

Augmented Reality As A New Perspective In Digital Marketing Transformation And Advantages

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Abstract

The pandemic period that has occurred since March 2020 has formed a new perspective, especially in the world of marketing and advertising. The pandemic period narrows space and time which greatly affects the world of marketing and advertising in correlation about the form of communication between the business world and consumers in other words B2C markets. The new perspective form in how to bring consumers closer to what a business has to offer through an approach by using digital technology that is very well known by consumers and growing very rapidly so that it can create differentiation through user experience. The marketing and advertising worlds have for at least a couple of years from it is the first invention in 1968 until now, witnessed a digital technology revolution called augmented reality (AR) which allows brands to provide customers with a very unique user experience that combine 'real' and virtual interactive elements that can make the brand 'stands out form the crowd'. The purpose of this research is to explain that augmented reality can help connect brands and consumers by creating a unique user experience. The research method that will be used is a mixed-method where qualitative methods are used to provide an overview of augmented reality and its relation to B2C markets. While the quantitative methods are used to determine the target audience's perception of their experience by using augmented reality. The new perspective that created from the consumer's point of view after experiencing a unique user experience by using augmented reality as an advantage tool of digital marketing in the future. The research is focussing on generation z or millennial generation perspective point of view about a unique tourism destination marketing promotion created by using augmented reality platform. Augmented reality can create a unique differentiation in both perspectives, first as a tangible perspective from its creative user interface design and secondly an intangible perspective as a user experience that will greatly affect the consumer's mind.

Keywords: Augmented Reality, Advertising, Marketing, User Experience

I. INTRODUCTION

Since the first time coronavirus was detected in November 2019 in Wuhan, Hubei, China, and within months spread rapidly worldwide. The covid pandemic has been shaken all countries worldwide especially the economic part. It is like time has stopped and made everything go blind.

All businesses worldwide are on the verge of collapse without knowing what to do to rise again especially the businesses that depend on direct sales to consumers, because all activities are limited especially in public spaces to prevent the coronavirus from spreading more rapidly.

The pandemic has formed a new perspective, especially in the world of marketing and advertising. The pandemic period narrows space and time which greatly affects the world of marketing and advertising in correlation about the form of communication between the business world and consumers in other words B2C markets.

The pandemic creates dramatic shifts or breakthrough transformations from traditional marketing strategies to digital marketing strategies it is like opening “digital doors” from the consumer’s point of view. The new perspective is how to bring consumers closer to what a business has to offer through an approach by using digital technology that is very well known by consumers and growing very rapidly so that it can create differentiation through user experience.

The development in technology has a remarkable evolution in marketing and creating major milestones in the history of modern marketing. The stages of process tends to be like this:

- The emerges of new technology that initially the preserve of early adopters and technologists
- The advatange power of technology become more popular in the marketplace and transforming the marketing into new perspective.
- Innovative marketers explore how to harness the power of technological developments to connect with specific target audience.
- The process of migrating technology to mainstream which then adopted into standard marketing practices.

The marketing and advertising worlds have for at least a couple of years from it is the first invention in 1968 until now, witnessed a digital technology revolution called augmented reality (AR) which allows brands to provide customers with a very unique user experience that combine ‘real’ and virtual interactive elements that can make the brand ‘stands out from the crowd’.

The main problem before the pandemic was traditional marketing still has a strong role from a B2C perspective point of view without developing alternative strategies by enhancing the advantages of digital technology to create more simplicity and values for the consumers. The combined role of traditional and digital marketing will be much more powerful to strengthen the B2C markets in unique ways.

The transformation to digital marketing supported by the uniqueness and advantages of augmented reality technology can make a strong persuasive approach into consumers’ minds with its unique user experience as an added value and as a result will be creating powerful ‘word of mouth’ promotion strategy.

The main question of the digital marketing transformation is how effective and powerful the augmented reality technology role as a new perspective in digital marketing?

