

Attitude Towards Digital Commercials, Advertisement Skepticism and Purchase Probability of Higher Education Students in Odisha

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Abstract: Digital advertising is a marketing strategy adopted for digital platforms. With the plethora of digital advertisements, it becomes essential to know about people's reactions to them. Higher education students use the internet enormously for different purposes and often search internet to make purchase decision. This study aims at examining attitude towards digital commercials, advertisement skepticism and purchase probability of higher education students of Odisha. A quantitative approach was taken throughout. Data were collected and analysed on SPSS with appropriate statistics. We found significant differences in the variables assessed with respect to gender, age and family income. There exists a negative correlation between attitude and skepticism as well as between skepticism and purchase probability. Gender, family income and ad.skepticism are significant predictors of purchase probability. This research provides insight into the relationships among attitude, skepticism and purchase intent. Future research may direct toward attitude towards specific ads and its consequences.

1. Introduction

In recent years, Odisha is growing both economically and academically. Odisha presents new opportunities to the business economy. The use of the Internet amongst higher education students in Odisha is extensive. Internet exposure inevitably brings exposure to digital endorsements. It is an important part of the market economy and it is high time to know its impact on higher education students in Odisha who use digital platforms to a huge extent and are the prospective consumers of products and services.

Digital advertising is a marketing strategy adopted by companies that communicate with consumers on online platforms such as companies' own websites, other marketing websites, social media platforms,

mobile apps, e-mails, etc., to promote their products, brands, and/or services. It may use images, texts, audio, or video, containing promotional materials to catch the attention and create an impact on prospective consumers. In today's high-tech world, buyers often make their purchase decisions based on online reviews, videos, star ratings, and feedback. Then they share their opinions on various social media platforms and thereby influence the purchase decision of other prospective buyers (Mohanty *et al.*, 2022).

As predicted by several researchers, companies will spend a lot more on online advertising than TV advertising in the coming years (Kim *et al.*, 2012). Proliferated use of the internet and a surge in the revenue earned from internet advertisements (ads) in recent years make digital marketing a very fast-growing industry worldwide. One of the most important advantages of digital advertising is that its impact is objectively measurable with respect to various criteria.

With this enormous growth and plethora of ads on digital platforms, it becomes essential to know about people's reactions to it and how their purchase probability is governed by their reactions. In the US, consumers showed more positive reactions to the economic effect of advertising and less favourable reactions towards the social effects of advertisements (Bauer and Greyser, 1968; Lantos, 1987). In many research, advertising is accused of social ill. According to a survey conducted by Blockthrough in March 2021, in the US, on an average, 40% of internet users use ad blockers on their devices. Q2 2020 Audience Project survey found that 47% of US internet users had a negative attitude towards ads on websites, while just 10% felt positive towards online ads (Insider Intelligence, 2022).

There is a direct relationship between attitude and behaviour of consumers (Tsang *et al.*, 2004). People in Romania, have a more positive attitude towards online advertising and also clicked more on online advertisements compared to Chinese people who are more prone to buy products online than Romanians (Wang and Sun, 2010a).

The tendency to mistrust ads is also evident in many consumers. Advertisement Skepticism may be defined as mistrust in the ad content, particularly in the information provided by the ads. Obermiller and Spangenberg (1998) defined Ad.skepticism as "a tendency to disbelief the advertising claims". Doubts on advertisement claims are found to affect purchase intention negatively (Chen and Leu, 2011; Zarouali, 2017).

Purchase intention is the subjective probability of the consumer or the intention of the consumer to purchase a product in the future (Hsu and Tsou, 2011; Saxena, 2011). Purchase probability is important as it is expected to be related to the actual purchase behaviour of the consumers. Abdul and Soundararajan (2022) supported the previous findings that purchase intention is strongly associated with the actual consumer's tendency to buy a product. There are several researches attempting to find out the predictors of purchase intention using various kinds of online platforms such as social network sites (Mir and Zaheer, 2012) and websites (Lee, 2009; Park *et al.*, 2007). Narang and Sharma (2021) empirically tested the relationship between demographic factors and purchase intention and found that purchase intention to buy organic beauty products is significantly related to personal income and educational level, in particular, higher-secondary and graduation level.

