

Afak For Science Journal

<u>Issn:</u> 2507-7228 – <u>Eissn</u>: 2602-5345

https://www.asjp.cerist.dz/en/PresentationRevue/351



Volume: 06/ N°: 01(2021), p 425-439

Assessing (The impact) of advertisement on customer decision making: Evidence from an educational institution

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Abstract:

Due to the stiff competition prevailing between private universities to get students for admission, the factors influence the decision of students to select a university seeks paramount importance. Purpose: This study conducted with the freshmen students of Komar University aims at finding out such influencing factors responsible for the choice of students' to select the university. Design: Selecting the 180 newly admitted students in the fall semester of 2019, a survey questionnaire was given to these students and all of them were answered. The cost of preparing advertisement copies was calculated and their impact on the students was studied, to understand the effectiveness of such advertisements. Results: The findings of the study revealed that the advertisements made in social media and TV was very effective. Also the advertisement copy made by the University's production unit gained more attention with very low product cost, than the advertisement copy produced by third party ad agency. Conclusion: Based on the results, the university should produce more attractive advertisements using their own product unit because of its low cost and high effective results and focus their promotional activities on popular social media and television media.

Article info

Received 14 November2020 Accepted 03 Décembre 2020

Keyword's:

- ✓ Customer decision making
- ✓ Advertisement,
- ✓ Private University

1. Introduction

Advertising has a powerful impact on customer decision making process. So using the advertisement as a promotional tool can create very productive results. The scope of this study is related to advertising, and promotional activities for the products offered by Komar University of Science and Technology. The relevance of this study is point out the marketing promotion that brings expected attraction of the customers of the university. Komar University of Science and Technology is selected to investigate such attention of its customers which would be the students. Because the management of any private university would be interested in attracting the students to their institution and to do so it is very important to identify the factors that impact the decision making of the students, as customers. An institution which understands such influencing factors can put their efforts to design attractive advertising and promotional strategies so as the make students select the institution as a choice of their education.

There are varying factors that would determine the choice of students in evaluating and selecting their educational institutions as per the differential environment they belong to. But still definitely there are common factors to be noted in the choice selection of students all around the globe. Kurdistan region of Iraq, a prospering region in economics and social development has many such private institutions compete to admit students for qualified higher education after their high school studies. But researches to reveal such facts are very limited in the selected region of Iraq and our study is aimed at to fill the prevailing gap. To be very specific and have focused research, this study is confined to a leading private education institution; Komar University of Science and Technology of the Kurdistan region in Iraq.

1.1 Objectives of the study:

The main objectives of this study are to:

- 1. Assess the impact of advertising on customers decision making to select Komar University among all competitors in the region
- 2. Highlight the most effective advertising media based on the decision pattern of the customers.
- **1.2 KUST Profile:** Komar University of Science and Technology (KUST) in Sulaymaniyah was founded and licensed by the Ministry of Higher Education and Scientific Research in the Kurdistan Region of Iraq, according to the Kurdistan Region Government's official letter No. 17867/7 on October 18, 2009. KUST is a private university governed by a Board of Trustees and administered by its University Council. Its main campus is located in the city of Sulaymaniyah, in Kurdistan, Iraq. It is a private higher education organization works for profit. As a private non-governmental institution,

the university seeks to serve the community through application of the knowledge and technology to the community it is operation in.

1.2.1 Vision

Komar University of Science and Technology aspires to be one of the world-class universities by adopting the most developed educational systems in the world and preparing its students to be globally competitive. Its dreams go beyond the regional borders as it aims to prepare students who will make a global difference.

1.2.2 Mission

The mission of Komar University of Science and Technology is to contribute to the advancement of society through science and technology and to prepare its graduates to assume a leading role in this endeavor.

