How playable advertisements affect Gen Z's intention to download apps in Ho Chi Minh City

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ABSTRACT

With the rapid growth of the Internet and portable devices such as smartphones and tablets, mobile advertisements have become a powerful, widely implemented marketing method. Having been popularly developed from 2014 - 2015, playable advertisements quickly gained intentions from advertisers, marketers, and app creators. However, due to the novelty of this advertising method, its effect on Gen Z audiences' app-downloading intention in Ho Chi Minh City has not been examined yet. Therefore, this study aims to make further investigations into this topic by using the Theory of Reasoned Action (TRA), the Use and Gratification Theory (UGT) and the Theory of Planned Behavior (TPB). The research is conducted with a sample size of 342 respondents, and an online questionnaire is used to collect data from these research participants. The collected data is analyzed using Partial-Least-Squares Structural Equation Modeling (PLS-SEM), which subsequently indicates that these audiences' attitudes, which are directly affected by their perceived value of the advertisements, are significantly associated with their intentions to download the advertised apps. Particularly, the respondents' perceived value tends to be positively enhanced, which then stimulates an increase in their attitude towards the advertisements and consequently boosts their app-downloading intention once the credibility and entertainment of that advertisement are high, while the irritation is at a reasonably low level. A mediating effect of these Gen Z audiences' attitudes in the relationship between advertising value and their app-downloading intentions is also found in this research. Overall, findings from this research are able to provide further understanding of which criteria affect the experience, perspectives, and responses of Gen Z audiences in Ho Chi Minh City when they interact with playable advertisements, which is insightful for advertisers, marketers, and app creators in applying the right advertising method into their mobile marketing strategies.

1. Introduction

In the era of Industrial Revolution 4.0, the considerable growth of mobile phones has propelled the emergence of a powerful trend in the marketing field - mobile apps with more than 2.8 million apps available (Buildfire, 2024). They have become an indispensable part of our daily lives and marketing field in the rapidly changing digital world today (Watson et al., 2013). This evolution has paved the way for the advent of modern mobile advertisements, which has reshaped the way that individuals interact with technology and consume content. Traditional advertising (e.g., pop-up ads) has noteworthy limitations, including restricted accessibility, limited interactivity, and interrupting customers' main activities, and has been demonstrated to have a negative impact on consumers' responses (Hu & Wise, 2021), the surge of mobile marketing has brought about significant improvements in these aspects.

One noteworthy evolution is the rise of playable advertisements. Playable advertisements that integrate interactive elements have become an effective strategy for engaging and attracting Gen Z by interactive advertisements. To be more specific, Gen Z, who was born between the mid-1990s and early 2010s, is a generation known for its digital nativism. They are heavy users of technology and are more likely to engage with mobile apps and digital content, especially in Ho Chi Minh City, where there is a large number of young people. Playable advertisements have fundamental mobile actions such as touching, swiping, flipping, and tapping with gamification techniques, which could foster comprehensive brand communication throughout the entirety of the marketing funnel, engagement rates for playable ads presented as in-app interstitials range between 15% and 30% on average (Interactive Advertising Bureau, 2019). Recognizing the significance of playable advertisements in the marketing field, this study has been implemented to identify the advertising factors that influence Gen Z viewers in Ho Chi Minh City.

2. Literature review and hypotheses development

The concept of playable advertisements

Recently, playable advertisements are a new gamification product that has seized digital marketers' attention (Hu & Wise, 2021). Playable advertisements combine both gamification and interactivity, audiences use mobile gestures like touch, swipe, flip, tap, and playable advertisements include three phases: (1) a tutorial cue or demo showing how to play; (2) the game/interactive experience; and (3) an end card with calls- to- action (Hu & Wise, 2021; Interactive Advertising Bureau, 2019). Despite being a rising trend in the advertising industry, the effectiveness of playable advertisements has been investigated in only a few studies. One study by Hu and Wise (2021) investigated psychological processes and effects of playable advertisements on consumers' perceptions of freedom threat and reactance. The researchers proved the importance of the study of playable advertisements and the difference between playable advertisements and other gamification advertisements.

Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB)

The TRA and, to a greater extent, its successor, the TPB have been frequently used to study how different factors predict personal behavior (Ajzen, 1991; Ajzen & Fishbein, 1975). The theory of reasoned action argues that there is a direct relationship between attitudes, intentions, and behavior. The TPB suggests that intentions are influenced by attitudes toward behavior, subjective norms, and perceptions of behavioral control and that people act in accordance with their intentions. This study uses the TRA and TPB as the main theoretical framework to investigate factors related to the impact of playable ads on app-downloading intention. Given the importance of Behavioural Intention in the TRA framework and its ability to predict actual behavior, the current study focuses on aspects related to Behavioural Intention.

Uses and Gratifications Theory (UGT)

UGT is an established framework in media effects research (Blumler & Katz, 1974). The UGT assumes that individuals actively use specific mediums to satisfy their gratification needs as a result of their selections (Kaur et al., 2020). Traditionally, researchers have applied the theory to a variety of contexts to understand the motivation for using media such as television (Panda & Pandey, 2017) newspaper (Cuillier & Piotrowski, 2009), radio (Lin, 2006), telephone (Dimmick et al., 1994), internet-based platforms (Buzeta et al., 2020; Miltgen et al., 2019) and, lately, gamification (Malki & Shaqrah, 2019; Rialti et al., 2022; Sreejesh et al., 2021; Wut et al., 2021). Recently, the U&G theory has been used to explain user Behavioural Intentions toward digital advertising (Lin & Bautista, 2018; Kaur et al., 2020). In this study, it adopts U&G theory and uses the dimensions that emerge as essential in relevant literature in cognitive and affective need categories.

Credibility

The credibility of an advertisement is an incorporation of the credibility of the advertisement source (the company/institution providing the advertisement) and the credibility of the advertisement itself (MacKenzie & Lutz, 1989). Consumers' perceptions about the preciseness, reliability, and trustworthiness of the advertisement and the credibility of the advertising source positively influence their attitudes toward the advertisement (Liu et al., 2012; Okazaki et al., 2007; Xu et al., 2008). Therefore, researchers of this playable advertisements study also agreed that those consumers' perceptions about such qualities of the advertisement and the advertisement source also affect audiences' attitudes toward playable advertisements. Credibility is included as a variable in the model of this study, following the findings of previous researchers. Hence, the hypotheses below are suggested,

H1: Credibility has a positive effect on playable advertisements' value

H2: Credibility has a positive effect on attitude towards playable advertisements

Entertainment

Several researchers have included the entertainment dimension in their studies and have found positive effects on attitudes towards mobile marketing activities (Choi & Millan, 2008; Liu et al., 2012). Building on the previous research and their findings, the entertainment factor is incorporated into the proposed model in this study. This implies that the level of entertainment provided by playable advertisements will have an impact on users' decision to download mobile applications. In summary, the study supposes that the entertainment dimension plays a crucial role in shaping attitudes toward advertisements, and its inclusion in the study model is supported by previous research in the field of mobile marketing.

H2a: Entertainment is positively related to playable advertisements' value

H2b: Entertainment is positively related to attitude towards playable advertisements

Informativeness

In today's technological era, the concept of "informativeness" is widely recognized as a crucial element within advertisements that adds value for consumers and influences their attitudes towards them. This information dimension is considered a significant factor in shaping consumer perceptions and the overall value they derive from advertisements (Ducoffe, 1996). According to Bauer (1960), an advertisement will be accepted by consumers when its information is judged to be relevant and useful. Furthermore, if an advertisement accurately describes the things they are interested in, consumers will recognize this advertisement as valuable (Taylor et al., 2011). Based on proven hypotheses, this study develops the following hypotheses for the model to show the association between informativeness in playable advertisements.

H3a: Informativeness has a positive effect on playable advertisements' value

H3b: Informativeness has a positive effect on attitude towards playable advertisements

Irritation

Irritation is expressed mostly with the two commonly used words: annoyance and frustration. It is defined as an indignity people feel when being addressed by advertisements has a very great influence on people's attitude toward advertising (Shavitt et al., 1998). It suggests that people's emotional responses to playable advertisements can impact their overall attitude towards playable advertisements and whether they are likely to be receptive to them or not. Another point of possible annoyance are unwanted messages, commonly known as spam (Scharl et al., 2005). Therefore, if playable advertisements are delivered excessively or without the user's consent, they may be seen as spam-like messages, leading to irritation and a negative perception of the advertised product or service.