However, researches on digital advertising concentrate mostly on online purchasing only. But many people buy products offline i.e. from physical stores after seeing the ad online. We find that there

are only few foreign studies concerning ad.skepticism in consumers, in relation to purchasing intent. India severely lacks such research. The studies are also limited in number while coming to attitude towards the economic and social effects of digital advertising and its relation to ad.skepticism and purchase probability.

The rationale for considering higher education students in this study is multi-fold. Studies usually lack them as the sample, even though this group is one of the most exposed groups to digital platforms. Their academics, entertainments, hobbies, socialization, and shopping, all revolve around the Internet. Unlike children and adolescents, they are adults and therefore more empowered to make a purchase decision. Unlike old people, young students are popping up with their emerging needs and desires and are therefore more prone to shop for products of different kinds. They are highly tech-savvy and often, if not always, search online for making purchase decisions. It is expected that they will be more analytical, more mature, and more critical about advertising than children, adolescents and persons with lower educational levels and thereby they will be hard to persuade. Thus, this group needs special attention for making the promotions effective. Moreover, almost all of them have email ids, especially after the pandemic and being regular internet users, higher education students are more accessible through online.

2. Review of Literature

Aydin (2016) opined that there is a lack of academic studies in the field of digital ads in developing countries. Natarajan *et al.* (2014) pointed out that Indian consumers' perception of social media advertisements is an unexplored area of research and therefore needs further investigation. Our review suggests that attitude towards economic and social effects of digital ads. and its relation to both ad.skepticism and purchase intention is a relatively unexplored area, particularly in Odisha, India, and therefore needs research attention.

2.1. Consumers' Attitude Towards Digital Ads.

Tanyel *et al.* (2013) reported that Millennials' (first generation to use internet media) attitude towards internet advertising is more negative in comparison to traditional media. Consumers in China and US have similar attitudes towards digital advertising in spite of their cultural differences. They possess a less favourable attitude in this regard (Gao *et al.*, 2014). Natarajan *et al.* (2014) incorporated seven belief factors namely, hedonic/pleasure, product information, good for the economy, materialism, falsity, social role, and image and value corruption, to study media users' beliefs about ads. in four social media websites: Facebook, Twitter, LinkedIn, and YouTube. Except for materialism and value corruption, the remaining five belief factors differed significantly across the four websites. Researchers found the highest significant mean difference between YouTube and LinkedIn, in the belief 'falsity'. Cheng *et al.* (2015) investigated attitudes towards four types of digital advertising: e-advertising, e-mail advertising, SMS advertising, and MMS advertising among Taiwanese consumers. They extracted three attitudinal forms namely 'irritating', 'informative' and 'entertaining'. The result showed that consumers' attitudes towards e-advertising and MMS-type advertising are positive while their attitudes towards e-mail advertising and SMS-type advertising are less positive and more irritating. Aydin (2016) conducted a study to compare consumers' attitudes towards two different forms of digital ads.: social media ads.

and mobile ads. Ducoffe's (1995) Ad. Value model that well-explains attitude formation toward advertising in terms of cognitive, affective, social-integrative, and relaxation needs, is the theoretical foundation of this study. The findings conclude that consumers' attitudes toward both Facebook ads. and mobile ads. are unfavourable.

On the other hand, Ünal *et al.* (2011) in their study in Turkey, found positive attitudes towards digital advertisements among consumers. Barutçu (2007) also provided similar results.