II. LITERATURE REVIEW

In the marketing concept, there are two marketing methods, namely B2B (Bussiness to Business) and B2C (Bussiness to Consumers). B2B describes the transactions between business to business or business to

industry, marketers, and retailers. While B2C describes business activities that directly serve consumers with products or services. (Kumar & Raheja, 2012). With the development of technology, both B2B and B2C have developed well. The B2B concept can be done through an e-commerce system where sellers can directly contact the company to sell their products/services. Likewise with B2C where sellers can directly relate to consumers through social media or the internet.

Digital marketing is a term that encompasses all digital channels, such as SEO, email marketing, content marketing, social and mobile media, and so on, in designing a consistent and targeted strategy to reach and connect with prospects and customers. The majority of users interact with content through digital media, such as television, computers, tablets, smartphones, radio, besides other traditional media. The constant exposure to various types of digital media has led to information overload, therefore will complicating the buyer's journey. Digital marketing allowed brands to stay relevant and visible through different touchpoints and media channels. Marketers use digital channels to guide prospects through their purchase journey and keep in touch with their existing customers apart from traditional marketing channels, such as newspapers, television, billboards, and so on.

Digital marketing will be combining the best program of both marketing inbound and outbound and creating three key benefits for business growth by using digital marketing:

1. **Measurable Value**

With the traditional marketing campaign launching, it will be impossible to gauge its impact without some sort of unique offers, which will be reflected in sales figures, so brands will get a sophisticated analytics capability. The impact can also be measured through traffics, clicks, impressions, and sales depending on the attribution model that was implemented, and the understandable measure of how each touchpoint has contributed to the sales, at the end this can allow marketers to understand the problem.

2. **Sophisticated Market Segmentation**

Traditional media means a traditional approach, in which every target audience gets the same message, but modern marketing allows brands to tweak the message based on the audience's persona. Digital marketing channels can allow brands in both ways, to target the ideal and specific buyers precisely, and also allow the ideal and specific buyers to find the brands. Content marketing mechanisms and SEO efforts can make a prospect easily enter a query in a search engine to find the brands. The advantages of digital advertising, brands can target specific users based on their age group, gender, education, interests, psychographics, geographics, etc, and also brands can zero in as much as brands want, and on the other hand, brands can keep it diverse and target a larger group based on brands goals.

3. **Perfection on the go**

When it comes to traditional marketing there's no space for course correction, once your ad is printed, brands can not make the change, but with the advantages of digital marketing, brands can tweak things on the fly, if a particular copywriting not bringing the results, brands can re-allocate the budget according to what's happening at that moment. The flexibility will ensure that brands' digital marketing efforts are always managed effectively and efficiently.

The perspective of digital marketing is a vast discipline. Brands need integrated digital marketing into their strategy one step at a time. When brands are short on ad budgets, they can start with digital media content. On the other hand, if brands looking for quick results and have a big budget, digital advertising is on the go-to channel, but if brands already implemented digital marketing, it can be blended to improve brands' current strategy. It all depends on brands requirements, resource pool, and budget for the advertising.

A new technology that is developing and can be utilized by the B2C concept is augmented reality. Augmented reality is defined as a technology or method that is displayed in a 3D form and allows objects or environments in 3D to interact with real life. Objects displayed in augmented reality can be in the form of images, messages, or videos that are designed in such a way that they can interact with users as if the object were present in real life. (Daglar Cizmeci, 2021). Another definition related to Augmented Reality (AR) is the combination of several digital elements into real-life through technology. AR can be present in the real world by adding textual content, URLs, links, video, and audio in a previously static object (Vaughan-Nichols, 2009 in Deans, et al, 2016).

Augmented Reality technology has been used in various industries, including the retail industry, tourism, education, healthcare, entertainment, and research. In the interest of promoting an augmented reality industrial product, it can better influence consumer perceptions because the interactions feel more real to consumers. This is because consumers can experience direct interaction with 3D objects used in augmented reality as if the objects depicted there are real objects.