KUST will achieve its mission by fulfilling the following objectives:

- Create an environment to acquire and transfer knowledge and skills in science and technology;
- Create an environment which encourages critical thinking and friendly faculty-student interactions;
- Prepare students for a variety of careers in science and technology professions based on international standards and accreditation;
- Encourage cooperation between KUST, private industry, and government to improve the quality of students' academic learning and to meet the needs of the public and private sectors;
 - Provide professional consultation to the government and the private sector;
- Support technological development and its applications to improve the quality of life in the region and Iraq, and;
 - Promote the culture of professional and ethical conduct throughout society

1.3 Theoretical foundation for the study

Advertising can lead us to marketing and shows its impact on customer decision behaviour. Customers can not have enough knowledge about the business services or goods without a clear message by the advertisers or promoters. At the core of any marketing effort is, the product itself. So the product must be something that the customer finds desirable and there must be something unique about it that sets it apart from all the rest of the competition. The most effective way to achieve this is to first find the right market, and then develop the product instead of trying to fit a ready-made product into a market.

According to Haider & Shakib (2017), the major aim of advertising is to impact on buying behaviour. However, this impact about brand is changed or strengthened frequently through people's memories. A good quality advertisement is likely to influence consumers into buying that product while a poor quality advertisement will do the opposite. Suman Si (2014) state that, advertisements are sometimes spoken of as the nervous system of the business world. As our nervous system is constructed to give us all the possible sensations from objects, so the advertisement which is comparable to the nervous system must awaken in the reader as many different kinds of images as the object itself can excite. So advertisement helps the company to create the awareness in their customers and shape the perception of the customers either in the positive or in a negative way. People can perceive the quality of the products by gathering the information which they usually get through advertisements. Such perception of the quality, awareness of the product and consumer opinion drives the consumer buying decision.

According to (LePage, 2015) The company can then use targeting tools to deliver the right ads to the right users, making the customers feel that they're not just liking the brand, but the lifestyle that the brand is endorsing. This promotes a feeling of interaction and community that allows customers to feel as though they're part of a larger culture, not simply a brand's following. Digital advertising has incredible capabilities for brands, but it's more crucial than ever to be putting the customer at the center of the conversation. Customers perceive advertising according to their needs; they can evaluate an ad as creative when creative person do not see it so. From these two views, it is clear that that both practitioners and public viewers adopt a pragmatic approach. Practitioners view creativity when clients can reach their objectives; while the public consider advertising as creative only if it responds to their own needs. However, ads also do other things. One thing they do is to take a product and to put it next to lots of other things that we already feel positively about. For example, an ad for detergent may have fresh flowers, cute babies, and sunshine in it. All of these things are ones that we probably feel pretty good about already. And repeatedly showing the detergent along with other things that we feel good about can make us feel good about the detergent, too. This transfer of our feelings from one set of items to another is called affective conditioning (Markman, 2010). Big corporations spend millions of dollars each year on advertising and marketing, seeking to develop promotions that create a buyers' frenzy for products or services. In general, there is a positive effect for companies that are advertising and doing promotions. But business owners should always monitor the results to make adjustments if needed (Leonard, 2019). People are no longer tied to sources of information operating physically close to them but can access a basically infinite web of data which is being modified constantly and actively. The amount of news content accessed digitally is constantly increasing along with the popularity of mobile services in media consumption (Kimholmberg, 2013).

1.4 Literature Review:

There are various studies conducted from as early as 1980s' to understand the students' choice determinants in selecting their tertiary education after their high school studies, from time to time. All the studies bring up independent results based on their region and type of students selected for the research. The following review of literature gives the evidence for such studies conducted in various parts of the world in the recent years.

A research by Afako and Afako (2019) identified that, though the respondents were very active in social media spending more time, they heavily rely on the website of university to search for tertiary institution information.