2.2. Ad. Skepticism

Calfee and Ringold (1994) opined that 70% of general consumers in the US were ad.skeptics. The majority of consumers believe that advertising aims at making consumers buy products that they do not want actually. Busch *et al.* (1994) showed skepticism towards TV ads increases in adolescents but decreases in elder adults with their age. Obermiller *et al.* (2005) reported that the more a consumer is skeptical of ads, the less he likes the ads, the less he relies on the ad. information and the less he pays attention to ads. Tutaj and Reijmersdal (2012) in their experiment with banner ads and sponsored content found that ad.skepticism is higher for banner ads and has a strong relation with perceived ad. value. Amyx and Lumpkin (2016) conducted an experiment and concluded that those who were highly skeptical of advertising had more positive attitudes towards the ads when a puffed or exaggerated ad was shown to them. On the other hand, low ad.skeptics had greater purchase intention when a non-exaggerated ad was shown to them. According to Garg (2019), Ad. skepticism is comprised of different factors such as a negative attitude towards corporate social responsibility, fairness of the retailer, flexibility towards negative information that does not let the consumer get affected by negative information about the company, and oral propaganda. Demographic variables, particularly gender and age are the influencing factors. Yang *et al.* (2021) investigated in China that ad.skepticism had a negative impact on perceived ad effectiveness.

2.3. Attitude and Purchase Intention

Consumers' attitudes towards advertisements and their purchase intention are positively correlated. Those who have positive attitudes towards an advertisement have a stronger intention to purchase the product. (Haley and Baldinger, 2000; Mackenzie and Lutz, 1989). Hispanic Americans' attitudes towards digital advertising and their buying intentions using online platforms are significantly related to their ethnic identification (Becerra and Korgaonkar, 2010). Wang and Sun (2010b) in their cross-cultural study in China, Romania and US, concluded that Romanians showed a more positive attitude towards online advertising while Americans purchased products online most. But, according to Sallam and Algammash (2016), attitude towards advertisements is positively related to an individual's purchase intention. Whereas, Sharma *et al.* (2022) found that ad.values have a stronger impact on buying intention than the attitude towards advertising. Irritation generated through the flooding of digital advertising is a strong negative mediator which reduces the ad's effectiveness.

2.4. Skepticism and Purchase Intention

The initial trust in online advertising and participants' acquaintances with online purchasing positively affected their purchase intentions (Chen and Barnes, 2007). Consumers who are skeptical of online

advertising, have a higher intention to purchase products online than from a physical store. When they view sales promotions, they disseminate it and perceive it as advertising which may lead to greater purchase intention using an online platform (Majid and Laroche, 2019). On the contrary, Patel *et al.* (2017) concluded that skepticism is not relevant to the attitude and purchase intention of participants in Gujarat.

The review of related literature reveals that attitude towards advertising is studied by several researchers from different perspectives and US is the hub of such studies. However, most of these studies tried to find out the differences in attitudes towards online advertisements across different online platforms.

From the above review, it seems that there is a scarcity of research, specifically in India, more particularly in Odisha, related to attitude towards the economic and social effects of advertisements and how it is related to ad.skepticism and purchase intention of higher education students. Hence, the present study aims at investigating the attitudes towards economic and social effects of digital advertising, ad.skepticism and purchase probability of higher education students in Odisha.

3. Objectives and Hypotheses of the Study

As we choose to see the impact of digital advertising on higher education students, our sample is relatively homogeneous in nature in terms of their education and therefore we do not expect them to differ in attitude, ad.skepticism, and purchase probability with respect to their educational level.

The main objectives are:

1. To find out gender differences in attitude towards digital advertising, ad. skepticism and purchase probability.
2. To investigate the differences in attitude towards digital advertisements, ad. skepticism and purchase probability with respect to age.
3. To explore the differences in attitude towards digital ads, ad.skepticism and purchase probability with respect to family income.
4. To assess the relationships among attitude towards digital advertising, ad. skepticism and purchase probability.
5. To assess the relationships among attitude towards digital advertising, ad. skepticism and purchase probability with respect to socio-demographic variables.
6. To find out the predictors related to attitude, ad.skepticism and purchase probability.

On the basis of the objectives, the following hypotheses were formulated.

H₁: There will be a significant gender difference in:

- a. attitude towards digital advertising.
- b. ad. skepticism
- c. purchase probability

H₂: Age groups will differ in:

- a. attitude towards digital advertising
- b. ad. skepticism.
- c. purchase probability

H₃: Income groups will significantly differ in:

- a. attitude towards digital advertising
- b. ad. skepticism
- c. purchase Probability

H₄: There exists a positive correlation between attitude towards digital advertisements and purchase probability.

