



Outdoor Advertising Future in Perspective of 3D Holographic Technology in Pakistan

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Abstract

3D holographic advertising is the future of outdoor advertising. In a time to come, billboards will be replaced by 3D holographic displays. Over the past few years, there has been a substantial increase in the demand for holographic content displays. Some of the biggest brands in the world have seen the impact of this marketing technique; they know that if they want to see an increase in sales and reach, this is the way to go. The chief purpose to conduct this study is to cultivate the terrain for the application of 3D holographic technology in the outdoor advertising industry of Pakistan. This research is tremendously significant, a noteworthy eye opener into the world of 3D technology. It take the lead to the positive outcome and may deploy new opportunities for advertising agencies in a time to come. This research establish a bridge between marketing industry and 3D holographic technology and deliver a significant research that assist and reinforce advertising firms to land in 3DHT reforming sphere of influence. This research cultivate the land of outdoor advertisement to nourish this 3DH technology. This research paper delved into the impact of 3DHT over outdoor advertising and uncovered the obstacles that are hitches in initiation holographic advertising in Pakistan. 3D holography hasn't yet grown up, in fact it is still far from growing up. But our hunch is within ten or fifteen years from now, we are going to see some real expansions in Pakistan. What compels us have this hunch are the recent developments that are awe-inspiring and the positive aptitude of Pakistan advertising agencies to adopt this revolutionizing technology as an outdoor advertising medium.

Keywords: Holographic Displays; Outdoor Advertising; Modern Trends of OOH Advertising; 3DHT in Pakistan.

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1. Introduction

According to David Ogilvy, advertising persons who pay no heed to research are as dangerous as generals who ignore decades of enemy signals. This statement of David Ogilvy is beyond a shadow of a doubt. Research and understanding of your competitors is crucial. Companies should take part in their business model for questioning that how they make money. The discovery of the market trend is required to stand out in this competitive world. We ought to dig deep! We would not discover it on page 1 of a Google search. When your head in the sand, you are not thinking. We need to conduct a research to collide with the winds of latest trends in the industry. You must know your industry, the key players, and the new entrants. Know your market and know them well [1].

We are living in a world where technology is carrying out a significant role. This revolutionizing technology have an impact on everyone's life. We must hold ourselves superior in order to keep pace with this progressive technology. Technology has influenced almost every showground. Among all the domains which are being fashioned by means of technology, education is at first and marketing/advertising at second rank.

The emergent interest and recognition for 3DHT is developing very swiftly. Contemporary three-dimensional technologies are progressively more popular and beneficial not only in computer graphics, but in other diverse fields. 3DHT has a notable influence over traditional advertising practices. Currently, this technology is expensive but utilization of this disruptive 3DHT technology for out-of-home (OOH) advertisement will be a handy tool to capture customers' attention and this modern technique will be helpful in generating more revenues.

In future, this technology will be prevailed everywhere and in order to run over twist and turns of this modern technology we must keep pace with the new revolutionizing technology in order to survive in this competitive world. As it is said by David Ogilvy "Never stop testing, and your advertising will never stop improving".

This research paper deals with the latest trend of 3DHT in outdoor advertising market. It move towards 3DHT influence, its stimulation and moreover states how this hologram advertising will assist in capturing more customers through this novel technology. The stance of this study is explanatory, as it illuminates and reconnoiter questions and issues of ripening 3D holographic technology for outdoor advertisements. Thus, the chief resolution of this explanatory research is the stimulation of 3DHT (3D Holographic Technology) on the terrain of outdoor advertising.

Specifically, this research evolve around the different dimensions of 3D holographic technology which are being used in many diverse practices to design, inform, entertain and excite. It also digs out how this mellowing 3D Holographic technology is revolutionizing this world and how it might influence marketing practices for out-of-home advertisements in the future. This research, incorporate to optimize the positive influence of 3DHT and to execute this it targets the outdoor advertising in three facets that is open-space outdoor advertising, direct outdoor advertising and display outdoor advertising.

