by allowing interactions to occur between the real and virtual worlds (Uematsu & Saito 2008). AR also brings an interactive experience, but aims to supplement the real world, rather than creating an entirely artificial environment. Physical objects in the individual’s surroundings become the backdrop and target items for computer-generated annotations (Tobias & Steven, 2004).

1.4 Mobile Augmented Reality
A few years ago, in correlation with the rapid growth of smartphones, a new breed of AR has entered the marketplace. Mobile Augmented Reality applications allow users to hold up their phone and see a heads up display-style AR image of data associated with their local surroundings (Kengne Paul Arol, 2014). Mobile Augmented reality Apps are designed to equip mobile phone users with rich services, applications and functionality, which are applied on top of physical reality. Such application use the phone’s camera, GPS, touch screen element and other sensory and motion detectors to integrate real images, video or scenarios within them (Technopedia, 2014). From a marketing standpoint, AR is a goldmine that every company should be using to win the attention of consumers. The technology creates an interactive experience, builds brand loyalty, and is fun to use (Eric Vidal, 2014). AR can insert to magazine, newspaper, books billboard and even store as a point of promotion for better sales.

Bulearca and Tamarjan (2010), are conducted a qualitative focus group study on Augmented Reality Experiential Marketing (AREM) to look for ways in which AREM could be beneficial for companies and brands both in the short and long-run. The study used augmented reality by using the UK glass retailed to the company Glasses direct where the user could try the glass on their face at hope with the help of computer webcam. The main aim and goal of this research was to know the qualitative and quantitative of the AR marketing in the experiential value in the pre-purchase stage. However the research had many limitations and complications in during the study and research process, the result indicated some promising such as very good first impression in regards to AREM. The other comments were related to the researcher that had a positively biased view toward using augmented reality in marketing which had effected. This indicates the fact that because augmented reality is a new and existing but under-researched marketing tool, researchers themselves might be biased towards the “Shiny object” syndrome (Owyang, 2010).

In addition, Pepsi’s use of augmented reality to support its Super Bowl sponsorship is a prime example of how the technology is finally reaching the highest level of media attention. It proves that AR is an excellent vehicle for marketers to engage in moving forward into 2014 and is capable of driving new lead generation through increased user interaction (Eric Vidal, 2014).

1.5 Scope and Objective of Research
The main objective of this research is looking to the augmented reality view and the experiences have been done in the field of marketing and advertising. To finalize this new technology will create the good brand image of company information with the satisfaction of consumer and viewer. The Objective of augmented reality in this research will be focus to study the impact of commercialized mobile AR application in business marketing and advertising and also to compare the impact of mobile AR application in advertising and marketing, in the different industries based on:

- User Interaction
- Promotion

This research will investigate the application of mobile augmented reality in the field of advertising and marketing business. The main focus will be on the advantage and benefit of Augmented Reality in advertising and marketing, and finalize the specific target of consumer who are will be interact with the company products and brand with the uses of attractive AR application.

II. DETAIL EXPERIMENTAL

2.1 Technology of Augmented Reality
The four tasks carried out by the AR system are: Scene capture, scene identification for choosing the accurate information for boosting it; scene processing and visualization for the augmented scene (Cai, 2012 and Lopez, 2010). These tasks are describe as below:

- Scene Capture
- Scene Identification Technology
- Scene Processing
- Visualization Scene

2.3 Application of Augmented Reality
The number of Augmented Reality applications is increasing continuously and the outcome are clearly in many domains e.g. Medical, Education, Game, Marketing and Advertising.
III. RESEARCH METHODOLOGY AND DISCUSSION

3.1 Purpose of Research
The purpose of this research is to get the behave and attract of the marketer or business producer in a right side and the experiences, feeling of consumer in another side to be compare with the new user face technology.

3.2 Data Collection
Since the study use quantitative research method on behave of consumer and attract of the market or business producer in a right side, tow data have been collected during of this course study and research as a primary and secondary. Primary data resource was collected by the means of user experience and comments of business producer on website according to their experience and situations. The aim of this research and data collection is to get known which Augmented Reality beneficial for brands to creative brand perception, intention of purchase and positive word of mouth. Secondary data sources are as books of Marketing and advertising with effect of new technology like AR and VR, Magazine, newspaper, journal of advertising, journal of interactive advertising, journal of marketing, international journal of marketing, Website of marketing business and advertising, News, Paper of effect of New technology in life, Impact of AR in advertising, user interface of augmented reality in marketing and advertising mobile and interactive of AR/VR in marketing and advertising.

3.3 Sampling Method
In this stage researcher used the quantitative method on behave of consumer and attract of marketer or producer in a right side. The sample method of this research is to get the feedback of users from the majority of application that have been launched. All data and information will collect from the user review true on website and mobile application.

3.3 Data analysis
The empirical data was analysed by conducting a content analysis of each of the transcribed users and business producer on the website and Google play. The goal is in using content analyse in this research and study was to thoroughly examine how can AR application make a specific bold brand for user and marketer.

Since the focus of researcher is to get the behave and attract of the marketers or the business producers in right side and the experience, feeling of consumer in another side to be compare with the new surface technology, the case study have been designed to collect the user opinion and behaviour when they interacting or engaging with the new technology. The researcher had drowned some considerations for data collection regarding number of installer’s ad user reviews of quality interaction in each application. According to the user review in quality and user face of each application researcher drown tow table which are 4.1 and 4.2. The last finalized are from these tables which are 4.3 and 4.4 that researcher got the percentages of AR application how much was success in Marketing and Brand interactive advertising.