H₅: There exists a negative correlation between:

- a. attitude towards digital advertising and ad. Skepticism.
- b. ad. skepticism and purchase probability

H₆: The predictors of purchase probability will be

- a. gender
- b. age
- c. family income
- d. attitude towards digital ads.
- e. ad. skepticism

4. Research Methodology

4.1. Sample and Sampling

The study took a quantitative approach. Primary data were collected from 144 higher education students in Odisha through snowball sampling using google forms in October 2022. A sample size of 144 is sufficient enough as Roscoe (1975) said that sample size ranging from 30 to 200 is acceptable and our sample size is at the higher end of the range. 5 variables namely attitude towards economic effects of digital advertising, attitude towards social effects of digital advertising, overall attitude towards digital advertising, ad.skepticism and purchase probability were assessed.

4.2. Tools and Procedure

After getting consent from each participant, socio-demographic information was obtained on the researchers' prepared form. The 8-item, Likert-type questionnaire developed and used by Ferle & Lee (2018) was used here to measure overall attitudes towards advertising and attitudes towards the economic and social effects of advertising in particular. They developed this questionnaire on the basis of previous questionnaires which were originally developed by Bauer and Greyser (1968) and advanced by Polley and Mittal (1993). Items were coded in such a way that higher score indicates more positive attitudes. SKEP scale, a 9-item Likert-type scale, ranging from strongly agree(5) to strongly disagree(1), developed by Obermiller & Spangenberg (1998) was used to measure skepticism toward advertisements. The higher the score, the greater the skepticism. Consumers' purchase probability was measured by using an 11-point purchase probability scale ranging from 0 to 10, developed by Juster (1966). In the present study, these questionnaires were specifically used with reference to digital advertisements.

5. Data analysis, Results, and Discussion

5.1. Demographic Description

The sample size is 144 with a mean age of 21.85 yrs. (SD=2.72). Majority of the respondents are female (60.4%). There are 50% students in each of the two age groups. Majority belongs to higher educational level (PG and above, 56.2%) and lower income slab (41.6%). (Table 1).

Table 1: Demographics of the Sample (N = 144, Mean age = 21.85, SD = 2.72)

<i>Demographic variables</i>	<i>categories</i>	<i>N</i>	<i>%</i>
Gender	male	57	39.6
	female	87	60.4
Age (in years)	18-21	72	50.0
	>21-29	72	50.0
Educational level	UG	63	43.8
	PG and above	81	56.2
Family Income	1000-15000	60	41.6
	>15000-30000	42	29.2
	>30000	42	29.2

Source: Authors' Own Compilation

5.2. Prevalence

Most of the students (95.84%) in higher education have a positive attitude towards the economic effect of digital advertising, followed by a positive attitude towards social effect of digital advertising (83.34%). However, it lowers to 58.3% when coming to overall attitude towards digital ads. 29.17% are highly skeptical of digital ads. But, interestingly enough, 50% of students are less probable to purchase a product after seeing a digital ad. and only 39.5 % show higher purchase probability. (Table 2)

Table 2: Prevalence of Attitude towards Economic and Social Effect, Overall Attitude, Ad. Skepticism and Purchase Probability

<i>Variables</i>	<i>Attitude toward economic effect</i>		<i>Attitude toward Social effect</i>		<i>Overall attitude</i>		<i>Ad. Skepticism</i>		<i>Purchase Probability</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Prevalence										
Positive/higher	138	95.84	120	83.34	84	58.34	42	29.17	57	39.58
Negative/lower	3	2.08	12	8.33	48	33.33	93	64.58	72	50.00
Neutral	3	2.08	12	8.33	12	8.33	9	6.25	15	10.42

Source: Authors' Own Compilation

5.3. Group Differences

To test H_1 and H_2 we computed t-statistic and to test H_3 we computed One-way ANOVA. We found no gender difference in attitude and ad.skepticism. In line with the previous findings, and also in line with the common beliefs that females shop more, we have also found that female students have a significantly higher purchase probability than males (Table 3b). It is revealed that older students have a significantly more positive attitude towards economic effect of digital advertising than younger students (Table 3a) and they are also more skeptical of digital ads than the younger ones (Table 3b). This is because, with maturity, they tend to understand that digital advertising is an essential part of the nation's economy to flourish now but they also know that this does not guarantee the credibility of information provided by the digital ads. Personal dispositions of consumers across genders may be important factors here and must be given weightage in future studies.