In marketing, augmented reality can be used to minimize risk. In buying a product, especially if the purchase is made online through e-commerce, consumers cannot know the quality of the product to be purchased. However, with augmented reality, this problem can be overcome because it can provide an idea of what kind of product to buy through virtual interaction. As for some of the risks that can be anticipated from the use of augmented reality, among others (Deans, et al, 2016):

- **Social Risk**
In online purchases, consumers generally find it difficult to determine product quality. Augmented reality can provide a more accurate picture of the product to be purchased so that it will not disappoint consumers who may be given the product. Consumers who are satisfied with the quality of the products purchased will provide recommendations through word of mouth so that sales will be more effective.
- **Financial Risk**
Augmented reality can provide an overview of the quality of a product to reduce losses that may be suffered by consumers.
- **Psychological Risk**
What is meant by psychological risk here is the psychological effect caused when the product purchased does not meet expectations. Augmented reality can prevent consumers from feeling disappointed because previously consumers were able to see the products being sold virtually.
- **Performance Risk**
Performance risk can also be referred to as product functional risk. Performance risk refers to the experience of using the product that is not achieved. When the product is purchased directly, consumers generally can try it first. But it will be difficult to do if the product is purchased online. Augmented reality will help consumers provide data and experiences so that consumers will be able to experience using the product even though it is only through virtual
- **Physical Risk**
Physical risk refers to how a product is likely to harm its users. If the purchase is made online and the consumer cannot try the product first, the consumer will not know whether the product is safe for them to use. Augmented reality helps consumers to predict whether the product is safe for them or not.
- **Time Risk**
What is meant by time risk here is that if the purchase is made online, sometimes the consumer feels that it is not suitable for the product and there is a possibility that he

will exchange the item. The exchange process will take some time before consumers can finally use the product. Augmented reality will help consumers to minimize the time wasted due to buying products that do not meet their expectations.

Augmented Reality in tourism promotion

Advances in technology have made it easier for travelers (travelers) to travel more easily and simply. The activities of ordering transportation tickets, booking lodging, checking the condition of the destination can be done only by using digital applications. The existence of virtual reality and augmented reality can help consumers to experience the traveling activities that will be carried out. Consumers can also predict the value of the price paid and the condition of the place to be visited for a vacation.

Perception in Augmented Reality

Perception is not only determined simply by stimulus patterns; it is a dynamic search for the best interpretation based on the available data. The senses do not interpret pictures of the world instantly; it will provide evidence for checking hypotheses about what lies before us. A perceived object is a hypothesis, suggested and tested by sensory data. The perceptual system will find the first one then the other hypothesis, but it will never conclude because there is still no best answer. Sometimes the eye and brain go wrong on conclusions, and then the impact creates suffering hallucinations or illusions.

Human visual system concludes size and depth information by using a variety of depth cues. In the real world, depth cues are always in agreement with each other, to create an accurate perception of depth is possible. Along with stereoscopic displays, the technological limitations are such a small subset of available depth cues which can be fully implemented by anyone system. The other potential depth cues are either missing or uncontrollable by the system, so can end up providing false depth information, and lead to distorted perceptions. The uncertainty perceptual decreases, as the number of consistent depth cues, increases to the limits of the perceptual system.

Adding more depth cues may provide more local detail, but will not affect overall accuracy in a great deal. In these situations where depth cues conflict, the outcome is more uncertain, always depending on the particular combination of cues involved, several potential results are observed at different times, which can affect different ways in performance. For example, if the task is one of aligning a real object with a virtual one, over time performance is a measure of two things: the accuracy and consistency, but if one examines the mean and the distribution variance of trials over time, it will find one of these following four effects:

1. One cue takes precedence over another, and mostly the weaker cue is ignored. In this case, the alignment of both real and virtual objects will define its accuracy and will be as consistent as the limits allows by the display system.
2. The two cues that provided the depth information are combined, as a result in an intermediate perception. There will be a regular alignment task error or bias so that the real object is consistently offset from the virtual one. The form of repeated trials will find this bias to be consistent, and the distribution variance may not increase.
3. The conflict cue cannot be resolved, which leads to a rivalrous situation that the first one will be dominating, and then another. It will cause either increase in uncertainty about spatial relationships or in another way an increase in inaccuracy. If the former, subjects will report when real and virtual objects are near, it is also impossible to determine exactly where both cues are aligned. They know when the real object is either too close or it is too far, but there is no clear alignment between those extremes. Sometimes they will simply change the position of the real object in the middle of this range and hope for the best. In the second case, it will be satisfied when the objects are “close enough”, but there may be large responses variability. Naive subjects mostly fall

into the second category, while the subjects with some experience in examining the perceptual issues based on stereoscopic displays mostly fall into the first category.