This research paper also suggests course of action to the advertising industry in order to hold this new mounting

technology. Thus, this correlational study goal is to uncover associations between 3D Holographic technology and outdoor advertising. It seeks to deliver an accurate interpretation and understanding of 3DHT (3D Holographic Technology) utilization for outdoor/ out-of-home advertising that will lead to astounding future. Moreover, contemporary advancements in 3D holographic technology is a novel, green and exciting topic. So, this research paper on provoking 3DHT in outdoor advertising industry of Pakistan is a milestone as there is not sufficient scripted manuscripts about it

2. Literature Review

2.1. The outdoor advertising industry

The outdoor advertising evolution and success story is generously proportioned due to the medium's ubiquity for its elusive and travelling consumers. However, this success has come with a price. Using associative learning practices, these studies investigate what effect, if any, the environment in which outdoor advertising carry out, has on the attitudes, beliefs, and purchase intent of the advertised brand [2]. In today's world of fragmented media and advertising-avoidance technology, outdoor advertising plays an important role in facilitating advertisers to reach the massive audience and moving consumer. In fact, outdoor advertising was up 7% in 2007 and is growing faster than most traditional media [3].

2.2. Evolution of advertising in Pakistan

"The Islamic Republic of Pakistan, located in the focal zones of South Asia, Central Asia and the greater Middle East. Pakistan is the sixth most densely inhabited country in the world with a projected population of 199 million people" [4]. "Pakistan is the tough child of South Asia – blessed with plentiful natural and historical riches, but weighed down by political instability" [5].

The national language of Islamic republic of Pakistan is Urdu but the endorsed language is English. Approximately, ninety seven percent of Pakistanis are Muslims and the leftover with a little fraction is comprised of small groups of believers of other religions. The Values in Pakistan are poles apart from that in the United States. The majority of the population of Pakistan observe Islam as their religion. The Pakistani civilization is largely pigeon-holed, for having elevated repute and extreme affection for their long standing Islamic beliefs. By carrying this viewpoint, it's a challenge for the advertising agencies to shape the advertising content in that manner that Pakistani cultural values capture emotive influence by the advertising media in the country.

Here is a brief history of evolution of advertising in Pakistan as well its effect on society. The Advertising evolution in Pakistan can be described in six periods of time.

In 1947, the outdoor advertising industry of Pakistan was depressed and almost non-existent. A number of international advertising agencies put in place their offices in different cities of Pakistan during this period of time. These agencies sponsored business and products of their international patrons in Pakistan. The international advertising agencies subjugated the market while the local agencies lacked resources and skilled staff. However, due to governmental policies, a significant number of international advertising agencies

padlocked their business, which was beneficial to local advertising agencies. After 1950, several new advertising agencies cross the threshold and showed their existence in the advertising industry. One of the pioneer advertising agency in Pakistan was Manhattan Pakistan Limited (MPL), which time honored in 1954 in the city of Karachi. MPL has been one of the most flourishing and burgeoning advertising agency in Pakistan since it opened its doors. With time, other advertising agencies have also become well recognized, extremely successful, over and beyond acknowledged at international level.

The Associations such as Pakistan Advertising Association (PAA) and the Marketing Association of Pakistan (MAP) are envisioned to edify the principles and codes of advertising in the country [6]. Pakistan Advertisers Society (PAS) and Advertising Association of Pakistan (AAP) have deployed a joint working committee. The dominant purpose is to address the matters to develop strong client and agency bond, establish industry benchmarks and work in collaboration to raise the overall standard of advertising in Pakistan. Two other well-known advertising agencies in Pakistan are Pirana Group and International Advertising Limited, which started in 1966.

2.3. Back drop of 3DHT adoption in diverse fields

The captivations of holography can't stop people to embrace it in diverse style. In 1972, a hologram of a hand reaching out of a store window was publicize at the Cartier Fifth Avenue that led the attention of the passersby. "In 1977, by indicating the videoconference, Princess Leia appeals to Obi-Wan Kenobi via hologram in the movie 'Star Wars'" [7]. "In 1984, National Geographic turned out to be the first massive distributed publication to put a hologram on its cover" [8]. "In 2006, Designer Alexander McQueen outperforms his fall fashion show with a hologram of model Kate Moss" [9]. In 2008, during election-night coverage, CNN beamed the hologram of Jessica Yellin as she into their studio. In 2009, Dubai held a holography show and paints the deployment of 3DHT Zoo. In 2012, deceased rapper Tupac Shakur hologram show up on stage at the Coachella outdoor music festival.