Another study by Omboi and Mutali (2011) attempted to identify the effect of selected marketing tools on student enrolment on private universities in Kenya. So independent variables like public relations, advertising, personal selling and direct marketing were correlated with the enrolment of students. The results of the study showed that the student enrolment is influenced by Public relations' activities of the institutions. Fosu and Poku (2014) in their study in Ghana selected two universities namely Kwame Nkrumah University of Science and Technology and Christian Service University College to identify the important factors that influence the choice of students to select their university. They found that, courses offered, high caliber lecturers, well stocked library, internet, flexible lecture time table and recognition of qualification by employers were the top important factors that influence students choice of university. Bezuidenhout et al. (2013) made a study in South Africa from three different Private Higher Education Institutions (PHEIs) by surveying 600 full time students to determine the relative importance of various factors that influence students in their choice of private higher education institutions. The study revealed a fact which is very different from the results of their review of extensive literature i.e. safety and security conditions constituted the most important choice factor amongst the respondents at the three PHEIs.

The paper by Ming (2010) to explore the institutional factors that influence students' college choice decision in Malaysia has found that, the location, academic program, college reputation, educational facilities, cost, availability of financial aid, employment opportunities, advertising, higher education institutions representatives and campus visit are the factors that contribute to the choice of the students. Qasim, et al. (2020) in their study had found that, the university characteristics that influenced the students were reputation, accreditation, quality of teaching and facilities, employability and a finding consistent with existing literature. Notable the study states that, the cost of study was not seemed to have high influence on the students' choice. Even this study is suggesting to increase the tuition fees and to use the revenue in increasing the reputation and employability of the institution. Another study done by Rudhumbu et al. (2017) surveyed 300 students of Botho University in

Botswana concluded that, academic programmes offered, image and reputation of the institution, advertising, career fairs, quality of staff, employment prospects of graduates from the institution are known to have very high influence on the students decision to select the university. Chaubey, et al. (2011) in their study conducted in Uttarakhand state of India, investigated 541 students to determine the factors that influence students in their choice of institutions for higher learning and professional course of studies. The findings of the study categorize vital information regarding course of studies was the most influential factor which is followed by financial affordability considerations and the infrastructure facilities of the institution. Also sports activity was found to be the least important factor in students' choice of higher institution for learning. Đỗ, et al. in their study (2015) investigated the important factors that impact on the students' choice of Vietnamese National University-Hanoi. The study reported that the students prefer to enroll in the university because of unique factors like educating in foreign languages and the ownership of International School by the university.

Kim and Gasman (2011) stated that the students considered their social networks, especially family and peers, to be most important for deciding on apply and attend during their college choice process. Also it is reported that high school guidance counselors and external sources of information provided by various media outlets are relied upon by the students. A review research conducted by Hussin et al., (2019) to get an overview of the factors that encourage students to chose certain courses in higher education institutions in Malaysia. The findings concluded that, the future career, passion, parental influence, and peer influence are the determinant factors in selecting the institution for higher studies by the students. In Thailand (2014) a study was conducted by Agrey and Lampadan out of interest to discover the factors that influences the students' choice of selecting university. For this purpose a sample of 261 respondents from both high school senior students and newly enrolled students at the university were selected. The study identified five such factors to influence the choice of students and they are namely, support systems, learning environment and job prospects, good sporting facilities, strong student life program and finally safe and friendly environment. The growing demand for knowledge and the competition of the universities in Poland for clients made Sojkin et al. (2011) to conduct a research by using focus group discussions and a survey study among 1420 business major students. This study identified five major factors such as; family opinion and expectations, student-like type of life, family financial support, better and chances to find a job and professional advancement to underlay the decisions of the respondents. According to the research by Abeygunawardena in Srilanka (2019), the infrastructure facilities of the private higher education institutes have been found to have the highest influence on the decision choice of the students, which is also influenced by marketing strategy, university characteristics, cost, program evaluation, source of information and peer influence. The study conducted in Uganda by Marco, (2019) with the view to assess the determinant factors contribution to the students' choice in selecting a University has

concluded that, though the parental education, occupation, location have bearing on the university choice of the students, the reputation of the university is considered more important for the prospective students to select the university for their education.