4. The conflict cue can be resolved in many different ways, depending on the variety of the factors, this will include the subject's personal experience, preferences, also conscious attention based on the subject to the various depth cues, the context of images, and so on. The performance will be unstable in the long term, even though consistent behavior may be observed in short term. It is very important to emphasize that the viewer is only passively observing display images, so the perceptual will be biases, uncertainties, and inaccuracies are often unimportant. Mostly well-designed stereoscopic movies are rarely orthoscopic but can exploit depth distortions as a dramatic tool. When the viewer must interact with the images, to perform some sort of precision manipulation task, for example, the errors assume commission are more practical importance. Classifying, identifying, and characterizing visual perceptual issues associated with stereoscopic both Augmented and Mixed Reality displays.

The technology redefines most of the understanding of persuasion equations. The persuasion elements were attributed to communication rhetoric; computers and technology were not seen as independent message persuasive experiences.

Computers, tablets, and mobile devices have drawn attention to the power and advancement of technology, devices, and objects in which increasingly customizable and interactive to communicate experience, identity, and emotion.

The most effective means of persuasion was still human interaction, but technological advancement can go beyond what people think and do, based on the virtue of technology's portability and concomitant ability that is unrelentingly present and persistent as long as the power supply lasts. These valued potentials can make the understanding of fundamental persuasion principles for the effective design of human-computer interaction and interactive experience, such as augmented reality.

Persuasion had become the topic of inquiry since Aristotle and the definition continues to be debated for centuries. The Captology field that study of computers as persuasive technology that defines persuasion as an active endeavor that changes another person's attitudes or behavior. In the context of technology and human-computer interaction (HCI), persuasion can be intentionally structured or as an action to influence, not as an accidental side effect or the result of deceitful manipulation.

User Experience in Augmented Reality

User experience is defined as "a person's perceptions, perspective or responses as the result of the use or anticipated use of a system, service or product". It will include the users' beliefs, perceptions, emotions, preferences, both physical and psychological responses, accomplishments, and behaviors that occur along the process of using a system. The term "user experience" is also used as "usability" with various relativity stages, which will encompass usability, both hedonic and pragmatic aspects form of a system.

Definitions of Augmented Reality (AR) often imply the use of superimposed 3D graphics based on the user's view of the world, and strongly emphasize the visual aspect of augmented reality itself. From a user experience perspective point of view, it can be any visual media, sound, haptic, etc — that will enhance the uniqueness of the user's reality combined with specific context, that will address the meanings of locality and intentionality. Additionally, the nature and form of user experience are affected by the number and type of interactions within the synthetic space.

Devising a theoretical framework that will encompass all of the aspects of augmented reality are very important concerning user experience with a twofold purpose. The basic one is to identify the elements which are important as a basic roadmap for augmented reality standards. Furthermore, the theoretical framework can be a roadmap along with any method of assessment based on a specific

framework can be subsequently, and be part of a standardized methodology concerning the evaluation process of the augmented reality prototypes. Naturally, the framework needs to be adaptable and have flexibility in any progress within the field.

The extremely sensitive human perception becomes spatial and temporal discrepancies. From a user experience perspective point of view, it is very important to gauge the user's opinion of sensory modalities identifying what they perceive to be accurate and properly positioned spatially. The most interesting thing is to assess the stability of temporal positional and the synthetic environment consistency.