2.4. Developments and growth in 3DHT

The fascination of 3D watching is not newfangled, of course. The community has incorporated this experience since the days of stereoscopes, at the turn of the last century. In our everyday lives, we are hemmed in synthetic computer graphic images either in print or on television. We frequently observe holograms on credit cards and lenticular displays on different products boxes. Now people, at home can also generate these identical images on personal computers.

The admiration for 2D projections of 3D views, conventionally acknowledged as 3D computer graphics, lacks handiness in executing examination, navigation, and conception for some variety of multivariate data. By excluding the utilization of 3D rendering, even high definition displays that retain remarkable perspective representations look unrealistic and flat. For these kinds of applications, stereopsis, motion parallax are being acknowledged as significant tools for facilitating image experience and realism.

The progress in computer graphics composed spatial 3D images more practical and affable and these 3D spatial

images are recognized as holograms produced via 3DHT (3D holographic technology). Now the computational expertise for generating 3D images is consistent and reliable. For instance, desktop computer unit turn out stereoscopic image sets quickly for interactive and collaborative display. Modern technology that formerly facilitates complex object databases to be interactively operated now incorporate enormous image data and deliver high quality 3D displays.

Recent thrill, interest, and eagerness that arose by 3D movies obsession in the middle of the last century, tailed by the captivation of holography and by the advent of virtual or augmented reality.

The peculiarities of 3D display technologies are the hardware required for watching and the related hardware and software to restore scenes with quality which is necessary to retrieve the impression of reality. Though, most of the technologies into augmented reality are solo, retiring and laden ones: viewers every so often has to wear out helmets, special 3D spectacles, or other devices that hand over 3D astounding world only to each of them exclusively. A most familiar kind of such stereoscopic displays utilize shuttered or reflexively polarized eye-glasses, in which the observer wears eye-glasses that impedes one of two displays reflections, independently for each eye.

Although, these methods have been very successful on the whole but still they don't map widespread acceptance because viewers usually do not prefer to put on equipment over their eyes. Moreover, these approaches are unfeasible and more or less incompetent for projecting a 3D display to casual passerby or to a group of coworkers, or to an entire audience when individuated projections are considered necessary.

The advanced and refined 3DHP (3D holographic projections) are highly effective, executable, efficient, consistent, user-friendly and offers economical 3D displays that deliver the observer ample and unencumbered liberty of movement. It also provides its consumers a level headed autostereoscopic 3D display that deliver a true parallax experience in both vertical plus the horizontal movement directions. But still they are many issues and technical limitation on which researchers are still working. So these margins fueled the demand of such pragmatic autostereoscopic 3D technology that can smoothly offer accommodations for many viewers independently and concurrently. This needful distinctive benefit could meet the expense of this technology if the requirement will be fulfilled in actual to offer such concurrent viewing in which each observer will be presented with a uniquely customized autostereoscopic 3D image within the identical viewing location while all viewers can enjoy their complete liberty of movement.

Due to the special consumer plead but the daunting unsolved technical challenges, this idiosyncratic need predominantly continues for practical and consistent 3D displays that deliver a realistic holographic touch. Still more extraordinary features would be a way out to this need for a holographic viewing system that facilitates multiple concurrent and solo displays to each viewer as interpreted above. This pressing need stimulated a 3D viewing device that join together feature of getting response for optimizing the viewing experience for 3D user input and enable viewing and manipulation of virtual 3D objects in 3D space without the involvement of special viewing spectacles or helmet. Austrian researchers have industrialized a laser system that directs atypical images to each eye. The refined laser system projects laser beams into different directions and as a consequence

distinctive pictures appear from different angles. Marty McFly, the leading role of the movie 'Back to the Future Part II', brought into the play the time machine, in order to travel from the year 1985 to October 21st, 2015, the firm behind the technology [10]. TriLite, says. 'In the technological dreamland of 2015 he is in for quite a few astonishments. One of them is a gargantuan display on the top of a cinema, from which a petrifying 3D shark give the impression to jump out to get him [11].