Table 3a: Independent Samples t-test for Comparison of Means of Attitude towards Economic and Social Effect of Digital ads. w.r.t Socio-demographic Variables

<i>Socio-demographic variable</i>	<i>Attitude towards Economic Effect M(SD)</i>	<i>Test Statistic (p-value)</i>	<i>Attitude towards Social Effect M(SD)</i>	<i>Test Statistic (p-value)</i>	<i>Overall Attitude M(SD)</i>	<i>Test Statistic (p-value)</i>
Gender						
Male	13.26(1.49)	-0.85	11.21(2.79)	-0.72	24.47(3.28)	-1.06
Female	13.52(1.92)	(0.20)	11.59(3.21)	(0.23)	25.10(3.81)	(0.15)
Age						
18-21 years	13.08(1.88)	2.31**	11.75(2.90)	-1.23	24.83(3.47)	0.07
>21 years	13.75(1.57)	(0.01)	11.13(3.17)	(0.11)	24.88(3.77)	(0.47)
Educational level						
Undergraduate	13.38(1.80)	0.21	11.57(2.74)	-0.46	24.95(3.07)	-0.29
Postgraduate	13.44(1.74)	(0.41)	11.33(3.27)	(0.32)	24.78(4.00)	(0.38)

*Difference in means is significant at the 0.05 level (1-tailed).

**Difference in means is significant at the 0.01 level (1-tailed).

Source: Authors' Own Compilation

From the one-way analysis of variance, it is evident that there is a significant difference in attitude towards the social effect of digital advertising, overall attitude and purchase intention with respect to family income (Table 3c). The highest income slab showed most positive attitude toward the social effect of digital advertising. They believe that digital advertising is essential and it promotes economic growth and does not cause much harm to society. Interestingly enough, the middle-income group is the most critical of digital advertising and believes that it causes social ill. Middle-class values associated with it may be the determining factor in this case.

Table 3b: Independent Samples t-test for Comparison of Means of Ad. Skepticism and Purchase Probability w.r.t Socio-demographic Variables

<i>Socio-demographic variable</i>	<i>Ad. Skepticism M(SD)</i>	<i>Test Statistic (p value)</i>	<i>Purchase Probability M(SD)</i>	<i>Test Statistic (p value)</i>
Gender				
Male	24.63(4.17)	0.32	3.32(2.27)	-4.75**
Female	24.38(4.94)	(0.37)	5.28(2.52)	(<0.01)
Age				
18-21 years	23.75(4.74)	1.90*	4.58(2.98)	-0.38
>21 years	25.21(4.44)	(0.03)	4.42(2.17)	(0.35)
Educational level				
Undergraduate	25.10(4.54)	-1.41	4.44(2.23)	-0.28
Postgraduate	24.00(4.68)	(0.08)	4.57(3.02)	(0.39)

*Difference in means is significant at the 0.05 level (1-tailed).

** Difference in means is significant at the 0.01 level (1-tailed).

Source: Authors' Own Compilation

Table 3c: One-way ANOVA for Comparison of Means of Attitude, Ad. Skepticism and Purchase Probability w.r.t Family Income