Millennial Generation

Millennials are the generation born after Generation X and are generally the children of baby boomers (Lim et al., 2015; Qader & Omar, 2013). This generation is a different generation compared to the previous generation due to a shift in values (Leask et al., 2013; Valentine & Powers, 2013). They are more trustworthy, tolerant, and love to travel (Valentine & Powwrs, 2013). In traveling, the behavior of the millennial generation can be described in several phases, namely:

- Initiation is a high curiosity about a place.
- Information Search, is a way for respondents to find information about various tourism destinations/tourism variations they want to visit.
- Assessment, in finding information about tourism, consumers generally prefer content that contains lots of pictures/videos.
- Final Decision
- During the trip
- After the trip

According to Septiari (2021), the characteristics of the millennial generation who are always connected with their friends indicate that they need social acceptance. Generally, they behave hedonistically, like to spend a lot of money to be able to show their status and lifestyle in order to be accepted by their environment. Millennials will consume products that provide entertainment, fun, are unique, and strengthen friendships (Ramadania in Septiari, 2021). Therefore, in travel activities, the millennial generation likes to share their experiences on social media.

Millennials also love relaxing and experiencing new experiences. In tourist activities, they generally like to take selfie photos or videos and then share them on social media. They will be happy to visit tourist attractions that are going viral so they don't feel left behind and can show it off on social media.

Generally, millennials use their time to browse, chat, listen to music, and watch streaming videos (Sasongko, 2021). In choosing a tourist spot, they believe more in testimonials from friends, family, influencers, or bloggers because they are more honest than advertisements in the media. Generally, they will check social media or the internet before deciding to buy. The existence of augmented reality can help the millennial generation before making a purchase decision.

III. METHODOLOGY

The methods used in this research are qualitative and quantitative. Qualitative methods are used to obtain information about augmented reality and millennial generation travel behavior. In addition, it is used to get as much information as possible about millennial perceptions of tourism advertising with augmented reality. After that, an experiment was conducted to determine consumer perceptions of tourism promotion advertisements in the form of augmented reality to millennial generation respondents. The selection of the millennial generation target consumers was taken with all of the

consideration that the millennial generation is the generation that travels the most. A total of 20 millennials aged 30-40 years were interviewed through a Focus Group Discussion regarding their response to promotional advertisements in the form of augmented reality. This experimental method was carried out to find out how the respondents responded by seeing tourism advertisements using augmented reality. Interviews were conducted through a zoom meeting and respondents perceived advertisements through share screens conducted by researchers. After that, their perceptions were analyzed to find out the percentage of the results that were asked in interviews and discussions.

IV. RESULT AND DISCUSSION

In this discussion, examples of augmented reality design works are taken and how millennials respond as their target audience.

a. **Respondent's experience of augmented reality**

Respondents were given several videos about augmented reality and then asked their impressions about augmented reality. Augmented Reality consists of 2 films. The focus of the film is on the presence of prehistoric dinosaurs in augmented works and their application in a virtual environment. The goal is to find out their impressions of seeing and experiencing a real experience in interacting with virtual objects in augmented reality.

Movie 1

Featuring wild animals that are commonly found in zoos. In addition, dinosaurs appeared in a mall where people who were there looked excited and tried to record them in photos or videos.



Figure 1

Presence of animals in a zoo and prehistoric animals

Source : <https://www.youtube.com/watch?v=xhYoRSXbQLs&t=1s>

Movie 2

Showing life in prehistoric times for educational purposes to elementary school children. The video shows dinosaurs and their lives in the past. At the end of the film, life at the poles is also shown with the presence of polar bears and giant whales as entertainment material for visitors to an amusement park. People who seem excited trying to interact with these 3 Dimensional objects.



Figure 2

Prehistoric animal application in a movie

Source : <https://www.youtube.com/watch?v=gkLD5XkOIng&t=81s>



Figure 3
Display ads using augmented reality

The interview is divided into 2 sessions, each consisting of 10 people so that the interview process and discussion run more focused. The response of each group turned out to be as many as 82% of respondents felt happy and excited about the augmented reality ad. 10% of respondents reacted normally, and the remaining 2% said they were not too interested in the augmented reality ad.