The 3DHP (holographic displays/projections) are being galvanized at product launches and product marketing events, fashion shows as well as in conducting conferences. This is the ground why the market is witnessing a growth.

2.5. The influence of 3DHT on outdoor advertisement

The 3D holographic technology (3DHT) is epidemically establishing a positive influence over outdoor advertising. The hologram advertising is getting ubiquitous like greased lightning. There are several things because of which holographic marketing is taking over the world. The first reason is 3DHT lasting impression over customers and observers. As we've all know that first impressions lasts. The very first impression in terms of marketing or advertising is that any ad in essence to be influencing, effective, positive has to stick in the mind of the consumer. With holographic advertising, the uniqueness of 3D components that interact with real entities is something that inject 'awe' within most consumers. The second reason is positive association. Observing holographic subjects delight and inject pleasure into members of the audience; it is something new, stimulating and captivating – it directives consumer attention. This positive feel establishes a deep-rooted bond between the consumer and the commodity on display. It also positively position the product in consumer mind. That's why 3DHT advertising is being acknowledged as 'eye candy'. The third reason that you can't miss 3D projection advertising. It is captivating and fabricated in such a manner that the focal point of 3D projection is hooked on your product. So this hologram advertising lift up product to a new level of 'attention grabbing' [12].

2.6. Significance of 3DHT over traditional techniques of outdoor advertisement

Out of home (OOH) advertising is the fastest growing media segment. As a new advertising medium, the hologram advertisement is challenging to traditional OOH advertisement techniques.

James (2009) pointed out that, "The way audio-visual display is striving to catch high profile credibility, we are optimistic to see more marketing or business organizations to advertise their products in this way". As instances of 3D hologram advertising, we can remark Lexus in New York City in 2005, fashion designers like Alexander McQueen and his holographic model Kate Moss classified ad in 2006 and Diesel ad in 2007 [13]. In July 2009, marketing statistics demonstrate that utilization of 3DHT in outdoor advertisement contributed considerably in increasing the number of the UK customers [14].

2.7. Adoption of 3DHT as a promotional tool

Ever-snowballing commercial competitive forces, rising consumer expectations, and shrinking opportunities for momentous product differentiation in the market has produced a lot of stress for advertising agencies. It required

a great creative idea to grab the attention of consumers and get them to buy your product. As David Ogilvy said, until and unless your advertising holds a big idea, it will go beyond like a ship in the night. I doubt that if, greater than one advertising campaign in a hundred contains a big idea (David Ogilvy).

Differentiation and positioning of products is turning out a big challenge for advertising agencies. It is progressively more decisive that answers should bring into being to these problems. Above and beyond, the ever-growing challenges to be cost effective, efficiency and performance improvements compels that answers should be found to these problems to meet such competitive market forces.

The solution of these teething troubles has been hunted but earlier developments have not imparted or suggested any solutions and this thing produced a gap between technology and advertising industry. Just the once this 3D technology perfects enough to be able to eradicate the hindrances that detains the viewer's delight, 3D holographic content will become the default medium for textual advertising and advertising in 3D will turn out to be a norm. 3DHT is getting refine progressively. Many Researchers show partiality towards 3D holographic advertising and cracked the dilemma of producing giant displays that can show images in 3D without the need for any equipment like 3D glasses [15].

Every company desperately trying to position their products at high rank in consumer perspective. 3D hologram advertisement is fetching striking success in marketing industry. The forward movement in high definition projection and computer-generated imagery has molded 3DHP (3D holographic projection) from its basic Victorian version into an ultramodern audio visual display form which is used by Endemol (Big Brother), Coca-Cola and BMW. Never ending holographic prospects applications as the constant progress in technology, has illuminated a very bright 3DHP future ahead [16].