H4a: Irritation is negatively associated with playable advertisements' value

H4b: Irritation is negatively associated with attitude towards playable advertisements

Personalization

Personalization in advertising is the practice of tailoring advertisements and marketing messages to individual consumers based on their specific characteristics, preferences, behaviors, or demographic information. The effectiveness of mobile advertising campaigns depends on how well the advertiser is able to produce and convey targeted and relevant material to mobile users (Xu, 2006). Therefore, personalized playable advertisements can influence people's app download decisions. By producing and conveying targeted and relevant material, advertisers can capture users' attention and generate interest in the advertised app, leading to increased download advertisements.

H5: The personalization of playable advertisements alerts positively influences attitudes toward them

Frequency of exposure

Schmidt and Eisend (2015) suggested that the repetition of advertisements affects attitudes negatively on attitudes. The two-factor theory (Berlyne 1970; Cacioppo & Petty, 1989) is a dominant theory on advertising frequency, which states that the effect of advertising repetition on attitude is determined by two factors: positive habituation and burnout. The positive habituation leadvertisements to positive thoughts (Cacioppo & Petty, 1989), whereas burnout is tedium or redundancy (Berlyne, 1970), which results in negative thoughts (Cacioppo & Petty, 1989). Based on Schmidt and Eisend (2015), there are four-level exposure frequency measures, including "Never", "1-2 times," "3-5 times," and "more than 5 times." Those who report "Never" for the frequency of exposure variable are excluded from our sample.

H6a: Frequency of exposure of an advertisement message is negatively associated with playable advertisements' value

H6b: Frequency of exposure of an advertisement message is negatively associated with a positive attitude towards playable advertisements

Advertising value

Advertising Value is recognized as a crucial variable influencing attitudes towards and acceptance of advertisements. It refers to the perceived value and benefits that consumers derive from advertising. Advertising is considered valuable when it provides useful information and benefits to consumers. Numerous studies have demonstrated a positive relationship between Advertising Value and consumers' attitudes. Several studies have included the Advertising Value variable in their research and found positive effects on consumers' attitudes towards mobile marketing activities (Choi & Millan, 2008; Haghirian et al., 2005). Based on the findings of previous research, the Advertising Value variable is incorporated into the proposed model in this study. This indicates that the perceived value provided by playable advertisements will influence users' decision to download mobile applications.

H7: Perceived playable advertisements value is positively related to attitude towards playable advertisements

