



Technology Acceptance Theory and Its Modeling of Advertising: Traditional Advertising or Mobile Advertising

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Authors' contributions

This work was carried out in collaboration between both authors. Author RP designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author ABA managed the analyses of the study and managed the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

Consumers select and enjoy media content in accordance to their state of psychological needs. They are exposed to a variety of content in which advertisements constitute a sizeable mix. While audience's interest is situated in the main elements of program content, they come across interesting advertisements serendipitously. It is not so much the content but the technologies the devices carry that stimulate audience's interest in advertising. Consumers' preference toward advertising has been shifting from one media platform to another in search of the optimal opportunities presented by their devices. Such possibilities become attractive from a combination of convenience, functionality, and accessibility to consumers. The convergence of technologies has now placed sophisticated multimedia devices in to the palms of consumers with numerous social media apps. At the same time advertisers have gone niche to serve the unique preferences of audience. The study focus is on the growing shift in consumers' usage of technology in accessing content using mobile devices. The study attempts to offer a theoretical proposition that the

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acceptance of technology by consumers is driving advertising through mobile devices. An online survey of 180 young respondents was conducted to understand mobile users' preferences for mobile advertising. Findings show that mobile users have yet to embrace mobile advertisement. Sixty four percent of the respondents did not view the mobile advertisements that appear on their mobile phone. They were more responsive to traditional media compare to mobile advertisement. However, the study also shows that there is a growing preference for technology driven mobile advertisements.

Keywords: Consumers' attitudes; users' behavior; mobile advertising; technology acceptance.

1. INTRODUCTION

The trend in media advertising is consumers are increasingly accessing media products through mobile devices. Mobile devices with active Internet connection are widely used to access information and communication [1]. GCF Learnfree.org reports that mobile devices are getting as powerful as personal computers [2]. In year 2014, the GSMA's real-time tracker spotted that there are officially more mobile devices than people in the world [3], which was a total of 7.22 billion mobile devices versus 7.2 billion of people. One person may own a couple of gadgets such as smart phones, tablets, PDA and etc. "Technology is in everyone's pocket", said [4]. Knowledge of enhanced mobile technology adds value to consumers' surfing experience. According to Google, mobile advertising allow advertisers to reach out to their customers on the go, at their optimized sites [5]. This has resulted in an increase in the number of advertisements appearing on mobile devices. Following this, advertisers are moving their advertising through mobile advertising. Is mobile advertising the platform of the future? What is the attitude of the consumers towards mobile advertising?

1.1 Research Problem

The convergence of technologies has transformed contemporary society into being Internet reliant, accessing information on the go. Additionally, mobile devices and their evolving applications are further causing a shift in the consumers' behaviour and attitude in the way media products are consumed. Media consumption trends shifting from traditional media to mobile devices to access media content has posed strategic concerns for advertisers. The paper focuses on the change in consumer behaviour in accessing content through technology enhanced mobile devices, making mobile advertising an important platform for advertising. However, more needs to be understood about trends in consumers'

preferences when media advertisements are technology driven.

1.2 Research Questions

The study enquires four research questions. The first being, "what is the trend in consumers' preference for mobile advertising compared to traditional advertising?" Next, "how mobile devices are significant as a platform for advertisement?" This question is being asked in light of the youthful users of devices on the go. The third question being asked is "how mobile advertising is generating interest among consumers and advertisers?" And the last question is "how does the acceptance of technology stimulate mobile advertising?"

2. LITERATURE REVIEW

It is vital for retailers and marketers to be aware of the factors that affect consumer attitudes and motives as consumers are increasingly creating content about brands, something previously controlled solely by companies [6]. As such the current research examines how social media advertising sites and their driving technology affect consumer attitudes and motives.

Chu, Shu-Chuan [7] examined the link between Facebook brand related group participation, advertising responses, and the psychological factors of self-disclosure and attitudes among members and non-members of Facebook groups. The study determined that users who are members of groups on Facebook are more likely to disclose their personal data than non-members. [7] explains group participation and engagement with online ads require a higher level of personal information because users openly reveal their connections with Facebook groups and promote brands or products when they pass on ads to their friends. "Facebook groups provide channels that consumers deem useful when seeking self-status in a product category, as does passing on viral content about

brands to their social contacts” [7]. [7] also found that users who are Facebook group members maintain a more favourable attitude toward social media and advertising. Users who have more positive attitudes toward advertising are more likely to join a brand or a retailer’s Facebook group to receive promotional messages. Based on this result, [7] suggests that a link exists between consumers’ use of and engagement in group applications on a social media sites. The relationship between consumers’ use of and engagement with group applications influences the rate and effectiveness of advertising on social media, particularly Facebook. Generally, as [7] notes, Facebook’s college-aged users have the most favourable attitudes toward social media advertising and are the largest growing demographic, which suggests that social media sites are a potentially rich platform for online advertising campaigns, especially for companies with a younger target market.

Cox, Shirley A [8] also investigated the correlation between age and attitude and found that social network user attitude toward online advertising formats (i.e. blogs, video, and brand channel or page) differed to some extent across age groups. She explains that users who fall in the 18-28 age brackets had strong positive attitudes towards blogs, video, and brand channel ad formats. This was because users’ found these ad formats to be eye catching, informative, and amusing. The 35-54 age groups preferred ad formats on video and brand channels because they found them to be more eye catching, informative, and had better placement within the online page layout. Overall, online advertising formats with positive attributes are welcomed by users; however, ads that are intrusive or interfere with online social networking activities, such as popup, expandable, or floating formatted ads were disliked by network users [8].