In August 2009, Endemol, the producers of the renowned TV show Big Brother beamed holograms of housemates' friends and families into the house to deliver messages of moral support and reassurance. The messages were pre-recorded by means of high definition cameras and with certain angled lighting. A stage was fixed inside the Big Brother house task room for compiling of a HD projector, media player, lighting, and audio hardware. Each housemate went into the room at its turn and catch hold of a seat in front of the stage. On indication, the housemate's family member or friend was beamed into the stage before probing their message. Although that hologram displays were hard to guess on 2D TV screens but that event waved to a remarkable success. This thing evoked exceptional reactions from the housemates of Big Brother.

'On March 20, 2008 the US Patent & Trademark Office published that Apple is working on a next generation 3D Holographic-like display system. In that particular application, the display system would automatically validate a user, greet him and will provide access to customized desktop specifically for that user. Something along the lines, new computer car systems will correct the position of seat and steered the car for a certain driver. The Holographic displays are being constructed on a projection system and in many cases, the notion is given that these systems have divers applications like video conferencing, scientific modeling for educational purpose, 3D movies and perhaps even forensics [17].

2.8. Marketing campaigns using 3DHT

3DHT (3D Holographic Technology) has transformed the marketing industry. Holographic technology and spectral visualizations has boundless applications, as far as the human mind can conceive. In a time to come, holographic displays will take the place of all existing displays in all magnitudes from small cell phone screens to out-sized projectors. In the online magazine 'Motherboard', Becky Ferreira tip off the future of billboards in her article 'The Billboards of the Future Are 'Trixelated' 3D Holograms' [18]. Some of the leading brands in the world caught a glimpse of the influence of this 3DH marketing technique; they noticed that if they aim to see an increase in their revenues and sales, this is the approach to go.

2.9. Nike promotion using 3DHT

In 2013, Nike, Sportswear Enterprise, commenced an advertising campaign featuring 3D holographic ads through street signs in Amsterdam. The ads showcase the company's new design for athletic sneaker, called the Nike Free 5.0. According to PSFK report, it was the very first practice of this kind of 3D holographic display for outdoor advertisement on a mass scale. The group that initiated this holographic campaign pooled resources to develop the ad by utilizing a device acknowledged as a Holocube [19].

2.10. Coca-Cola publicizing using 3DHT

In January 2009 Coca-Cola arranged a sales conference presentation in Prague for more than 800 people, in which he deployed holographic advertising. Senior directors/managers of the company were light beamed onto the stage as 3D holograms/ holographed subject before delivering presentation about how the Coca-Cola brand has progressed over the years. The textual content of the presentation was also in the structure of 3D holographic projections. The prime center piece was a huge 3D hologram Coca-Cola branded spinning clock, demonstrating the progression of time. A showcase of former Coca-Cola bottles, logos, and labels in the midst of other objects were also projected as 3D holograms to construct Prague's first 3D holographic projection display.

2.11. Integrated marketing communication (IMC)

3DHT has incorporated to a greater extent in embracing integrated marketing communication (IMC) techniques and strategies by facilitating marketing/advertising agencies to publicize and address more directly with individual customers.

2.10. The future of 3DHT w.r.t outdoor advertising

In future, the holographic display market is projected to move up to \$3.57 Billion by 2020; on the rise at a CAGR (compound annual growth rate) of 30.23% from 2014 to 2020 [20].

By contemplating about holography future, we strongly believe that we are heading towards the next generation of holographic images that will be startling in their realism. With that level of quality holograms, the new ways

will be opened for exploration in a multitude. Of course, the success of such holograms is inclined even more on the level of skills of the artists who is generating the content because ultimately this content is the ingredient in this mix [21].