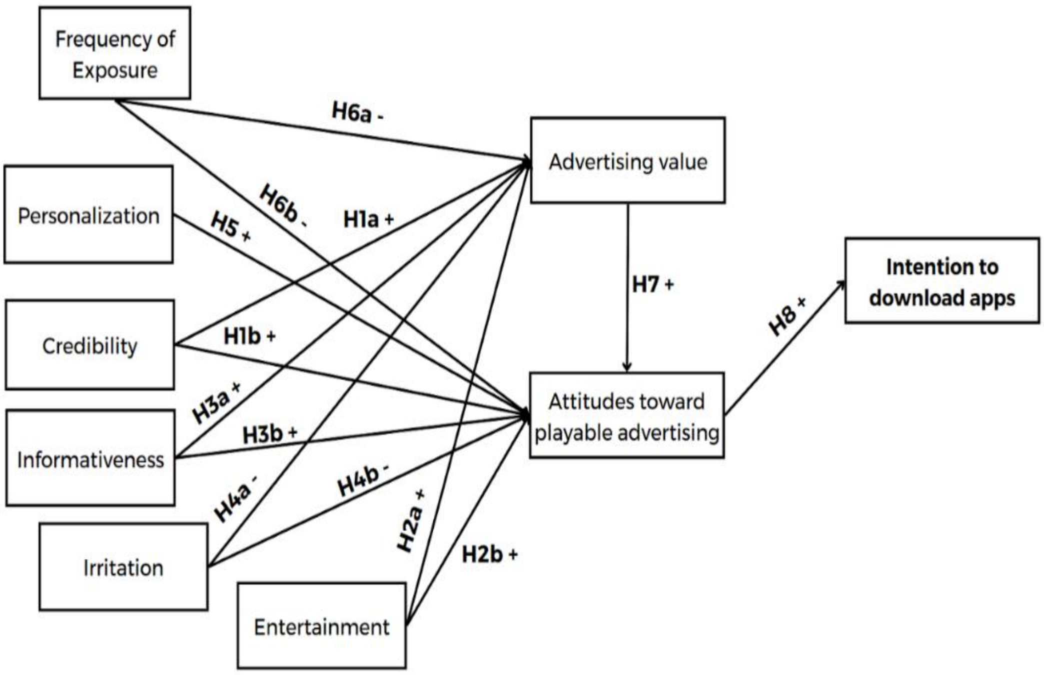
Attitude

The Theory of Planned Behavior - TPB (Ajzen, 1991), evolved from the idea of Theory of Reasoned Action - TRA (Ajzen & Fishbein, 1975), demonstrates that attitude is one of the crucial factors influencing Behavioural Intentions and relates to how a person feels about taking a specific action. The study by Venkatesh and Davis (2000), which is based on this theory, also illustrated that positive attitudes toward IT increase access to Web-based services in e-commerce. They emphasize that consumers are more likely to have increased access to more services and thus respond to mobile advertising if they are more accepting (or friendly to) mobile technology. Based on the evidence, it may be inferred that individuals who interact with playable advertisements positively may have a greater in their desire to download the app, and vice versa. This provides the foundation for the following hypothesis:

H8: A favorable attitude toward playable advertisements will have a positive effect on the behavioural intention to click on, pay attention to playable advertisements, and download applications

Figure 1

Proposed Model



Note. By authors (2024)

3. Methodology, sampling, and data collection

3.1. Methodology

The research is mainly carried out by the quantitative method, using the qualitative method in the design of the scale. Respondents are currently young adults living in Ho Chi Minh City. The survey form was formatted on Google Forms in order to most accurately identify the needs and views of the survey takers on the issue in question. The data was collected and meticulously analyzed using SPSS 20.0 and Smart PLS 4 software.

3.2. Sampling and data collection

The research focused on young adults residing in Ho Chi Minh City who had prior experience using mobile applications and a habit of viewing advertisements on their mobile devices. To target this specific group, a convenience sampling method was employed. Data collection was conducted through an online survey distributed to the selected participants. A total of 414 survey samples were collected. After meticulous evaluation, 72 samples were excluded due to improper responses or incomplete data, resulting in a final sample size of 342 valid responses. Up to 86.8% of respondents are aged between 19 and 26. They have a habit of spending around 03 to 06 hours each day doing activities related to their phones, including downloading and using applications. In particular, nearly 40% of young people who conducted the survey had an income of over 10 million and under 20 million VND. In addition, the majority of participants have relatively low incomes, below 05 million VND/month.

Table 1

Characteristics of Respondents

Characteristics of respondents (n = 342)			
Characteristic		*Frequency*	*Percent*
Gender	Male	132	38.6
	Female	210	61.4
Age group	11 - 18 years old	45	13.2
	19 - 26 years old	297	86.8
Income per month (VND)	Under 05 million VND	185	54.1
	From 05 million - under 10 million	21	6.1
	From 10 million - under 20 million	134	39.2
	From 20 million VND and above	2	0.6
Using smartphone	Yes	340	99.4
	No	2	0.6
Using tablet	Yes	161	47.1
	No	181	52.9
Time spend for using phone per day	Under 03 hours	39	11.4
	From 03 - under 06 hours	190	55.6
	From 06 - under 09 hours	87	25.4
	From 09 hours and above	26	7.6
	Total	**342**	**100**

Note. By authors (2024)

4. Data analysis and results

The model employed in the present study consisted of eight constructs, namely Informativeness (INF), Entertainment (ET), Irritation (IRR), Personalization (PE), Credibility (CRE), Advertising Value (ADV), Attitude (ATT), Behavioural Intention (BI).

Table 2

Factor Loading and Cronbach's Alpha

Items	Questions	KMO	Factor loading	Eigen-value	Cumulative Explained (%)	Item to total Correlation	Cronbach's Alpha
Informativeness (INF)		**0.701**		**2.104**	**70.143**		**0.787**
INF1	Playable advertisements is a good source of product information		**0.846**			**0.638**	
INF2	Playable advertisements is a good source of timely product information		**0.852**			**0.649**	
INF3	Playable advertisements supplies relevant product information		**0.814**			**0.592**	
Entertainment (ET)		**0.655**		**2.069**	**68.967**		**0.773**
ET1	Playable advertisements are entertaining		**0.84**			**0.61**	
ET2	Playable advertisements are enjoyable		**0.886**			**0.691**	
ET3	Playable advertisements are pleasant		**0.761**			**0.519**	
Irritation (IRR)		**0.646**		**1.827**	**60.892**		**0.677**
IRR1	Playable advertisements are irritating		**0.822**			**0.54**	
IRR2	Playable advertisements insult audiences' intelligence		**0.723**			**0.427**	
IRR3	There are too many playable advertisements		**0.793**			**0.493**	
Personalization (PE)		**0.747**		**2.467**	**82.221**		**0.892**
PE1	I feel that playable advertisements displays personalised messages to me		**0.896**			**0.767**	
PE2	I feel that playable advertisements is personalised for my usage		**0.912**			**0.797**	