According to [9], users perceive advertising differently depending on the social network, which suggests user motivations for online social networking may play a vital role in defining consumer’s responses to social media marketing. [10], however, used TAM as a loose framework that combined trust and the factors associated with TAM (i.e. Perceived enjoyment, ease of use, and usefulness). The TAM determined that consumers, specifically students, hold a hierarchy of trust when using social media such as Facebook. Student’s trust ‘real’ friends, then Facebook friends, followed by expert blogs and independent review sites and lastly celebrities and e-retailer sites [10].

Di Pietro, Loredana and Elenora Pantano [11] conducted further research using the TAM to discern that enjoyment is the major factor that influences consumers to use social networks as a platform for assisting in their buying decisions. They found that the fun provided by Facebook, as well as the opportunity it provides users to ask for suggestions in an easy and entertaining way, motivates individuals to pay more attention to the products promoted on Facebook. “Facebook promotes consumer to consumer approach, exploited by consumers to share experiences and create common knowledge on products and services; on the other, it provides managers a direct channel for communicating with clients through a business to consumer approach” [11].

However, retailers also need to be educated on consumer’s attitudes when it comes to social media marketing. A deeper understanding of how consumers perceive social marketing will help ensure effective marketing strategies.

The classic notion of individuals as mere consumers is outdated; consumers can now be seen as active producers of business value because user generated content is reducing the influence of traditional marketing tactics [12]. Awareness of consumer’s motives is important because it provides a deeper understanding of what influences users to create content about a brand or store.

2.1 Internet Users

The introduction of mobile devices coupled with Internet had changed the way people access information. People are increasingly relying on mobile devices; they keep their mobile devices nearby and often use multiple devices at the time [13]. [14] reports that out of the world’s population of 7.3 billion, 3.4 billion are internet users, equalling 46% global penetration, an increase of 10% from the previous year. Among them 3.79 billion are unique mobile users, representing 51% global penetration, of which 4% are new users. At the same time, [15] informs that only 5% of the computer literate audience across 33 rich countries has high computer-related abilities. The high rate of penetration and the increase in the number of mobile users mean, especially young users have acquired skills in using the Internet, and technology in general to accomplish simple to complex tasks with their devices. By the end of this decade, [16] report that, generation ‘C’ or digital natives will primarily live in a digital world completely second

nature to them. Their familiarity and reliance on mobile communications will transform how they connect, communicate, change and consume media products and advertising.

2.2 Mobile Advertising

According to [17] and [18], mobile devices' huge potential in delivering advertisements to the public in the digital era has sky rocketed. This digital capacity has extended the advertising space and time, once limited to traditional media, is now available to advertisers to reach out to their target audiences without limitation of time and space. [17] and [18] also put mobile advertising as the most advantaged advertising mode that has the expansive reach and marketing potential, too large for brands to ignore. According to Forbes, worldwide advertisers spent \$64.25 billion worldwide on mobile advertising in 2015, an increase of 60% compared with 2014. Social media platforms, search engines and other internet properties are generating huge income due to the current trends in terms of media consumption. Social media had even outpaced the overall internet advertisement market. According to research conducted globally [19], consumers were spending 97 minutes per day on mobile devices, which is more than time spent on television, desktop computer, radio and print media.

According to [20], advertising through mobile devices can be found residing in three categories [21]. One is pull – based which refers to any content sent to subscribers of the advertisers through mobile devices when audiences request for it. The second category is push – based mobile advertisement which refers to messages sent by advertisers to their audiences through mobile devices. For instance audio, SMS, e-mail, picture messages and so forth. Advertisers will initiate the advertisement campaign and the cost will be borne by the advertisers. Lastly, Interactive Communication, which is quite close to pull-based mobile advertising as pull-based mobile advertising link the audiences with the advertisers, and thus furthers the progress of interaction. Multiple channels are available for advertisers to design their mobile advertising campaign, including mobile web sites, mobile applications, mobile messaging, mobile video and so forth. Mobile advertising also tend to be more location-sensitive and time-critical. It is a personal device that allows ubiquitous usage. Therefore, mobile advertising has to be more personalized in various forms compare to internet advertising [21].

2.3 Advertising Trend

Free-to-air TV advertising used to be one of the preferred medium for advertisers between 2010 and 2013. From there on advertisers had gradually reduced their investment on TV advertising as audiences were migrating to other media especially online media. This trend in advertising expenditure (adex) is expected to drop by 7% in 2017 [22]. In terms of ad spending by medium, cinema grew the largest by 31% year-to-date in October 2016, followed by free-to-air television by 2% in the same period. As for ad spending share, newspapers still led the pack with a 52% share for the first 10 months in 2016, followed by free-to-air TV with a 41% share reports [22]. (See Fig. 1.)

Smart convergence of media technologies has given rise to numerous technical possibilities that digital media, being the stimulus, is causing ad spending to shift from traditional media to online media. So much so that traditional media are now broadcasting their content on mobile devices which allow audience to access content through mobile apps or mobile sites. Elsewhere, [23] reports that mobile devices and their applications would soon be the main driver of advertisements growth forecasted to contribute 87% of ad spending between 2015 and 2018.

2.4 Attitudes towards Advertisement

The change in advertisers' attitude commensurate with consumer behaviour in terms of media consumption, which is coupled to online advertisement that enables advertisers to generate higher ROI, as advertisers are able to secure revenue streams directly to their own website [19]. Additionally, online content is more attractive as there is not much gatekeeper filtering yet. One other great advantage, users are able to actively participate in content generation due to low or zero production cost with high quality production resources such as simple as a smart phone. The emergence of new media capacities are posing such challenges to traditional media that 90% of the newspaper content in United States is made available instead as online content to reach and maintain its viewership [24].