According to a report from Matt Brennessoltz at Display Central in which he mentioned about the decline in box office for S3D but he also admitted that Markets and Markets Analysis predict that the global 3D imaging market is estimated to escalate by \$3.01 billion in 2013 to \$9.82 billion by 2018. A door is opening into a three dimensional imaging world that is on over creative potential and waiting for inspired artists to explore it [11]. IBM surveys 3,000 researchers to optimize what they think is going to be big in the future and in a time to come, IBM will embark on 3D hologram video calls [22].

3DHT latch on to a very vibrant and luminous future. 3DH displays can be executed practically for the advertising of jewelry designs, garments, and for all other brands. This technology can also be deployed for political campaigns by employing the 3D holograms of political celebrities.

2.11. Implications of 3DHT for marketing agencies of Pakistan

Holographic content marketing provides exceptional opportunities for brands to position their products by reaching deeper within the minds of their patrons. The exotic experiences of their consumers ultimately will turn them into loyal customers. Although 3DHT is an extraordinarily expensive technology but it shouldn't put a damper on holographic advertising. As it is said, 'Stopping advertising to save money is just like stopping your watch to save your time' [23].

3. Research Design

The research design we singled out for this study was basic research. Basically, it was an explanatory study and hunted for both qualitative and quantitative data. Information gathering technique was descriptive as well as explanatory. The theory building/testing approach was explanatory and predictive. Research setting for this study was non-contrived. It was a Cross-Sectional study as we examined observations and results in a single span of time. Analysis of unit for this research study was outdoor advertising agencies of Pakistan and unit of observation was also outdoor advertising agencies of Pakistan.

For this study, scrutinized target population was all the marketing/advertising firms of Pakistan whereas the sample size for this research study was forty outdoor advertising agencies of Pakistan. By chewing over the organization's size and budget's constraints, we singled out multi-stage random probability sampling technique for selecting sample. In this methodology, all high and low rank marketing firms enjoy an equal probability of being selected for the targeted sample. In multi-stage sampling methodology different levels of units are randomly manipulated in one another.

3.1. Primary research

Quantitative primary research executed by conducting survey and data gathering completed through

questionnaire, interviews and emails to professionals and marketing firms. The chief objective is to conclude their opinions and attitudes towards the fruition of 3D holographic technology and to get aware of the sticking points and hindrances to its expansion in outdoor advertising.

Questionnaire was consisted of two parts having a cumulative of 28 items. The first section addressed 3D holographic technology and second section addressed outdoor advertising. The items were computed using 5 point Likert scale. Moreover, simple English was used to ask questions from targeted respondents.

3.2. Secondary research

There is a lack of availability of relevant research knowledge on 3DHT, either Online or in book form. On the whole, books and online searches results just lead to the material on 3DHT concrete functionalities and instructions on utilization of 3D applications to a certain extent rather than scholastic content.

A large amount of material for steering this research is being composed from websites, online PDF documents and articles and by hunting down the information back from its origins.

4. Theoretical Framework

According to Borgatti, A theoretical framework/ model is an assortment of interrelated concepts, like a theory but not essentially so well worked-out. A theoretical framework directs your research, modeling what things you will measure, and what statistical associations you will look for.

In this research study, primarily two variables were under consideration, one was 3D holographic technology and the other was outdoor advertising. In this study, we were aimed at optimizing the impact of 3D holographic technology in outdoor advertising.

Basically, 3DHT has three facets that are touchable 3DHT, electro 3DHT and laser. Electro 3DHT can be further classified into three breeds which are reflexive, transmission and computer-generated. In this research study, we are only concerned with computer-generated holographed subject.

The dimensions of outdoor advertising are open-space outdoor advertising, direct outdoor advertising and display outdoor advertising. Here are the diverse forms of open-space outdoor advertising:

- Posters and wall paintings
- Hoardings/billboards
- Electric/ electronic sign
- Sky writing
- Sandwich man
- Traveling displays
- Envelop enclosure post cards
- Booklets and catalogs

- Gift novelties
- Hand bills

In this research work, we only addressed traditional billboards/hoardings replacement from 3D holographic displays and considered only computer-generated 3D holographic technology for the deployment in outdoor advertising industry of Pakistan.