Items	Questions	KMO	Factor loading	Eigen-value	Cumulative Explained (%)	Item to total Correlation	Cronbach's Alpha
PE3	Contents in playable advertisements are personalised		**0.913**			**0.8**	
Credibility (CRE)		**0.822**		**2.988**	**74.692**		**0.885**
CRE1	playable advertisements are convincing		**0.754**			**0.607**	
CRE2	playable advertisements is truthful		**0.884**			**0.781**	
CRE3	playable advertisements is believable		**0.903**			**0.811**	
CRE4	playable advertisements is credible		**0.907**			**0.816**	
Advertising Value (ADV)		**0.73**		**2.37**	**79.007**		**0.867**
ADV1	playable advertisements are useful		**0.893**			**0.751**	
ADV2	playable advertisements are valuable		**0.906**			**0.776**	
ADV3	playable advertisements are important		**0.867**			**0.709**	
Attitude (ATT)		**0.847**		**3.238**	**80.947**		**0.921**
ATT1	I'm favourably disposed toward playable advertisements		**0.893**			**0.808**	
ATT2	I like playable advertisements		**0.918**			**0.848**	
ATT3	I am satisfied with playable advertisements		**0.894**			**0.809**	
ATT4	Overall, playable advertisements is positive		**0.894**			**0.809**	
Behavioural Intention (BI)		**0.918**		**5.252**	**75.033**		**0.944**
BI1	I'm willing to pay attention to playable advertisements		**0.873**			**0.823**	
BI2	I'm willing to click on playable advertisements		**0.846**			**0.788**	
BI3	I think it's likely that I will pay attention to playable advertisements in the future		**0.886**			**0.839**	

Items	Questions	KMO	Factor loading	Eigen-value	Cumulative Explained (%)	Item to total Correlation	Cronbach's Alpha
BI4	I think it's likely that I will click on playable advertisements in the future		**0.872**			**0.82**	
BI5	I am willing to download applications		**0.848**			**0.793**	
BI6	After interacting with playable advertisements, I am willing to try the application		**0.868**			**0.818**	
BI7	After interacting with playable advertisements, I am willing to consider the app as a preferred app to download		**0.869**			**0.819**	

Note. By authors (2024)

Discriminant and convergent analysis

The research model was tested using Partial Least Squares (PLS) analysis with Smart PLS 4.0. The results of the test are shown in the following table.

Table 3

Partial Least Square Analysis Results

	AVE	rho_a	Composite Reliability (rho_c)	ADV	ATT	BI	CRE	ET	FREQ_R	INF	IRR	PE
ADV	0.790	0.868	0.919	0.889								
ATT	0.809	0.922	0.944	0.807	0.900							
BI	0.750	0.945	0.955	0.799	0.881	0.866						
CRE	0.747	0.887	0.921	0.761	0.711	0.749	0.864					
ET	0.683	0.796	0.866	0.626	0.658	0.620	0.563	0.826				
FREQ_R	-	-	-	-0.116	-0.118	-0.130	-0.124	-0.088	1.000			
INF	0.701	0.795	0.875	0.420	0.340	0.347	0.447	0.444	0.036	0.837		
IRR	0.564	0.781	0.784	-0.157	-0.260	-0.207	-0.122	-0.126	0.105	0.105	0.751	
PE	0.822	0.894	0.933	0.632	0.589	0.610	0.660	0.404	-0.157	0.325	-0.003	0.907

Note. By authors (2024)

Table 4

VIF

Model		Collinearity Statistics
		VIF
1	(Constant)	
	FREQ_R	1.042
	M_INF	1.419
	M_ET	1.974
	M_IRR	1.123
	M_PE	2.086
	M_CRE	2.985
	M_ADV	3.829
	M_ATT	3.550
a. Dependent Variable: M_BI		