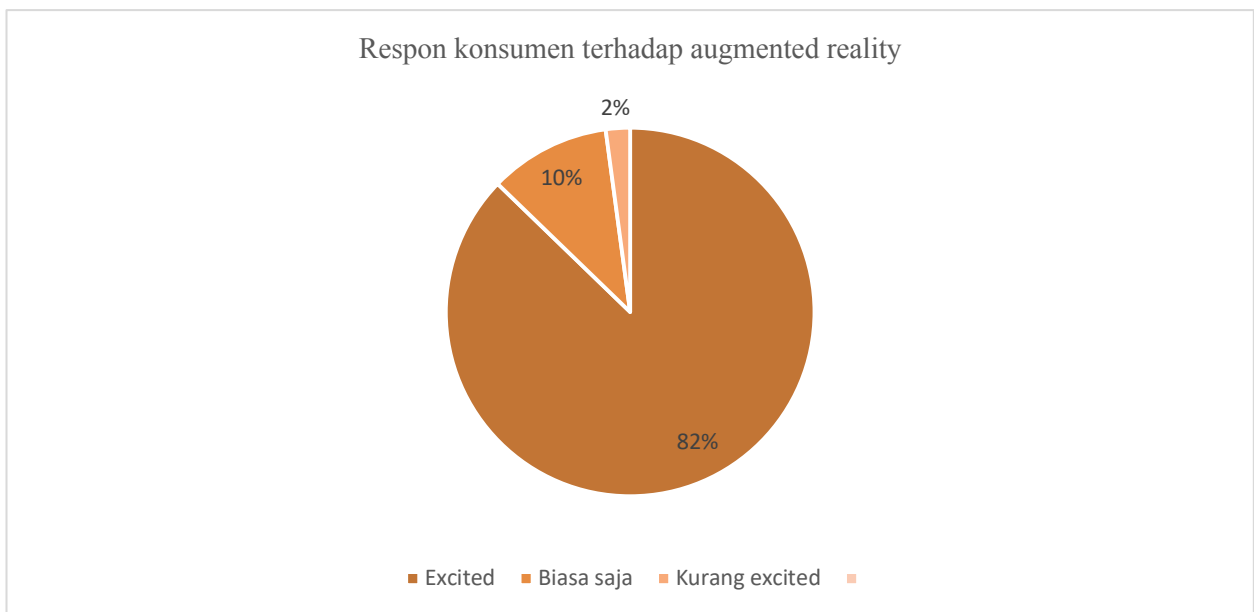


Chart 1
Consumer response to the use of augmented reality

The reasons put forward included:

- **Excited**, because they are interested in seeing the appearance of the advertisement, the 3-dimensional object has an attractive shape, the concept, and technology used are interesting.
- **It's normal**, because they don't have a direct experience by interacting through the ad. For respondents, the experience of being able to interact with objects that can be found in these tourist sites will add to a pleasant experience and can encourage them to choose and visit these tourist objects.
- **Less excited**, because they think augmented reality is a common thing and not something new when applied in a promotional advertisement. According to them, tourism promotion advertisements in the form of augmented reality will be more interesting, especially if there is a narration in the advertisement that explains the conditions and situations at the tourist attractions.

b. **Consumer responses to Raja Ampat tourism promotion advertisements**

Furthermore, respondents were shown an augmented reality work from a tourism promotion advertisement about Raja Ampat in Papua. This tourism promotion advertisement uses original photos that are retouched using digital technology. Marine life is depicted and animated so that it resembles its original form. Furthermore, a demonstration was conducted on how the natural beauty and marine life were shown to consumers.