The table 1 shows the result of consumer and user experience from the user review on Website. The research was focused on the experience of user about the whole idea of new technology (AR) to find out the concept and effect of this technology in the lifestyle.

Table 1: Effect of User’s Experience in working with AR Application Base on Website Review

<table>
<thead>
<tr>
<th>App Name</th>
<th>Design</th>
<th>Usability</th>
<th>Performance</th>
<th>User Friendly</th>
<th>Popularity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Museum Visitors X-Ray Painting (Lifetable)</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Pepsi Max</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>The Cotton (Lifestyle)</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Panel vs Panel (Education)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Deep Stere (Travel &amp; Location)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Nike Virtual Reality App (Entertainment)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Lacoste Brand (Lifestyle)</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

As illustrated in table 2, users have reviewed 20 web-based augmented reality applications based on 5 constructs such as Design, usability, performance, user friendly and popularity. Among these 20 web-based AR applications, Museum Visitors X-Ray Painting is in the top highest (6.8) from its users reviews and the lowest one is 4.4 for the OBI TV Chanel out of 7. Researcher was analyse the applications which are most for Brand Communication, Travel & Location, Entertainment, Education, Game and Lifestyle.

The following describes background information are about the Table 4.2 which categorize in 4 construct as Google play designed based on user review such as Love it, Just ok, Didn’t like it, Hate it. The analysing of this table divided as a percentage of the user’s installation in each application from top to down. According to these 60 application the highest installation of users is stating from 10,000,000 to 50,000,000 and the lowest one is 1,000 to 5,000. The rate and mark also is from 4.2 out of 7 to 2.8 which is shown the success application in market brand.
Table 2 Effect of User’s Experience in Working with Mobile Augmented Reality Application Performance Based on Mobile Application review

<table>
<thead>
<tr>
<th>App Name</th>
<th>Installs</th>
<th>Love it</th>
<th>Like it</th>
<th>Ok</th>
<th>1 Star</th>
<th>2 Star</th>
<th>3 Star</th>
<th>4 Star</th>
<th>Did not Have it</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR effect (Sonym)</td>
<td>10,000,000</td>
<td>14,348</td>
<td>6,390</td>
<td>3,133</td>
<td>1,155</td>
<td>2,328</td>
<td>4,4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>10,000,000</td>
<td>126</td>
<td>31</td>
<td>30</td>
<td>14</td>
<td>7</td>
<td>3,4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photography</td>
<td>10,000,000</td>
<td>34,437</td>
<td>14,712</td>
<td>9,025</td>
<td>3,721</td>
<td>25,547</td>
<td>3,3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Wiko Hero</td>
<td>5,000,000</td>
<td>31,791</td>
<td>14,519</td>
<td>8,190</td>
<td>4,411</td>
<td>10,450</td>
<td>3,3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 Mobile AR Revenue Forcast

Figure 4.11 displays a multi-leveled illustration about the percentage of augmented reality (AR) in marketing and brand creativity according to the consumer reviews. The figure shows that 99% of the consumer are ok and satisfy with the application and new technology as AR can develop better to get the better interaction from consumer and create the brand innovation for the marketers.

Table 4 Mobile AR Application Consumption pattern

Table 4 has been come out after researching and analysed from 50,000,000 to 1,000 user review about the application in market. According to the 60 Applications and 50,000,000 users installations the majority of users were satisfy and attractive with the applications. Most of the users comment as they love to work with this new AR technology as they have completely interactive activity with applications and program. However majority of applications feedbacks from users installation the respond were quite enthusiastic about new technology (AR) but in some application as 20% the respond and reactions started to be more natural and slightly negative like as the consumer were hate the application and work on that. Due to the fact the negative responds were not much power and strong as the effective positive responds.

3.5 Discussion
As has been explain earlier in case studies it is believable that separate part of business process and have this ability for better marketing communication and brand interactivity connection. Also from the survey and data collection from the user’s review which carried out from this research, it can be admitted that augmented reality is an effective tools for supporting companies when planning to create the brand interactive and innovative with marketing campaign and advertising events. This technology (AR) enables campaign to achieve supporting from business and users. Trough business process innovation it has been observe that augmented reality can be used to put complex and expensive product in the hand of potentials costumers at a cost of zero. The technology also has increase as engagement customer’s loyalty can be used to create or extend business opportunities.

CONCLUSION
This study and research of this thesis have been started with the idea about the ability of technology to manage and expand the marketing communication in order to manage the better relation with consumer and brands. In order to achieve the objectives researchers looked and search augmented reality from the beginning to start. During the case study and course writing this thesis, it became clear that it is not only in the business world that there is little known on mobile augmented reality in relation to innovating business process and improving value of ads. Base on the reaction of the users that actually use and re-use the applications, it seems that developers also have a hard time to figuring out how to apply and build augmented reality applications in such a way that it provides value for end-user.

On the other hand, the result from the research implies that augmented reality is the future. Many brands now a days correctly want to help consumers truly experience what their products have to offer, and augmented reality enable them to do that and at a cost of nothing for complex and expensive products. Furthermore, augmented reality helps organizations to quickly gain advantages on their competitors.
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REFERENCE


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