Based on the analysis of the above literature it is evident that no single factor can be considered as dominant in influencing the choice decisions of the customers in selecting institutions for higher education. But it could be generalized that few factors have major impact on decisions of the respondents such as public relation, facilities and brand image of the institutions, job prospectus after studying in the institution, family opinion, student life and environment, infrastructure and sport activities, safety and security, cost of education, internet, and library.

2. Methodology of the study:

The study was conducted to identify the effect of advertising promotion on the decision-making choice of the students to select Komar University of Science and Technology, for their higher education. In the first place a deep-down review of secondary data was done by analyzing various studies and researches done on the similar topic in different parts of the world. A research based on survey was planned and a self-developed questionnaire was employed. Descriptive design was used to analyze the facts and to reveal the findings of the study.

Selected respondents were freshmen students who got registered in various courses in the fall 2019 semester with Komar University of Science and Technology. A survey questionnaire was prepared based on the understanding from review of secondary literature, with a view to collect the needed information. The collected data from 180 students of KUST was analyzed in detail and the results were taken, to fulfill the pre-set objectives. All the 180 new students were contacted and asked to participate in the survey by answering the questionnaire and they agreed to do so. The answers were then analyzed to get the results and presented using tables and pie-charts.

1. Results and findings:

The reason to conduct this study is for analyzing the effect of advertising on the decision choice of the students to select Komar University of Science and Technology for their higher education. A descriptive approach is selected to carry out the study with a survey questionnaire distributed to 180 students and the results were collected. Based on the responses given by the students to the survey questionnaire, the following results were analyzed and findings were discussed. A detail description of the findings is given below in the following:

The description of the results starts with the demographic factors analysis

Table No. 1 Demographic variable of respondents

Sl.	Demography	Frequency	Percentage
No			
1	Age		
	<18	32	17.8%
	18 - 24	142	78.9%
	25 – 30	6	3.3%
			100%
2	Gender		
	Female	108	60%
	Male	72	40%
			100%
3	Monthly income		
	<200,000 ID	83	46.1%
	200,000 -	46	25.6%
	300,000		
	300,001 -	19	10.6%
	500,000		
	500,001 -	10	5.6%
	700,000		
	>700,000	22	12.2%
			100%
4	Location		
	Sulaymaniyah	176	97.8%
	Kirkuk	1	0.6%
	Darbandikhan	1	0.6%
	Chamchamall	1	0.6%
	Halabja	1	0.6%
			100%

The results from the above table shows that majority of the students who applied to KUST belong to young generation. It can be seen that, 78.9% were in the age group between 18-24 years old and 17.8% of them were under 18 years old, also we have some students between 25-30 years old which 3.3% among 180 responds.

Also the study reveals that the majority of the students of KUST that answered consist of females i.e. is 60% among the total 180 respondents. It's understandable that female students apply more for higher studies in KUST than the male applicants in the selected period of time.

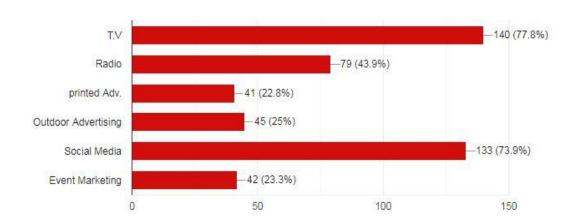
While comparing the monthly income of each of our responses, it is evident that people whose incomes are less than 200,000 ID were high in number with 46.1%. People with the income range between 200,000-300,000 ID comes in the second place with 25.6%, while people with income range of above 700,000 ID came in the third place with 12.2% and people with income range of 300,001-

500,000 ID and 500,001 – 700,000 take the fourth and fifth places respectively. So it can be inferred that the income of the majority of the respondents is less than 200,00ID

When the location and home town of the respondents were asked, the results showed that a vast majority of the respondents come from the Sulaymaniyah city where the KUST is located and very few students come from Kirkuk, Darbandikhan, Chamchamall and Halabja the nearby towns of Sulaymaniyah