Malaysia's digital economy is primed for growth in the digital-based businesses with consumers becoming more and more familiar with social media technology. Brands that are not transforming to meet today's consumer's

requirements will be left behind [22]. It is understood that for consumers to accept technology driven social media advertisements in the various devices, they ought to also have a comprehensive understanding of how advertisements and social media apps work within users' devices. Hence, consumers' knowledge, skills and attitudes become relevant to advertisers for the selection of effective advertising channels. Accordingly, consumers develop negative attitude towards advertisement unless it is informative. TV commercials often cause high degree of irritation when video advertising impacts on consumers' speed of browsing which then causes consumers to lose their patience [25]. Evidence also show that consumers preferred internet advertising compared to traditional advertising, as internet advertising is interactive, informative and trustworthy. *Digital News Report 2015*, we included questions relating to native advertising consumers are losing patience with traditional forms of online advertising and there seems to be a close relationship between the amount of interruption [25].

2.5 Theoretical Framework

Based on the literature reviewed, the study adopts the theoretical framework proposed by

[26] as the appropriate technology acceptance model for this study. The following diagram illustrates the research framework. In the sections below, the variables entertainment, irritation, credibility and interactivity belonging to the framework are discussed.

2.5.1 Entertainment

Entertainment as an advertising information significantly enhances advertising value to attract new consumers to traditional media. Entertainment in computer-based media is also creating positive affect and mood for the consumers. The emotion of consumers related to ads play an important role for mobile marketing. The advertisers will need to create the advertisement as entertaining and attractive to grab the attention of the consumers.

2.5.2 Credibility

Credibility is the degree of trust consumers place on advertisements presented to them. It is generated through the honesty and plausibility of the advertisement which are supposed to create value for marketing the product and services. Credibility is the recognition audience or customers accord to the company reputation and the reliability of the source of information.

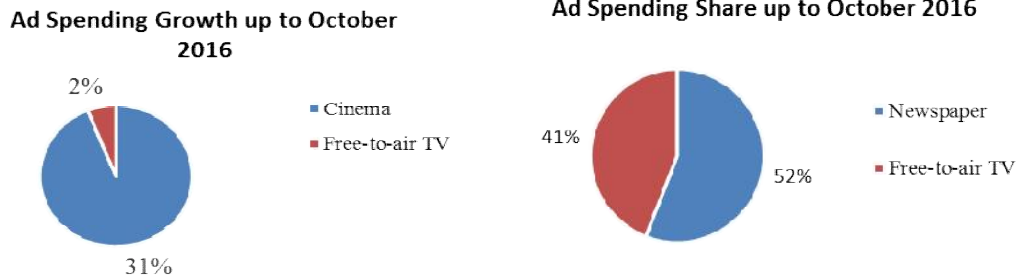


Fig. 1. Ad spending by medium
Source: The Star Online 3.2.16

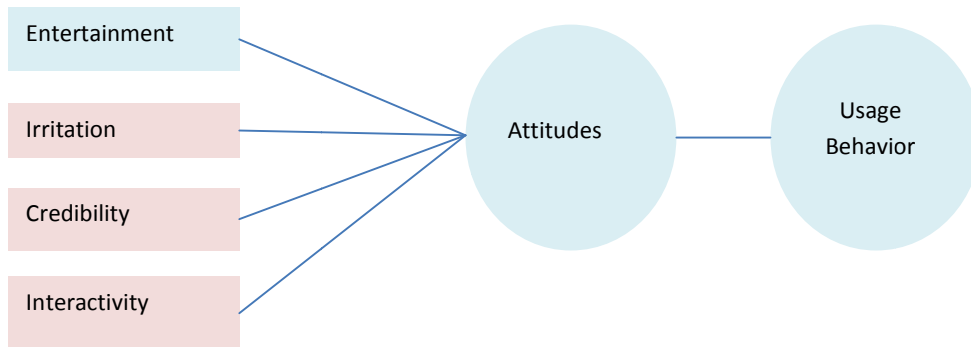


Fig. 2. Conceptual framework (Adapted from [27])

2.5.3 Irritation

Irritable content, unpleasant characterisation, annoying mise-en-scene in advertisements will create unhappiness and intolerance to the consumers. Repetition and unnecessary interference to program will generate negative consumers' attitudes towards advertising and subsequently towards the product and services being advertised [27].

2.5.4 Interactivity

Interactivity is the fore most benefit in digital or mobile advertising. It is generated through mobile apps which facilitate dynamic communication between advertisers and consumers. Interactivity in advertisement enhances consumers' perception of the products.

Apart from [26], 4 variables, creativity and attractiveness might also influence the attitudes of consumers towards mobile advertising. Mobile advertisements presented creatively will be able to grab the attention of the consumers, able to recall it even after years. Besides, [28] assert that the adoption of mobile advertising can be predicted by the inherent personality of an individual. Individuals' inherent personality, predisposition to technology and cognitive style tend to influence the adoption of mobile advertising technology.

3. RESEARCH METHODOLOGY

This section elaborates the three parts to the quantitative method used to gather data through social media, and how the data was analysed to answer the research questions and the results presented in a simple descriptive form.

