Factors Affecting Online Advertisement Effectiveness

Shiney Chib, Kanchan Dewal, Kanchan Artani, Chitralekha Potnis, Ajay Krishnan.

Abstract: Digitalization has conquered each and every sector with a fast phase. World has become a global village. E-commerce has become very common and easy. This paper begins with brief outlines of the growth of e-commerce. Online advertisements have become very common and companies are it to promote their company and product. This paper explores the factors affecting online advertisements effective. Data is collected through online as well as offline. Sample size of 423 was contacted for this paper. Exploratory factor analysis and demographic analysis was carried out to analyze the collected data.

Keywords : e-commerce, online advertisements, digitalization

I. INTRODUCTION

Internet offers marketers the widest spectrum of advertising tools and formats. As per Interactive Advertising Bureau (2009), 70% of total advertising revenue comes from web space advertisements. The other digital tools, like e-mail, websites, display advertising, blogs, games, podcasts, social networks, virtual worlds, widgets, wikis etc. also contributes to the growth of the company. This paper explores the factors related to web space advertisement effectiveness. For this, the researcher has collected the data from 423 respondents. Both online and off line method was used to collect the data. Initially 500 questionnaires were circulated through both the methods. Out of 500, only 423 were accepted, which means the acceptance percentage of the responses was 85%. 15% was discarded due to the incompleteness of the data. Digitalization has conquered each and every sector. In order to sustain in this highly competitive and volatile business environment, companies need to move, as the trend is. They need to embrace the change and adapt themselves according to the emerging technologies and techniques. This will help them to gain competitive edge on others. Below Graph depicts the growth of e-commerce share of total global retail sales from 2015 to 2021. It is showing a continuous growth.

Source : Available online: https://www.statista.com/statistics/534123/e-commerce-share-of-retail-sales-worldwide/

The digital advertising ecosystem has developed in parallel with the retail e-commerce market. Due to widespread use of mobile devices—particularly smartphones, has amplified the Internet usage and on-line shopping. Companies have realized the role of advertisement for branding and promoting the business. They are preferring online advertisements in place of print media. Because of this trend, companies allocate increasingly higher amounts of money spent on digital advertising in mobile advertising. In 2019, the spending is to reach the level of over USD 195 billion, and the dynamics of their growth between 2013 and 2019 is to reach 430%. It should also be noted that in the USA, for example, the mobile advertising revenue already accounted for 50.52% of the total revenue from digital advertising in 2016.

Source : online: https://www.statista.com/statistics/273717/global-internet-advertising-expenditure/
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II. OBJECTIVE OF THE STUDY

The objectives of the study are as follows:
1. To identify the factor effecting web space advertisement effectiveness.
2. To study whether demographic has an impact on online purchase.

III. PROPOSED METHODOLOGY

A: Development of Instrument:
The questionnaire included questions/variable extracted from the literature review. Total 37 questions were there and was divided into four parts as below:

| Number of demographic questions | 4 |
|---------------------------------|---|
| Number of questions related to internet usage | 3 |
| Number of questions used to explore the factors affecting effective web space advertisement | 30 |

Independent Samples Test

| Internet usage time | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|---------------------|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 0.219 | 0.64 | 5 | 0.63 | 0.127 | 0.387 | -0.889 |
| Equal variances not assumed | 4.91 | 129.05 | 0 | 0.63 | 0.129 | 0.381 | 0.895 |

| Internet daily | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|----------------|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 110.67 | 0.00 | 421 | 0.14 | 0.141 | 0.190 | 1.751 |
| Equal variances not assumed | -3.43 | 93.756 | 0.001 | -0.14 | 0.042 | -0.2285 | -0.06 |

| Purpose of internet usage | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|---------------------------|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 29.222 | 0.00 | 421 | 1.4 | 0.414 | 1.193 | 1.751 |
| Equal variances not assumed | 9.06 | 113.854 | 0 | 1.47 | 0.162 | 1.15 | 1.793 |

| Gender | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|--------|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 2.03 | 0.156 | 421 | 0.036 | -0.12 | 0.059 | -0.242 | -0.008 |
| Equal variances not assumed | -2.07 | 129.952 | 0.04 | -0.12 | 0.06 | -0.244 | -0.005 |