Figure 3.1 Respondents exposure to the advertisement

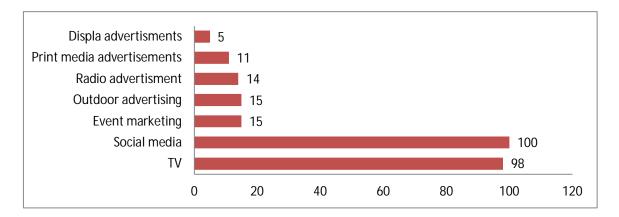
The respondents were asked about the types of advertisements that they were exposed to and get information about Komar University of Science and Technology. The answers given by them were categorized as below:



When the exposure to the advertisement was checked with the respondents most of them have reported that they have exposed to more than one advertisements of the university.140 of respondents got exposed to TV Ads which is 77.8% among 180 responses which is the highest, 133 respondents seen social media advertisements and take the second place and 79 respondents were exposed to radio advertisements of the university, outdoor advertisements of the university was exposed 45 respondents, event marketing 42, and printed Ads 41. From these results it very clear that, the majority of responses have seen TV and social media advertisement than any other type of advertisement media the university chosen to advertise for their admissions.

Figure 3.2 Effectiveness of Advertisements

Advertisements that are shown to the viewers not always get their attention and further action, so the attractiveness of the advertisements is to be considered very important so as to measure its effectiveness. With this view the respondents were inquired about the type of advertisement that attracted them and the results are give below;



Source: Survey questionnaire

As per the results shown in the above figure 100 respondents have selected social media advertisements have attracted them towards it and it is the highest 55.6%. TV advertisement got

the second place as 98 respondents selected it with 54.4% of the total responses. All the other options has lower selection like event marketing and outdoor Ads are selected by only 15 respondents which is only 8.3% of the total response, followed by radio advertisement of 14 responses i.e. 7.8%, printed Ads 11 responses with 6.1% and the display advertisements the lowest as it was chosen only by 5 respondents which is only 2.8% among the total responses. So the points that could be highlighted are; majority of respondents are using social media but still they prefer TV advertisements because they get financial backups by their parents and their parent frequently use TVs that's the reason TV advertisements recorded as high percentage.

But the efficiency and cost as well as the effectiveness of the advertisement types should be considered by the advertisers. The university hired a professional advertising agency to produce an advertisement copy to be published in all digital media. Also, the production team of KUST produced an advertisement for such a purpose and as the explanation graph shows the differences with another advertisement that was produced to social media regarding to cost, and coverage.

Comparison Between The two KUST Productions



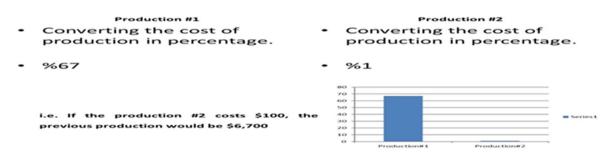
Production #1

Production #2

Facebook Data Report After Publishing

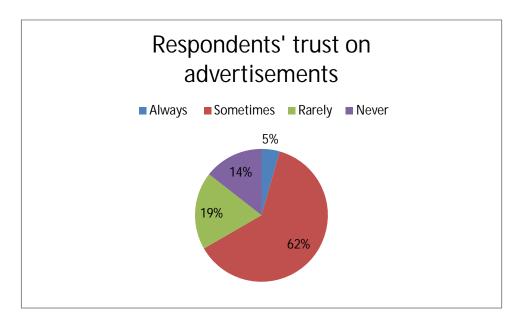


Cost of Production



From the above figures it can be interpreted that the advertisement copy made by KUST proved to gain more response in the social media than the advertisement copy created by the third party advertisement agency

Table 3.2 The trust on advertisements by the respondents



Source: Survey questionnaire

The above pie diagram shows the trust on advertisements by the respondents and only 5% responded that they trust advertisements always, around 62% informed sometimes they trust ads, 19% respondents reported they rarely trust in advertisements and around 14% reported that they never trust the advertisements at all. Hence a point to be noted here is the reach and effectiveness of the advertisement may not produce results as expected, because the trustworthiness of the advertisements was found to be very less among the respondents.