3.1 Research Method

A quantitative approach was adopted for this study, where an online survey questionnaire was created in three parts. Part 1 of the questionnaire was based on the objectives of this research, in order to answer the research questions. Part 2 was created to test the Conceptual Model used, where questions were created based on the variables in the Conceptual Model. Part 3 was the demographics of the respondents to understand the attitude of the respondents towards mobile advertisement which then enabled the study to understand if mobile advertisement is the right channel that reached out to the target audience.

There are a total 49 questions in 3 parts. The first part and second part of the questionnaire was

created using the Likert Scale, from 1 to 5, whereby respondents rated from strongly agree (5) to strongly disagree (1) on each of the statement in the questionnaire. Respondents from among young consumers and demographic levels randomly completed this questionnaire online.

3.2 Data Collection Method

The online survey was conducted with young users of mobile devices as respondents belonging to the 18 to 34 age group. Most of them resided in the urban and urban peripherals of the Klang Valley, Malaysia. They were given access through a link that directs them to the questionnaire on a snowballing technique. Questionnaires with 49 questions had been created that consists of 3 parts. After respondents submitted their questionnaires, they were generated into an excel format. The first part of the questionnaire was created based on objective 1, which had 6 questions; 6 questions for objective 2, 11 questions for objective 3, 5 questions for objective 4. For Part 2, 17 questions were created to identify individual attitude toward mobile advertising by testing the acceptance of mobile technology using the four variables found in the theoretical research model. Part 3 of this questionnaire was formed by 4 demographics questions which consist of age, gender, income level and location. Only 180 questionnaires from 273 respondents were accepted through Facebook, WhatsApp, and email. The rest were left out for missing information.

3.3 Data Analysis Method

To analyse the data collected through online survey, statistical data analysis was adopted as all the data were quantifiable. Data collected was compiled in order to answer the research questions and achieve the objectives of the research as well as the accuracy of conceptual research model. Their responses were analysed for simple frequency analysis. Means and standard deviations were used to make sense of the data. Analysis is presented in the simple descriptive form.

4. FINDINGS

The focus of the study is to explore consumers' attitude toward mobile advertising. Findings here answer part 1: the research objectives and part 2: statements relating to attitude toward mobile advertising, in the questionnaire.

4.1 Understanding Consumers' Nature of Accessing Advertising Content

Majority (91.9%) of the respondents agree that they are using mobile device to surf internet every day. While only 8.1% of the respondents disagree that they are surfing internet using mobile devices daily. Majority (83.8%) of the respondents agree that they rely on mobile devices for social networking. 81.1% of the respondents agree that they are spend most of their time on mobile devices compared to other media in their daily life. Twenty seven percent (27%) of the respondents agree that the information from mobile devices is reliable. Twenty three percent (23%) of them disagree, while 48.6% of the respondents remain neutral on this statement. Majority (63.8%) of respondents agree that they get most of their information via mobile devices while 2.7% of the respondents disagree. Majority (81.1%) of respondents also agree that the information they get from mobile devices helps a lot in their day to day life while only 2.7% of respondents disagree with the statement.

4.2 Identifying the Significance of Mobile Devices as a Provider of Advertising Content

Majority (64.8%) of the respondents agree that they must go to work or class with their mobile devices. Majority (77.8%) of respondents agree that they are able to get information instantly on events happening at different part of the world by using mobile devices. Twenty three percent (22.6%) of respondents agree that they trust the information from mobile devices. Twenty five percent (25%) of them disagree with this statement. While majority (44.4%) of the respondents remain neutral on the trust towards information acquired from mobile devices. Majority (88.9%) of respondents agree that mobile devices help them to get information instantly from wherever they need information. Eleven percent (11.1%) of the respondents remained neutral and none of them disagree nor strongly disagree on this statement. Majority (72.3%) of the respondents also agree that they will return to their workplace or house to take their mobile devices if they left home without it, while 13.9% of the respondents disagree.

4.3 Identifying the Effectiveness of Mobile Advertising

Seventeen (16.7%) of the respondents agree that SMS is their preferred type of mobile

advertisement while majority (52.8%) of them disagree with the statement. Thirty one percent (30.6%) of respondents agree that mobile websites are their preferred mobile advertisement sites, while majority (33.4%) of them disagree. Thirty one percent (30.5%) of respondents agree that a mobile application is their preferred mobile advertising channel. A third (36.1%) of them disagrees on mobile applications as their preferred mobile advertising channel. Seventeen percent (16.7%) of respondents agree on mobile ad banner as their preferred mobile advertisement, while majority (50%) of them disagree on mobile ad banner as their preferred mobile advertisement. Majority (44.4%) of respondents agree on search engine advertisement on mobile sites as their preferred mobile advertisement, while 33% of them disagree on this. Majority (47.4%) of respondents agree Facebook Apps advertisement as their preferred mobile advertisement while 30.3% of them disagree. Thirteen percent (13.0%) of respondents agree that pop-up advertisement is their preferred mobile advertisement, while majority (55.5%) disagree. Thirty one percent (30.5%) of respondents agree that they prefer video pre-roll mobile advertisement on mobile sites. Most respondents (47.3%) of them disagree on video pre-roll on mobile sites as their preferred mobile advertisement. Thirty three (33.3%) of respondents agree in-feeds on social media apps as their preferred mobile advertisement. A third of the respondents (36.1%) disagree that in-feeds on social media apps as their preferred mobile advertisement. Twenty eight percent (27.8%) of respondents agree that in-map on mobile navigator as their preferred mobile advertisement while 33.4% of them disagree. Five percent (5.4%) of the respondents agree that they will view the advertisement on mobile devices when it appears while they are using the mobile devices while majority (63.9%) of them disagree with the statement. Three percent (2.8%) of the respondents strongly agree that they will respond to the mobile advertisement after viewing it while majority (80.6) disagree. Majority (61.1%) of respondents also agree that they will respond to the mobile advertisement only if they are interested on the advertised products or services while 22.2% of them disagree. Twenty eight percent (27.7%) of respondents agree that they gain a lot of latest information from mobile advertisement while Majority (66.6%) of them disagree. Twenty eight percent (27.8%) of respondents agree that they are more responsive to mobile advertisement compare to

traditional advertisement while 44.4% of them disagree.