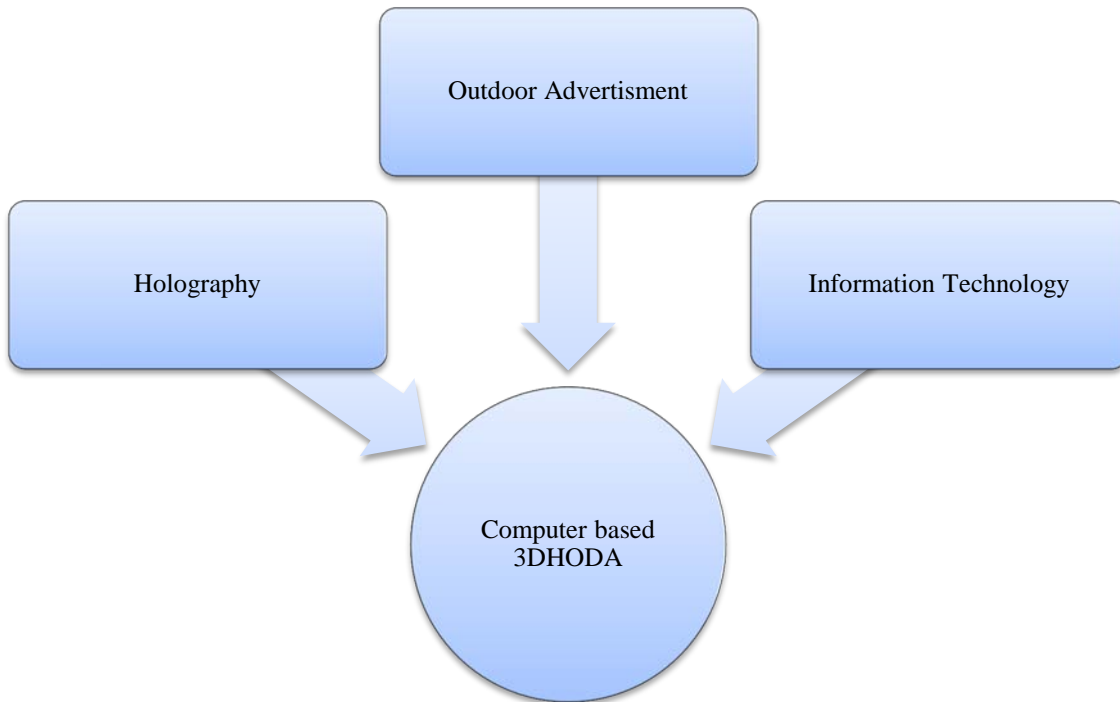


Figure 1: theoretical framework

5. Hypothesis

Here are the hypothesis for this study:

H0: There is no impact of holographic technology over OOH advertising in Pakistan.

H1: There is an impact of holographic technology over OOH advertising in Pakistan.

H0: 3D holographic technology will not yield positive influence over traditional outdoor advertisement techniques and practices.

H1: 3D holographic technology will yield positive influence over traditional outdoor advertisement techniques and practices.

H0: 3DHT implementation cannot lead to higher stimulation of outdoor/ out-of-home (OOH) advertising.

H1: 3DHT implementation can lead to higher stimulation of outdoor/ out-of-home (OOH) advertising.

H0: The utilization of 3D holographic technology cannot be costly in Pakistan.

H1: The utilization of 3D holographic technology can be costly in Pakistan.

5.1. Research questions

Here are the research questions for this study:

1. What is the influence of 3D holographic technology over outdoor advertising in Pakistan?
2. What are the obstacles to implement this technology in Pakistan?

5.2. Research objectives

- To develop basic knowledge of 3D Holographic technology in the context of outdoor advertising.
- To explore and critically analyze the factors associated with Holographic technology that hinder its use in Pakistan.
- To determine the actual and perceived impact of 3D holographic technology by taking into account survey technique.
- To recommend how 3D holographic technology can be cost effective in replacing traditional outdoor advertising techniques.