| Age | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|-----|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 0.424 | 0.515 | 421 | 0.966 | 0.008 | 0.191 | -0.368 | 0.385 |
| Equal variances not assumed | 0.042 | 130.292 | 0.966 | 0.008 | 0.103 | -0.374 | 0.39 |

| Education | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|-----------|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 0.838 | 0.36 | 421 | 0.56 | 0.056 | 0.097 | -0.135 | 0.248 |
| Equal variances not assumed | 0.613 | 140.75 | 0.541 | 0.056 | 0.092 | -0.126 | 0.24 |

| Occupation | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|-----------|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 3.366 | 0.067 | 421 | 0.383 | 0.163 | 0.187 | -0.205 | 0.533 |
| Equal variances not assumed | 0.914 | 140.014 | 0.362 | 0.163 | 0.179 | -0.19 | 0.518 |

| Income | F | Sig. | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|--------|---|------|----|----------------|-----------------|----------------------|-----------------------------------------|
| Equal variances assumed | 0.667 | 0.414 | 421 | 0.248 | 0.308 | 0.266 | -0.215 | 0.835 |
| Equal variances not assumed | 1.17 | 134.668 | 0.241 | 0.308 | 0.262 | -0.21 | 0.827 |

Above analysis shows that demographic factors like age, education, occupation and monthly income are not impacting online shopping. But gender, Internet usage time, purpose of internet usage, Internet usage daily, do have an influence on online shopping. In the first case, significance level is more than 0.05 and in the second case, it is less than 0.05.

IV. TO CHECK THE INFLUENCE OF DEMOGRAPHIC VARIABLE ON ONLINE SHOPPING

V. EXPLORING THE FACTORS AFFECTING WEB SPACE ADVERTISEMENT EFFECTIVENESS

Results: Factor analysis was conducted in order to identify the factors that affect affecting Webspace Advertisement Effectiveness. Factors were identified using the Eigen value criteria that suggests extracting factors with Eigen value greater than 1.0 Principal Component Analysis and Varimax Rotation were considered for obtaining a component matrix. For confirming the adequacy and sphericity of the data set, Kaiser-Meyer-Olkin(KMO) and Bartlett’s Test values were also obtained.
KMO score is 0.911. It is above the recommended value of 0.5. Further Bartlett’s Test of Sphericity exhibits significance value of less than 0.05 (.000). Thereby ensuring the appropriateness of factor analysis.

### Communalities

| Component | Initial Extraction |
|-----------|---------------------|
| VAR00001  | 1.000               |
| VAR00002  | 1.000               |
| VAR00003  | 1.000               |
| VAR00004  | 1.000               |
| VAR00005  | 1.000               |
| VAR00006  | 1.000               |
| VAR00007  | 1.000               |
| VAR00008  | 1.000               |
| VAR00009  | 1.000               |
| VAR00010  | 1.000               |
| VAR00011  | 1.000               |
| VAR00012  | 1.000               |
| VAR00013  | 1.000               |
| VAR00014  | 1.000               |
| VAR00015  | 1.000               |
| VAR00016  | 1.000               |
| VAR00017  | 1.000               |
| VAR00018  | 1.000               |
| VAR00019  | 1.000               |
| VAR00020  | 1.000               |
| VAR00021  | 1.000               |
| VAR00022  | 1.000               |
| VAR00023  | 1.000               |
| VAR00024  | 1.000               |
| VAR00025  | 1.000               |
| VAR00026  | 1.000               |
| VAR00027  | 1.000               |
| VAR00028  | 1.000               |
| VAR00029  | 1.000               |
| VAR00030  | 1.000               |
| VAR00031  | 1.000               |

Extraction Method: Principal Component Analysis.
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Extraction Method: Principal Component Analysis.
Total variance explained is 68.023% with emerged 6 factors. This means that there are 31.977% of hidden factors, which need to be further explored to study factors affecting online advertisement effectiveness.