4.4 Attitude Towards Mobile Advertising

How respondents have related to the four variables of the conceptual model characterises their acceptance of mobile advertising technology as stimulat to mobile advertising.

4.4.1 Entertainment

Majority (50%) of the respondents agree that they will only respond to mobile advertisement that is entertaining, while 16.7% disagree. Thirty six percent (36.1%) of respondents agree that mobile advertising that is entertaining is able to capture their attention when using mobile devices while 19.5% disagree. Nineteen percent (19.4%) of respondents agree that they will repeat the mobile advertisement if they find it entertaining while majority (55.6%) of them

disagree. Seventeen percent (16.7%) of respondents agree that they prefer mobile advertising because it is entertaining while majority (47.2%) of them disagree. Twenty percent (19.9%) agree that entertaining mobile advertisement will stimulate their purchasing behaviour while majority (41.7%) disagree on this statement.

4.4.2 Credibility

About 31% agree that mobile advertisement had higher credibility while 27.8% disagree. 16.6% agree that they have higher confident on products and services advertised on mobile advertising channel, while 33.3% disagree. Twenty percent (19.5%) agree that they will purchase products or services advertised on mobile devices due to higher credibility, while a third (33.3%) of them disagreed.

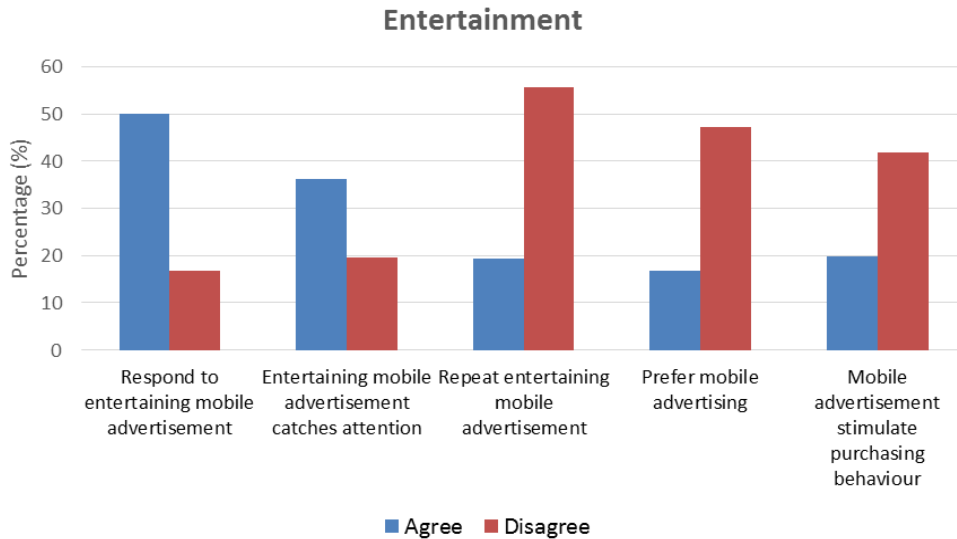


Fig. 3. Respondents' response towards entertainment

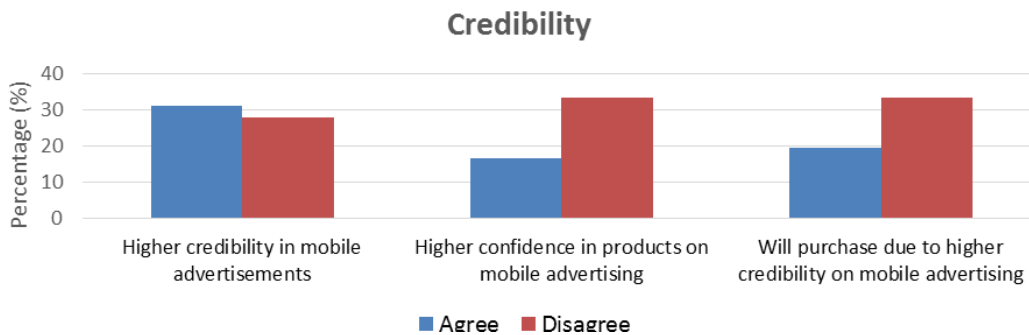


Fig. 4. Respondents' response towards credibility

4.4.3 Irritation

Thirty one percent (30.6%) agree that they will remember a mobile advertisement that keeps on popping irritable advertisements while they are surfing for content, while 33.3% of them disagree. Majority (80.5%) of them agree that they feel annoyed on the repetition of mobile advertising. Three percent (2.8%) of the respondents disagree on this statement. Majority (58.3%) of them said that they are unable to tolerate irritating mobile advertisement while only 11.1% disagree. Majority (55.5%) agree that mobile advertisement that is irritating will cause consumers to have negative impression towards the products or services while only 5.6% disagrees with the statement.