1. Discussion of findings

The study was conducted only with the freshmen students of F19 (Fall 2019) from the Komar University of Science and Technology and the results are arrived at accordingly. It is found that the university spent 67 times more to make an advertisement copy by employing professional advertising agency. Whereas a production unit in the university equipped with cameras and supportive devices proved to produce an advertisement copy 67 times lesser than the cost invested earlier. This shows that a huge savings in cost of production of digital advertisement copies can be made by using the university production unit for making ads. It is not just a direct decision to be made based on the cost of production, but also after considering the results of the advertisements.

The advertisements produced by both the third party ad agency and the university's production unit were published in the media and effectiveness was studied. The results showed that the reach of the ads made by the production unit are twice more than that of the ads produced by the employed advisement agency, also it is found that 8 to 10 times more in the people reaction to the ads that are made by the production unit of the university. If the university can make cost effective and high

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response advertisements then it is direct and transparent for the university to make its own advertisement copies than employing ad agencies.

Though the attention of the viewers could be won, the trustworthiness of the advertisements has to considered and worked upon, because only 5% of the total respondents reported that they trust the message from the advertisements. This is not a healthy figure for positive action feedback from the customers. So the ad copies should be made in a way to win the confidence of the viewers and motivate them towards expected action as feedback.

In both effectiveness and exposure regarding media of advertisements, it is found that Television and social media ads have very high scores as 100% and 98% respectively. Considering this the university can focus their promotional activities all towards these social media popularly available in the market. Television an effective media with both audio and video effects to be used as secondary and supportive media for the advertisements made in social media platforms.

Though there are no unique factors that can be identified as to have direct impact on the decision making of the students', there are few common factors that has been identified to have direct and indirect influence on the decision choices.

2. Conclusion:

Before doing any advertisement as a part of promotion, marketers should address a problem that they might have and work towards solving it, not just doing promotions; especially advertisement will have results. Since advertising has a huge impact on customer decision making process, advertising can affect the way that customer may think about the existing product versus its substitutes. Education industry is more sensitive than any other industries because of the nature of the product that it has, it's not a tangible product to be investigated easily or getting feedback as well. So marketers or advertisers should be more accurate to deal with customers in this industry. Since customer decision making process is affected by so many reasons such as advertisements, information, substitutes, offers etc the advertisers should pull the customers into their powerful zone and get the customers affected by the attractiveness, quality, and methods of their advertisement. In this study as the findings shows, advertisement had a great effect on the student decision making process with different gender, geographic, monthly income, and other related personal variations as per the results of the survey. Based on that, it is understood that advertisement is an important tool to make sure that the product information are delivered to the prospective students. The social media have played a great role in attracting and gaining attention of the respondents. So it can be concluded that the marketing and promotional activities of the institution has a direct impact on the choice of decisions the students' in selecting their education and the offering institutions.

References:

Abeygunawardena, K. V. (2019). Influential Factors in Selecting a Bachelor's Degree from Private Higher Educational Institutes in Sri Lanka: A Study based on Undergraduates of International Degree Programmes. *PEOPLE: International Journal of Social Sciences*, 4(2).pp 75-96 https://dx.doi.org/10.20319/pijss.2019.42.7596