<i>Socio-demographic variable (Income Level)</i>	<i>Dependent Variable</i>	<i>Mean (SD)</i>	<i>One-way ANOVA measure</i>				
			<i>Source of variation</i>	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F Statistic (p value)</i>
≤ Rs. 15000/-	Attitude towards Economic Effect	13.35	Between	5.707	2	2.854	.920(0.40)
		(2.10)	groups				
		13.21	Within	437.293	141	3.101	
>Rs.15000/- and ≤ Rs.30000/-		(1.72)	groups				
>Rs.30000/-		13.71	Total	443.000	143		
		(1.17)					
≤ Rs.15000/-	Attitude towards Social Effect	11.45	Between	84.016	2	42.008	4.771** (0.01)
		(3.43)	groups				
		10.43	Within	1241.421	141	8.804	
>Rs. 15000/- and ≤ Rs. 30000/-		(2.50)	groups				
>Rs. 30000/-		12.43	Total	1325.437	143		
		(2.67)					
≤ Rs. 15000/-	Overall Attitude	24.80	Between	131.552	2	65.776	5.347** (0.006)
		(4.04)	groups				
		23.64	Within	1734.386	141	12.301	
>Rs. 15000/- and ≤ Rs. 30000/-		(2.95)	groups				

table contd.

Socio-demographic variable (Income Level)	Dependent Variable	Mean (SD)	One-way ANOVA measure				
			Source of variation	Sum of Squares	Df	Mean Square	F Statistic (p value)
>Rs. 30000/-		26.14 (3.17)	Total	1865.938	143		
≤ Rs. 15000/-	Ad. Skepticism	23.55 (3.94)	Between groups	109.802	2	54.901	2.613 (0.08)
>Rs. 15000/- and ≤ Rs. 30000/-		25.64 (5.62)	Within groups	2962.136	141	21.008	
>Rs. 30000/-		24.64 (4.29)	Total	3071.937	143		
≤ Rs. 15000/-	Purchase Probability	4.65 (2.80)	Between groups	58.993	2	29.496	4.585* (0.01)
>Rs. 15000/- and ≤ Rs. 30000/-		5.21 (2.10)	Within groups	907.007	141	6.433	
>Rs. 30000/-		3.57(2.53)	Total	966.000	143		

*. Difference in mean is significant at the 0.05 level (2-tailed).

**. Difference in mean is significant at the 0.01 level (2-tailed).

Source: Authors' Own Compilation

5.4. Relationships among Variables

To test H_4 and H_5 we computed Pearson's r for continuous variables and Spearman's ρ for categorical variables respectively. To test the sixth hypothesis, ordinal regression is performed. Attitude towards the social effect of advertising and overall attitude towards digital ads.both are found to be negatively correlated with ad.skepticism (Table 4a). The more one has disbelief in the ad, the less positive attitude he is having toward the ad. Purchase probability is also negatively correlated with ad.skepticism (Table 4a) which implies that the more one disbelieves the ad information, the lesser he is likely to purchase the products shown in the ad. This is a clear-cut new finding as previous studies showed that initial

Table 4a: Correlation among Attitude towards Economic Effect, Social Effect, Overall Attitude, Ad.Skepticism, and Purchase Probability

	Economic Effect	Social Effect	Overall Attitude	Ad. Skepticism
Ad. Skepticism	-0.05	-0.25**	-0.24**	
Purchase Probability	-0.07	0.01	-0.03	-0.23*

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' Own Compilation

trust in online advertising positively affected purchase intention (Chen & Barnes, 2007) but not showed how initial mistrust affected purchase probability. Our study strongly opposes the findings of the Gujarat Study (Patel *et al.*, 2017) in which the investigators found that ad.skepticism was not relevant to attitude and purchase intention.

Gender is found to be significantly correlated with purchase probability. It indicates that females have a higher purchase intention. Income level is negatively correlated with purchase probability (Table 4b). This may be due to the fact that students with lower family income wish more of purchasing products that they do not have; probably they have a greater tendency to spend and a lesser tendency to save money. Unlike this, the students of higher income groups may already possess most of the commodities and have a greater propensity towards savings. However, this part of the study needs further detailed investigation.