4.4.4 Interactivity

Twenty percent (19.5%) of the respondents agree that they prefer mobile advertisement as it is interactive while 25% disagree. Most (38.9%) agree that interactive mobile advertisement allow them to understand the products or services better while 13.9% disagree. A third (30.6%) of the respondents agrees that interactive mobile advertisement will stimulate their purchasing behaviour while 25% of them disagree. Twenty five percent (25%) of the respondents were found to agree that interactive mobile advertisement will increase their confidence level towards the products or services while 30.6% disagree. Most (41.7%) agree that interaction with the brand allow them to understand the product or services better while 25% disagree.

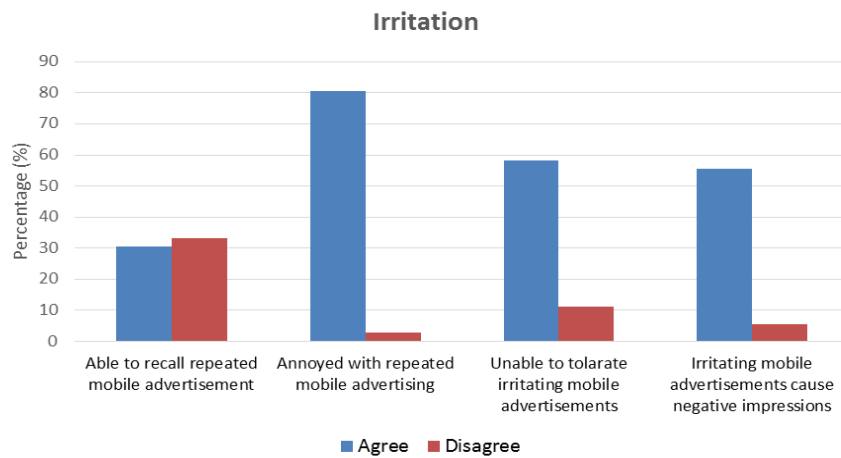


Fig. 5. Respondents' response towards irritation

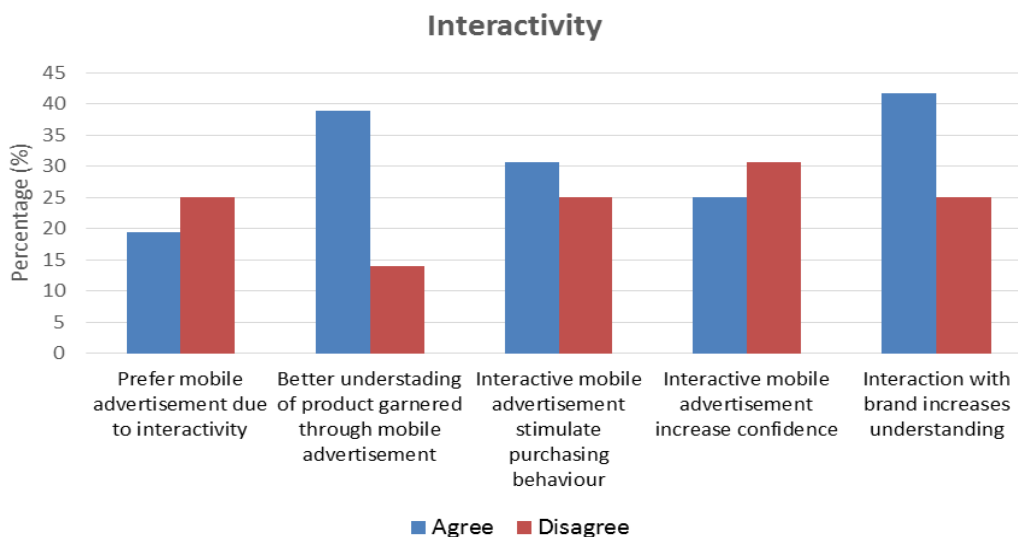


Fig. 6. Respondents' response towards interactivity

5. DISCUSSION

Discussion here is presented by tabulating all the statements in the questionnaire, part 1: the research objectives and part 2: statements relating to attitude toward mobile advertising, in the questionnaire. Next, responses to these statements are elaborated.

Statements No. 1 to 6 in the questionnaire were created based on the objective 1 of this research. That is to identify trends in consumer preference for mobile advertising when compared to traditional advertising?" Mobile devices have become an important device since most of respondents reported using mobile devices for information search and social networking. More than 70% of the respondents are spending time on mobile devices than other types of media. We can realize that mobile devices had changed the way people access to information. A mobile device that is portable allows them to perform tasks in this digital era without relying on desk top computer. Respondents also believe that information from mobile devices is useful and reliable. The convergence of technology had changed the way people access information. That is 81% of the respondents agreed that information collected using mobile devices has helped them in their day to day life. Mobile devices have successfully mobilized people in the way they access to information.

Statements 7 to 12 in the questionnaire were created based on the second objective of this research. That is how mobile devices are significant as a platform for advertisement?" Sixty nine percent (68.8%) of the respondents cannot will not even go to work or attend classes without bringing their mobile phones along. Besides respondents (72.3%) say they will also return to take their mobile devices if they had accidentally left them at home.

Statements 13 to 23 were created based on objective three. That is how mobile advertising is

effective in generating interest among consumers and advertisers? Nine choices were provided to the respondents. From the results obtained, respondents 'attitude towards mobile advertising is observed as negatively skewed. Except for advertising on Facebook, an average of 26.1% of the respondents remained neutral towards mobile advertisement. The study is able to identify the most preferred mobile advertising channel among the respondents. Table 9. shows the results obtained.