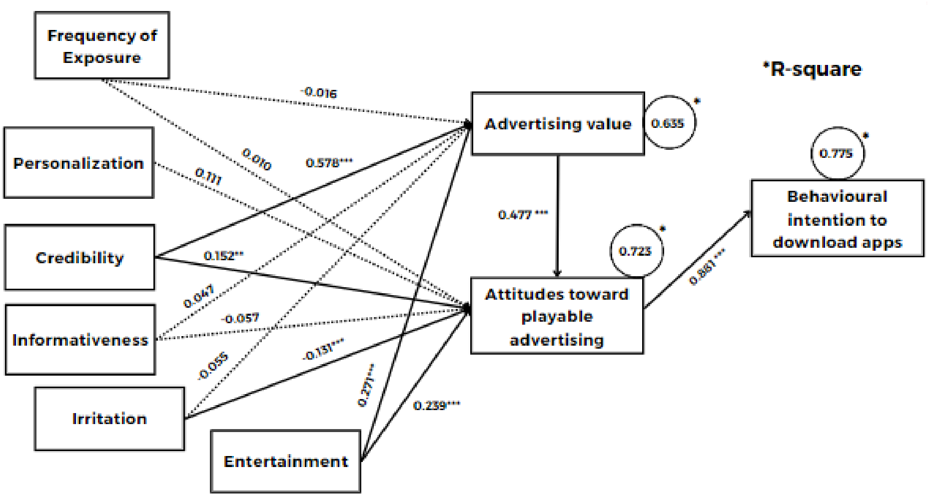
Note. By authors (2024)

Assessment of the structural model

Using Smart PLS 4.0, the structural model has been carefully assessed via a bootstrapping procedure with 5,000 numbers of bootstrap samples. Figure 2 shows the main outcomes of the PLS test, including the path coefficients (β), path significance (p-value), and variance explained (R^2 values).

Figure 2

Structural Model Testing Result



Note. By authors (2024)

As Figure 2 shown, the structural model provides good explanatory powers of 77.5% for behavioural intention to download apps, 72.3% for attitudes toward playable advertisements, and 63.5% for advertising value. The table below summarizes the hypothesis testing result.

Table 5

Summary of Hypothesis Testing Result

	β	**t**	**p**	**Results**
CRE -> ADV (H1a+)	0.578	11.240	0.000	Supported
CRE -> ATT (H1b+)	0.152	2.329	0.020	Supported
ET -> ADV (H2a+)	0.271	5.663	0.000	Supported
ET -> ATT (H2b+)	0.239	5.630	0.000	Supported
INF -> ADV (H3a+)	0.047	0.857	0.391	Not supported
INF -> ATT (H3b+)	-0.057	1.666	0.096	Not supported
IRR -> ADV (H4a-)	-0.055	1.634	0.102	Not supported
IRR -> ATT (H4b-)	-0.131	3.280	0.001	Supported
PE -> ATT (H5+)	0.111	1.678	0.093	Not supported
FREQ_R -> ADV (H6a-)	-0.016	0.514	0.608	Not supported
FREQ_R -> ATT (H6b-)	0.010	0.358	0.720	Not supported
ADV -> ATT (H7+)	0.477	8.673	0.000	Supported
ATT -> BI (H8+)	0.881	60.072	0.000	Supported

Note. By authors (2024)

Mediating factor

To investigate the mediating effect, the result of total indirect effect from the table of Specific Indirect Effects are used. However, total effects do not have to be significant to have a meditating relationship. Using Smart PLS 4.0, the meditating factors have been assessed via bootstrapping.

Table 6

Specific Indirect Effects

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**
INF -> ATT -> BI	-0.050	-0.049	0.030	1.667	0.096
IRR -> ADV -> ATT	-0.026	-0.029	0.017	1.513	0.130
IRR -> ATT -> BI	-0.116	-0.117	0.035	3.288	0.001
ET -> ADV -> ATT -> BI	0.114	0.113	0.022	5.137	0.000
ADV -> ATT -> BI	0.420	0.420	0.049	8.578	0.000
ET -> ADV -> ATT	0.129	0.128	0.025	5.144	0.000
INF -> ADV -> ATT	0.023	0.023	0.027	0.847	0.397
ET -> ATT -> BI	0.211	0.211	0.037	5.675	0.000
FREQ_R->ADV->ATT->BI	-0.007	-0.007	0.013	0.509	0.611