Table 4b: Correlation of Gender, Age, Educational Level & Family Income with 5 Measures

	<i>Economic Effect</i>	<i>Social Effect</i>	<i>Overall Attitude</i>	<i>Ad. Skepticism</i>	<i>Purchase Probability</i>
Gender	-0.07	-0.06	-0.09	0.03	-0.37**
Age	0.03	0.06	0.06	0.01	-0.02
Educational Level	0.04	-0.05	-0.05	-0.11	0.02
Income	0.07	0.01	0.05	0.10	-0.26**

* Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' Own Compilation

The results of ordinal logistic regression are shown in Table 5. The goodness of fit for all models except model 1 produced satisfactory results. The pseudo R square value for almost all the models (except model 1) is always > 0.10 and therefore acceptable. Model 1 of Ordinal regression reveals that none of the variables taken into account can predict the attitude towards the economic effect of digital ads. Model 2 shows that educational level and ad.skepticism are significant predictors of attitude toward social effects of advertising. This is probably because the more one is educated the more aware he becomes of the negative social effects of ads. and therefore, the less he is positive towards it. Model 3 describes that educational level, family income, and ad. skepticism are the predictors of overall attitude. Higher educational levels and higher ad. skepticism lead to a less positive attitude. When family income shifts from a lower level to a higher level then overall attitude turns to be more positive. Model 4 reflects a positive attitude towards the social effects of digital ads leads to low ad. skepticism. Model 5 shows that gender, family income, and ad.skepticism are the significant predictors of purchase probability with females, lower income groups, and less ad.skeptics having more purchase probability.

Table 5: Ordinal Logistic Regression Model of Attitude toward Economic Effect, Attitude toward Social Effect, Overall Attitude Score, Attitude toward Skepticism, & Purchase Probability

	<i>Logistic coefficient</i>	<i>Std. Error</i>	<i>Wald Chi-square statistic</i>	<i>p-value</i>	<i>95% CI</i>
Model 1: Explanatory variables of attitude toward economic effects					
(Model fit: Chi-square=6.43 (p value=0.27); Goodness of fit: Pearson Chi-square: 1024.56 (p value=0.01), Deviance Chi-square: 461.86 (p value=0.01); Test for parallel lines: Chi-square=220.27 (p value=0.01); Pseudo R-Square: Cox and Snell: 0.04, Nagelkerke: 0.04.					
Age	-0.039	0.077	0.260	0.610	-0.19-0.11
Gender	-0.537	0.322	2.778	0.096	-1.17-0.10
Educational level	0.291	0.418	0.482	0.487	-0.53-1.11
Family Income	-0.028	0.195	0.020	0.887	-0.41-.35
Ad. Skepticism	-0.052	0.034	2.425	0.119	-0.12-0.01
Model 2: Explanatory variables of attitude toward social effects					
(Model fit: Chi-square=16.104 (p value=0.007); Goodness of fit: Pearson Chi-square: 1777.710 (p value <0.001), Deviance Chi-square: 669.778 (p value=0.015); Test for parallel lines: Chi-square=316.634 (p value <0.001); Pseudo R-Square: Cox and Snell: 0.11, Nagelkerke:0.11.					
Age	0.122	0.076	2.621	0.105	-.026-0.27
Gender	-0.128	0.311	0.170	0.680	-0.074-0.48
Educational level	-0.864	0.408	4.485	0.034*	-1.66-0.06
Family Income	0.267	0.190	1.980	0.159	-0.10-0.64
Ad. Skepticism	-0.103	0.033	9.749	0.002**	-0.02—0.04
Model 3: Explanatory variables of overall attitude					
(Model fit: Chi-square=16.258 (p value=0.006); Goodness of fit: Pearson Chi-square: 2017.465 (p value <0.001), Deviance Chi-square: 712.139 (p value=0.023); Test for parallel lines: Chi-square=374.487(p value <0.001); Pseudo R-Square: Cox and Snell: 0.11, Nagelkerke:0.11.					
Age	0.089	0.075	1.420	0.233	-0.06-0.24
Gender	0-.097	0.310	0.098	0.755	-0.70-05
Educational level	-0.832	0.406	4.196	0.041*	-1.63—0.40
Family Income	0.388	0.190	4.155	0.042*	0.01-0.76
Ad. Skepticism	-0.104	0.033	9.920	0.0002**	-0.17-0.04
Model 4: Explanatory variables of ad. skepticism					
(Model fit: Chi-square=16.767 (p value=0.01); Goodness of fit: Pearson Chi-square: 2508.455 (p value <0.001), Deviance Chi-square: 781.070 (p value=0.93); Test for parallel lines: Chi-square=781.070 (p value <0.001); Pseudo R-Square: Cox and Snell: 0.11, Nagelkerke: 0.11.					
Age	0.093	0.075	1.554	0.213	-0.05-0.24
Gender	0.275	0.310	0.786	0.375	-0.33-0.88
Educational level	-0.785	0.402	3.808	0.051	-1.57-0.00