From Table 2, it is possible to map out consumers' preference to different platforms of Mobile Advertisements. Advertisers too will have a better understanding of effective mobile advertising channel that reach out to target audience.

Statements 24 to 28 were created to identify how acceptance of mobile advertising technology would stimulate interest in mobile advertising? Mobile device users do have negative perceptions towards mobile advertisement. Sixty four percent (63.9%) of the respondents did not view mobile advertisements that pop up when they are using their mobile phone. Even after viewing the mobile advertising, more than 80% of the respondents will not respond to the advertisement unless they are interested in the advertised products or services. Only Facebook advertisements on Facebook apps are welcome among the respondents (55.6). On the contrary KPMG (India) reports digital media are able to transform consumer behavior since it can redefine consumer mindset, spending patterns and assist in decision making [29]. This study reports respondents as being more responsive to advertising in the traditional media compared to mobile advertising. This perception arises from traditional advertisements being more informative. It is likely that respondents would instead respond to interesting advertisements depending on how advertisements are juxtaposed with content.

Part 1. Tables of statements from the questionnaire

Table 1. Statement to identify how mobile devices change the way people access information

No.	Statements
1.	I use mobile devices to surf internet every day.
2.	I rely on mobile devices for social networking.
3.	I spend more time on mobile devices than any other media device.
4.	Information gotten from mobile devices is reliable. (trust)
5.	I get most of my information via mobile devices.
6.	Information gathered on mobile device help me in study and work.

Table 2. Statement to identify the importance of mobile devices as a source of information

No.	Statements
7.	I can't go to work or class without mobile devices.
8.	I must spend at least 30 minutes on mobile devices daily.
9.	Mobile devices allow instant access to events around the globe.
10.	I trust the information gather from mobile devices.
11.	Mobile devices allow me to get information instantly anytime.
12.	I will go back to take my mobile devices if I left it at home/office.

Table 3. Statement to identify audience preference on type of mobile advertising

No.	Statements
13.	Short Messaging Service (SMS)
14.	Mobile Web Site
15.	Mobile Applications
16.	Mobile Ad Banner
17.	Search Engine Advertisement on mobile sites
18.	Facebook Advertisement on mobile phone apps
19.	Pop-up Advertisement on mobile sites
20.	Video Pre-roll on mobile sites
21.	In-Feeds on social media apps
22.	In-map on mobile navigator
23.	In-game on mobile games

Table 4. Statement to identify the effectiveness on different mobile advertising

No.	Statements
24.	I will view the advertisement when it appears while I am using mobile phone.
25.	I will respond to the advertisement after viewing it.
26.	I will only respond to the advertisement if I am interested in the products or services.
27.	I gain a lot of latest information from mobile advertisement.
28.	I am more responsive to mobile advertisement compare to traditional advertisement.

Part 2. Attitude toward mobile advertising

Table 5. Statement to identify attitude towards entertainment in mobile advertisement

No	Statements
29.	I will only respond to mobile advertisement that is entertaining.
30.	Entertaining mobile advertisement capture the attention of audiences.
31.	I will repeat viewing mobile advertisement that I find entertaining.
32.	I prefer mobile advertisement because it is entertaining.
33.	Entertaining mobile advertising stimulates my purchasing interest.

Table 6. Statement to identify attitude towards credibility in mobile advertisement

No	Statements
34.	Mobile advertisements are more credible.
35.	I have confidence on products and services advertised on mobile platforms.
36.	I will purchase product and services advertised on mobile advertising channels.

Table 7. Statement to identify attitude towards irritation in mobile advertisement

No	Statements
37.	I will remember mobile advertisements as they keep repeating in a loop when I am surfing my mobile devices.
38.	I feel annoyed with the repetition of advertisements.
39.	I do not tolerate irritating mobile advertisements.
40.	Irritating mobile advertisement will causes negative impression towards the product or services being advertised.

Table 8. Statement to identify attitude towards interactivity in mobile advertisement

No	Statements
41.	I prefer mobile advertisements because it is interactive.
42.	Interactive mobile advertisements allow me to understand the product or services better.
43.	Interactive mobile advertisements will stimulate my purchasing behavior.
44.	Interactive mobile advertisements will increase my confidence level towards the products or services.
45.	I engage in interaction with advertisements to understand the product or services advertised better.

Table 9. Preference to different platforms of mobile advertisements

Placement	Mobile advertising	Preference
1.	Facebook Advertisement on Facebook App	55.6%
2.	Search Engine Advertisement on mobile sites	44.4%
3.	In-feeds on social media apps	33.3%
4.	Mobile Web Site	30.6%
5.	Mobile Applications & Video Pre-roll	30.5%
6.	In – map on mobile navigator	27.8%
7.	In-game on mobile games applications	22.2%
8.	Short Messaging Services (SMS) & Mobile Ad Banner	16.7%
9.	Pop-up Advertisement	13.9%

Statements 29 to 45 were intended to examine how consumers responded to the acceptance of technology as stimulant to mobile advertising. Responses to the statements provided insights on how each of the variables (entertainment, irritation, credibility and interactivity) characterized the acceptance of technology by users, applicable to mobile advertisements. Accordingly, consumers responded to entertaining mobile advertisements, they captured the attention of mobile device users. However, people will not watch advertisements if they were repeated often. Ironically, entertaining mobile advertisement mayor may not result in any form of purchasing behaviour.