6. Discussion

This concise summation underline outdoor advertising future with respect to 3D holographic technology in Pakistan. This study strived for the advertising agencies aptitude towards adoption of this mellowing technology for outdoor advertising in Pakistan. It heightened 3D holographic advertising influence over outdoor advertising industry of Pakistan. It also stumbled on the opinion of advertising agencies regarding traditional outdoor advertising mediums in Pakistan. Moreover, this study uncovered the obstacles in deploying 3D holographic technology in the outdoor advertising industry of Pakistan.

For steering this research study, X Post Facto methodology was used. We applied Cronbach's Alpha test to optimize the reliability of questionnaire. By using the reliability scale test, the reliability of the questionnaire was 0.969. This assured that this questionnaire is reliable enough to use it at any place. It was the high reliability score. For executing descriptive analysis and graphs of all the responses, we used SPSS descriptive analysis function and Google Forms responses' graphical summary. In inferential statistics, we performed Bivariate, Correlation, and Regression test. Correlation test was executed to optimize the influence of 3D holographic technology over outdoor advertising in Pakistan.

The results showed that 95% respondents have the awareness about the 3D holographic technology. Almost 50% advertising agencies are planning to adopt holographic advertising for outdoor advertising in Pakistan. Whereas, other marketing agencies are also willing to embrace this technology.

7. Conclusion & Limitations

We observed some primary barriers in embracing 3D holographic technology for outdoor advertising in Pakistan:

1. High cost for installation of 3D holographic equipment.
2. Requirement of high speed internet connectivity.
3. Inoperability of 3D holographic displays in florescent light
4. Theft culture of Pakistan
5. Security Issues in Pakistan
6. Expensive equipment
7. Constant power supply

The 37% respondents formulated that expensive equipment is the biggest barrier whereas 22% said constant power supply requirement is the major hindrance in embracing this technology for outdoor advertising in Pakistan.

The 62.5% partakers said that currently traditional billboard/ hoarding is the most preferable open-space outdoor advertising medium in Pakistan. The 70% targeted advertising agencies agreed that in future, 3D holographic advertising will be the most preferable outdoor advertising medium by organizations. Moreover, 74% people said that 3D holographic advertising can create a notable influence over traditional ways of outdoor advertising in Pakistan.

By using IBM SPSS STATISTICS V22.0 software, we calculated correlation and regression tests. In correlation one-tailed test, the p value was 0.957. It indicates that 3D holographic technology has positive impact on outdoor advertising. By model summary, it is observed that adjusted R square is $0.913 \times 100 = 91.30\%$. Its mean that 91.30% variance in outdoor advertising in Pakistan is by the influence of 3DHT.

The results obtained from different statistical test indicated that 3D holographic technology has a vivid future in outdoor advertising industry of Pakistan. In a time to come, 3D holographic advertising will reduce to tears traditional ways of outdoor advertising in Pakistan.

In this research paper, outdoor advertising future in perspective of 3D holographic technology in Pakistan, we optimized the positive influence of 3D holographic technology over outdoor advertising in Pakistan.

The research question of this study has been answered by manipulating descriptive and inferential statistics on the data which was collected through targeted marketing agencies of Pakistan via questionnaire.

8. Recommendations

3D holographic technology is growing rapidly. The future of traditional billboards is 3D holographic displays. By keeping in view, the market trends and advertising agencies' positive and favorable aptitude towards the adoption of 3D holographic technology for outdoor advertising in Pakistan, our hunch is that this 3DHT technology will be completely deployed within 15-20 years in outdoor advertising industry of Pakistan. Many organizations are quite intended to launch holographic displays in near future. Olpers and Coca Cola beverages of Pakistan Ltd are heading progressively to initiate holographic advertising in Pakistan.

Although, this technology is really expensive in Pakistan. 3D holographic displays required constant power supply whereas electricity power resources are really short in Pakistan. The government of Pakistan is allocating power resources by using rationing methodology. In a consequence, load shedding is one of the biggest problem in Pakistan. This is the reason, majority of respondents exclaimed that power supply and expensive equipment are the biggest barriers in adoption of 3D holographic technology for outdoor advertising in Pakistan.

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