contd. table

Family Income	0.313	0.189	2.743	0.098	-0.006-0.68
Attitude toward Economic Effect	0.032	0.083	0.152	0.697	-0.13-0.20
Attitude toward Social Effect	-0.153	0.050	9.499	0.002**	-0.25-0.06

Model 5: Explanatory variables of purchase probability

(Model fit: Chi-square=43.247 (p value <0.001); Goodness of fit: Pearson Chi-square: 1042.452 (p value <0.001), Deviance Chi-square: 561.873 (p value <0.001); Test for parallel lines: Chi-square=248.229 (p value <0.001); Pseudo R-Square: Cox and Snell: 0.26, Nagelkerke:0.26.

Age	.128	0.077	2.784	.095	-.022-0.28
Gender	-1.661	0.337	24.306	<.001**	-2.32—1.00
Educational level	-0.439	0.411	1.145	0.285	-1.24-0.37
Family Income	-0.631	0.197	10.217	0.001**	-1.02-0.25
Ad. skepticism	-0.105	0.035	9.128	0.003*	-.017—0.04
Attitude toward Economic Effect	-0.140	0.086	2.670	0.102	-0.31-0.03
Attitude toward Social Effect	-0.075	0.051	2.138	0.144	-.018-0.03

*Predictor is significant at the 0.05 level

** Predictor is significant at the 0.01 level

From the above results we conclude the following:

<i>Hypotheses</i>	<i>Statements</i>	<i>Results</i>
H _{1a}	There is a gender difference in attitude towards digital ads.	Rejected
H _{1b}	There is a gender difference in ad.skepticism.	Rejected
H _{1c}	There is a gender difference in purchase probability.	Accepted
H _{2a}	There is age difference in attitude towards digital ads.	Partially Accepted
H _{2b}	There is age difference in ad.skepticism.	Accepted
H _{2c}	There is age difference in purchase probability.	Rejected
H _{3a}	Income groups will differ in attitudes towards digital ads.	Partially accepted
H _{3b}	Income groups will differ in ad.skepticism.	Rejected
H _{3c}	Income groups will differ in purchase probability	Accepted
H ₄	There exists a positive correlation between attitude and purchase probability.	Rejected
H _{5a}	There exists a negative correlation between attitude and ad.skepticism.	Accepted
H _{5b}	There exists a negative correlation between ad.skepticism and purchase probability.	Accepted
H _{6a}	The predictor of purchase probability is gender.	Accepted
H _{6c}	Family income will predict purchase probability.	Accepted
H _{6e}	Ad skepticism will predict purchase probability.	Accepted

Source: Authors' Own Compilation

6. Conclusions

In this cross-sectional study of higher education students in Odisha, it is observed that the majority of the students have a positive attitude towards the economic effects of digital ads, followed by the social effects of digital ads. Their overall attitude is positive towards digital commercials. The higher age group holds a more positive attitude towards economic effects and are more ad.skeptics. Females intend to shop more than males. Gender, family income, and ad.skepticism are significant predictors of purchase probability.

7. Limitations

The online data collection procedure and snowball sampling technique used in the study are its limitations. Students having email ids and internet access were only included in the present research. Thus, generalisations of these findings must be made cautiously.

8. Implications and Future Directions

This study provides useful information to Industries and business organizations concerning marketing policies and creating digital ads. to promote their products to a particular target group: higher education students. As females tend to shop more marketers may promote products particularly related to women. They may also improve or change the content of ads and marketing strategies to attract and convince educated male consumers.

Future research may consider assessing the personal dispositions of the consumers in this regard. The research may be directed towards assessing attitude towards specific digital ads and the consequences of it.

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