Irritating or misplaced mobile advertisements create negative impression towards certain products and services. Individuals do not want to remember mobile advertisements that are irritating. They feel annoyed and unable to tolerate advertisements that are irritating. Mobile advertisements that keep on repeating or appear

at inappropriate times will also generate opposing responses that they would want to skip the advertisement.

Most respondents remained neutral on the issue of credibility or authentic advertisements especially channeled through free mobiles phone apps. As there are many classifications to advertisements, confidence level towards some of the products or services advertised on mobiles is relatively lower compared to traditional advertising platforms through regulated channels such as radio and TV, where the governance process is stringent.

Interactive social media apps enabled by mobile technology allow respondents to explore advertised products and services, understand them better. Interactivity is supported by technological enabler being embedded into advertisements that make navigation smooth and meaningful for consumers. Advertisements with interactive features engage the consumers, as

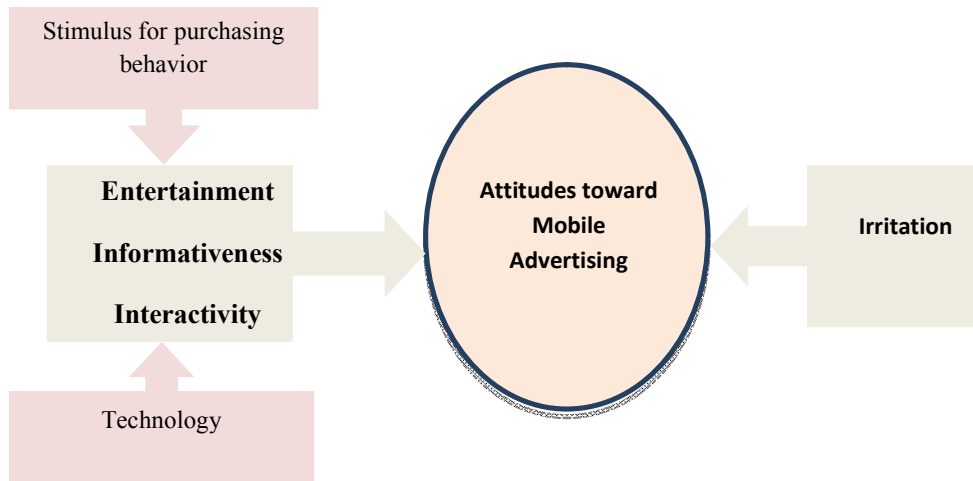


Fig. 7. Adaptations to the influential model towards mobile advertising [29]

reported by youths in this study. Consumers prefer to actively engage than to be passive consumers of advertisements that come across their screens.

Although this study finds respondents more responsive to advertising in the traditional media, it also reports that a positive trend in mobile advertising growth is realized. It is also realized that findings are close to [30]. However, the study simplifies and contextualizes the 'Influential Model towards Mobile Advertising' as an adaptation in Fig. 7.

In the model above, the proposition that consumers' attitude toward Mobile Advertising shall be directly influenced by the four central variables entertainment, informativeness, interactivity and irritation. They act as stimulus to purchasing behavior, except irritation. Technology is an inevitable inclusion of convergence of media technologies, necessarily acceptance as an enabler that positively consolidates consumers' preference to mobile advertising [30]. The variable 'irritation' explains a negative attitude or greater tendency to drive consumers away from advertisements. This attitude separates advertisement consumers from program audience. Consumers would harbor at some point a purchasing behavior, while audience care more for the program content and less for advertisements [14]. This proposition supports future technology enhanced mobile devices and consumers' preference to mobile advertisements in the digital era. The technological factor provides added stimulus to

the three variables and irritation of the Influential Model towards Mobile Advertising [31], is likely to influence consumers' willingness to accept mobile advertising.

6. CONCLUSION

Findings reveal that aspects of entertainment, interactivity and irritation have significant impact on consumers' influence in the attitudes towards mobile advertising. The informativeness or credibility of information element, however, was found to be less significant on consumers' attitude in this sense. But technological factors such as smart phone properties built in the mobile devices, speed and ease of surfing were found to strongly influence consumers' attitude towards mobile advertisements. The findings of the research have implications for both the researchers and the practitioners. Researchers in the area of digital marketing may find the model used in this study as a predictor of consumer behavior when they are exposed to mobile advertisements. Practitioners in the industry may also use the findings from this study in designing marketing programs with mobile advertisement that can transform the negative irritation elements into positives ones. There are several limitations that need to be overcome in order to better understand individual attitudes towards mobile advertisement. Data is collected from online respondents only. Qualitative data would provide better understanding of individuals' on attitudes and behavior towards mobile advertising. Questionnaires distribution can be expanded beyond just digital citizens or

generation 'C', to include a wider psychographics in order to understand deeper and complete details towards consumers' attitude and behavior towards mobile advertisements.

Although the generation 'C' have yet to embrace mobile advertising fully, users have shown a favourable attitude toward mobile advertising. This would be a significant trend as they would become the largest demography. This claim shall be supported by the fact that potential technology enhanced mobile devices would be able to carry advertisements in the digital era without limitations, hence the acceptance of mobile technology. The technological factor, in addition to the four variables of the Influential Model towards Mobile Advertising shall influence consumers' willingness to accept mobile advertising [32].

The study generally concludes that young respondents in the Klang Valley are still responsive to the traditional modes of advertisements than mobile advertisements. This concurs with [33] report that TV is still the top screen for consumers. Consumption of live TV may be a little down but overall TV watching is up due to "time-shifted TV" concept like OTT and that mobile ad spending still lags behind traditional advertising.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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