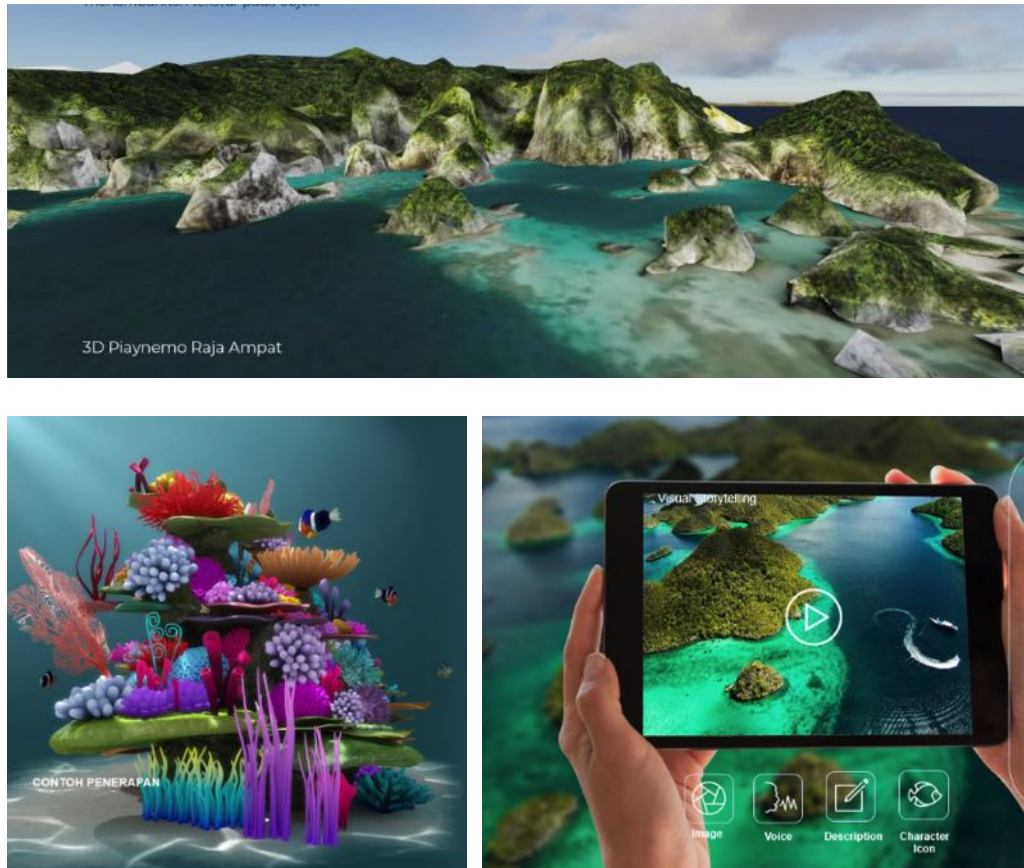


Figure 4
Augmented reality models



Chart 2
Consumer response to tourism promotion in augmented reality form

From the results of interviews conducted, 63% of respondents said they were excited and interested in the advertisement. The remaining 25% of respondents said they were interested but thought the information displayed was normal and they already knew information about Raja Ampat through other media. As many as 12% of respondents said they were not excited because they only relied on attractive visuals, but not too much information was displayed regarding access to visit there. The existing visualizations are considered to be interesting and can represent the situation in Raja Ampat, but it would be better if there was additional information to support the convenience of going there.

V. CONCLUSION

Augmented Reality is a technology that has been around as a concept for almost two decades since 1968 when it is first invented and for the last couple of years it received a great deal of publicity, especially during the pandemic through various implementations of the notion on smartphones, mainly involving image and textual annotations as well as simple marker-positioning of 3-dimensional models.

Augmented Reality has many different flavors with different requirements and goals. Any form of augmented reality standardization must be catered to the multi-dimensionality of the field and incorporate requirements, practices, suggestions, and regulations which are proportionate to the level of immersion and specific needs of each augmented reality use case.

User experience is about how a user feels or the user's perspective point of view about using a system that encompasses feelings, motivation, satisfaction, and overall attitude. Augmented reality is foremost a human-centered technology. It's a concept whose sole purpose is to enhance one's — or a group's — reality. The human-centered approach is of great deal importance for the standardization of augmented reality and as an excellent starting point to enhance the field's technological and marketing in reality.

The advancement in augmented reality technology has been a breakthrough as a new perspective in creating a digital marketing transformation to a different level. The advantages of augmented reality, especially in different fields will increase the value of user's experience by creating a unique and admiring persuasive approach between “real” and “virtual” world, in other words, augmented reality technology can narrow the distance between “time” and “space” in another dimension.

From the results of interviews through Focus Group Discussions, it was concluded that the use of augmented reality for tourism promotion purposes was very interesting. However, this should also be followed by complete information about these tourist attractions so that consumers get a complete picture of going there. Visualization of 3-dimensional objects turns out to be very instrumental in generating interest and the experience of consumer interaction so that the quality of the design must still be considered.

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