- Afako J.K., & Afako J. K., (2019), Social media usage and its influence on students' choice of tertiary institutions in Ghana, European Journal of business and management, 11 (30) pp. 55-65
- Agrey, L & Lampadan. Z. (2014), Determinant factors contributing to student choice in selecting a university, *Journal of Education and Human Development*, 3 (2), pp. 391-404 doi:/ 10.15640/jehd
- Bezuidenhout. G., De jager. J. W. & Naidoo. V. (2013), Factors that influence students' choice of private higher education institutions. *South African Journal of Higher Education*, 25(5), pp. 1181-1196. DOI: https://doi.org/10.20853/27-5-286
- Chaubey, Dhani & Subramanian, Kalpathy & Joshi, Shivani. (2011). FACTORS INFLUENCING STUDENTS' CHOICE OF INSTITUTIONS FOR HIGHER LEARNING: AN EMPIRICAL STUDY. India Management Review. Volume 5.
- Đỗ, L. T. H., Nguyễn, H. T. N., & Nguyễn, A. T. L. (2015). Factors Influencing VNU-IS Students' Choice of University. *VNU Journal of Science: Social Sciences and Humanities*, 31(4). https://js.vnu.edu.vn/SSH/article/view/243
- Fosu, F. F., & Poku, K, (2014), Exploring the factors that influence students' choice of higher education in Ghana, European Journal of Business and Management, 6 (28), pp. 209-220
- Haider, T., &shakib, s. (2017), a study on the influences of advertisement on consumer buying behavior *Dhaka university*, 9(1).
- Hussin, N. L., Muhamad. N., & SUkor, M.K.T.A. (2019), Determinants of Students' choice of courses and university selection, *Journal of Business Innovation*. 4(2), pp.71-78
- Kim, J. K., & Gasman, M. (2011), In search of a "good college". Decisions and determinations behind Asian American students' college choice, *Journal of College Student Development*, 52(6), pp.706-728 https://doi.org/10.1353/csd.2011.0073
- Kimholmberg, T. k. (2013). *Making sense of converging media*. Finland: research foundation for the media industry. Retrieved fromhttp://kimholmberg.fi/papers/MakingSenseOfConvergingMedia_preprint.pdf

Leonard, K. (2019). *Effect of Advertising & Promotion on Consumer Behavior*. Retrieved from chron: https://smallbusiness.chron.com/effect-advertising-promotion-consumer-behavior-26196.html

LePage, A. (2015). *Customers Need To Be Part Of The Advertising Conversation*. Retrieved from marketing land: https://marketingland.com/customers-need-part-advertising-conversation-141974

Markman, A. (2010). What does advertising do? Retrieved from psychology today: https://www.psychologytoday.com/us/blog/ulterior-motives/201008/what-does-advertising-do

Ming, J. S. K. (2010). Institutional factors influencing students' college choice decision in Malaysia: A conceptual framework. *International Journal of Business and Social Science*. *1*(3)

Omboi. B. M., & Mutali, N.I. J. (2011). Effect of selected marketing communication tools on student enrolment in private universities in Kenya, European Journal of Business and Management, 3, (3), pp. 172-206_URI: http://erepo.usiu.ac.ke/11732/296

Qasim, A. M., Al-Askari. P.S. M., Massoud, H, K., & Ayoubi. R. M. (2020), Student university choice in Kurdistan-Iraq: what factors matter?. *Journal of Further and Higher Education*, pp. 1-17 https://doi.org/10.1080/0309877X.2020.1742298

Rudhumbu, N., Tirumalai, A., & Kumari, B. (2017) Factors that influence undergraduate students' choice of a university: a case of Botho University in Botswana. *International Journal of Learning and Development*, 7(2), pp.27-37 https://doi.org/10.5296/ijld.v7i2.10577

Sojkin. B., Bartkowiak, P., & Skuza. A. (2012). Determinants of higher education choices and student satisfaction: the case of Poland. *Higher education*, 63(5), pp. 565-581 https://doi.org/10.1007/s10734-011-9459-2

Suman Si, M. K. (2014). "Advertising Effectiveness on Consumer Decision Making & Decision Making: Study of Insurance Industry". *International Journal of Advancements in Research & Technology, 3*(1), 83