Component Transformation Matrix

| Component | 1     | 2     | 3     | 4     | 5     | 6     |
|-----------|-------|-------|-------|-------|-------|-------|
| 1         | .675  | .360  | .106  | .367  | .385  | .348  |
| 2         | .095  | -.360 | .910  | .111  | -.078 | -.119 |
| 3         | -.609 | .605  | .358  | -.061 | .332  | .144  |
| 4         | .395  | .478  | .143  | -.588 | -.214 | -.450 |
| 5         | .080  | -.223 | .080  | -.662 | .040  | .706  |
| 6         | -.038 | .309  | .073  | .255  | -.830 | .379  |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Rotated Component Matrix*

| Component | Component |
|-----------|-----------|
| VAR001    | Online advertisements are good source of product/service information |
| VAR006    | It is a very convenient source of information about the product/service |
| VAR003    | It provide timely information about the product/service |
| VAR004    | It is a good sources of up-to-date information |
| VAR005    | Online Advt. makes product information immediately accessible |
| VAR002    | It provide relevant information about the product/service |
| VAR026    | Online advt. has become a very important part in creating awareness in consumers |
| VAR027    | Online advt. plays a major role in forming the consumer attitude |
| VAR025    | It provides valuable information, which I am looking for |
| VAR024    | Online advt. are very useful for taking purchase decisions |

* Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
| VAR009  | Online Adv. are enjoyable in nature                      | .836 |
| VAR008  | It is a very pleasing experience to watch online advertisement | .785 |
| VAR010  | Online Adv. are exciting in nature                       | .781 |
| VAR007  | Online advt. are of entertaining in nature                | .763 |
| VAR012  | Online Adv. disturbs the internet usage                   | .850 |
| VAR011  | Online Advertisements are irritates the user              | .763 |
| VAR014  | Due to Online Adv. I lost interest in surfing internet    | .751 |
| VAR013  | Online Adv. is a time waster                             | .693 |
| VAR016  | Online advt. are trustworthy                             | .655 |
| VAR030  | Online advt. encourages me for impulsive buying          | .846 |
| VAR029  | The offers /gifts in online advertisement encourages me to change my brand | .841 |
| VAR028  | The offers /gifts in online advertisement encourages me to change my product/service choice | .715 |
| VAR022  | I can extract the customized information from the online advertisements | .730 |
| VAR021  | It provides me a good communication experience            | .727 |
| VAR023  | It gives me valid information to build up my positive/negative view about the product/service | .657 |
| VAR020  | Online advt. has high degree of user involvement         | .633 |
| VAR018  | I think the information provided in Online advertisements are reliable | .809 |
| VAR019  | Online advertisement facilitates two way communication   | .753 |
| VAR017  | I don't have any issues with the credibility of online advt. | .619 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

In total 30 items were considered for study and the items were converged into 6 factors. Researcher have the autonomy to give names to the variables looking to the way the questions have been asked. Below table exhibits the same.
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| Factor No. | No. of Items | Factor Name     |
|------------|--------------|-----------------|
| FACTOR 1   | 10           | INFORMATIVE     |
| FACTOR 2   | 4            | ENTERTAINING    |
| FACTOR 3   | 5            | INCONVENIENCE   |
| FACTOR 4   | 4            | BENEFITS        |
| FACTOR 5   | 3            | INFLUENCING     |
| FACTOR 6   | 3            | CREDIBILITY     |

VI CONCLUSION:
Company’s opting for digital media, for Branding and Brand visibility need to focus on the above 6 parameters while planning their promotional campaign. Online advertisement is an effective media of advertising due to its benefits it offers. But in order to get the expected outcome companies need to plan it thoroughly.

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AUTHORS PROFILE
Dr. Shiney Chib is working as Director & Research Head with DMIMS. She has 15 years of Academic and 11 years of industrial experience. Done B.Tech, M.B.A, M.I.R.P.M, M.A (Pub.Adm.), M.C.M, L.L.B, PhD, MPhil(IT), M.A(Psy.), PGDAC, M.B.A. She has published 6 books, presented 40 papers in conferences and 36 papers in journals.

Dr. Kanchan Dewal is working as Assistant Professor with G H Raisoni School of Business Management. Done B.Com., MBA. Has 2.5 yrs of teaching experience.

Chitralekha Potnis, President, Peel College of Professional Studies, Mississauga Ontario, Canada. Done BE and PG Diploma in Digital Electronics & Microprocessors and in Industrial Management. She has more than thirty years of professional experience in industry, academics, education management and management.

Ajay Krishan is working as Systems Incharge with Vignesh Enterprises. He has done BE and is specialized in web designing.

Dr. Kanchan S Artani, is working as an Assistant Professor with G H Raisoni School of Business Management. Done B.Com., MBA. Has 2.5 yrs of teaching experience.