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
INF -> ADV -> ATT -> BI	0.020	0.020	0.023	0.848	0.396
CRE -> ADV -> ATT -> BI	0.243	0.243	0.038	6.419	0.000
CRE -> ADV -> ATT	0.276	0.276	0.042	6.550	0.000
FREQ_R -> ADV -> ATT	-0.008	-0.008	0.015	0.509	0.611
PE -> ATT -> BI	0.097	0.093	0.058	1.673	0.094
FREQ_R -> ATT -> BI	0.009	0.009	0.025	0.358	0.720
IRR -> ADV -> ATT -> BI	-0.023	-0.026	0.015	1.509	0.131
CRE -> ATT -> BI	0.134	0.134	0.058	2.317	0.021

Note. By authors (2024)

Table 6 shows that the relationship between Irritation and Behavioural Intention has the factor Attitude as the mediator ($p < 0.05$). Otherwise, Advertising Value and the combination of 02 variables (Advertising Value and Attitude) are not the meditators in this relationship ($p > 0.05$). Consequently, Advertising Value does not influence the relationship between Irritation and Behavioural Intention.

Attitude and Advertising Value are the mediating variables in the relationship between Entertainment and Behavioural Intention ($p < 0.05$) and the relationship between Credibility and Behavioural Intention ($p < 0.05$). On the other hand, both Attitude and Advertising Value are not the mediator in the relationship between Informativeness and Behavioural Intention ($p > 0.05$) and the relationship between Frequency and Behavioural Intention ($p > 0.05$)

Although Attitude is not the meditator in the relationship between Personalization and Behavioural Intention ($p > 0.05$), it still plays a strong mediating role in the relationship between Advertising Value and Behavioural Intention ($p < 0.05$)

5. Discussion

In this study, Advertising Value and Attitude towards playable ads are the primary precursors of Intention to download apps, with attitude being the mediating variable in the causal relationship between Advertising Value and app-downloading intention. Indeed, audiences' attitudes toward playable ads could be significantly enhanced by improving their advertisement's perceived value. This, in turn, can possibly be a catalyst for their increasing app-installing intentions. Liu et al.'s study (2012) also proposes a similar Ads value - Attitude relationship, while the effect of attitude on Behavioural Intention is in line with findings in research (Sigurdsson et al., 2018), suggesting that Behavioural Intentions are considerably attributed to audiences' attitudes toward in-app advertising.

The impacts of advertising frequency, irritation and informativeness on playable ads' value are statistically insignificant, with irritation being the only factor that has a negative effect on Advertising Value. These findings state that audiences' perceived value of playable ads is not noticeably impacted by their show-up frequency and informativeness. Similarly, the playable ads' irritation does not negatively impact their perceived Advertising Value, as demonstrated by the aforementioned data and analysis. These results of informativeness and frequency are contrary to a previous study by Aydin and Karamehmet (2017).

Advertising Value has a positive and highly significant correlation with customer attitudes toward playable ads. In other words, viewers' attitudes towards playable ads are likely enhanced when their perceived Advertising Value about the advertisement is favourable. This finding aligned with previous studies of Liu et al. (2012), Aydin and Karamehmet (2017). Credibility has a positive impact on customer attitudes, audiences' attitude toward playable ads is high if the playable ads are convincing, truthful, believable, and credible for the audiences. The result confirms the negative influence of irritation on attitude towards playable ads. Indeed, audiences' attitudes toward the ads often get worse if they are overloaded, irritated, and insulted by these ads. This finding is aligned with previous studies such as Haq (2009).

This research has also found that a high frequency of exposure has no negative impact on customer attitudes. These results are confirmed by Haq (2009) findings who showed in their study investigating repetition of ads did not influence consumer attitude toward e-mail advertising. The result indicates that informativeness has an insignificant effect on attitude towards playable ads. It means that the extent to which the ads provide information to viewers does not significantly affect their attitude towards the ads they are interacting with. This result is consistent with a previous study of Xu (2006); Xu et al. (2008). The positive impact of personalization of playable ads on customer attitudes is not supported by data in this research. On one hand, this result specifically contradicts previous research (Xu, 2006). However, this study focuses on examining playable ads factors that influence app-downloading intention of Gen Z consumers in Ho Chi Minh City.

6. Limitations and further research direction

This study has certain limitations that should be acknowledged. *Firstly*, the research sample is restricted to Gen Z individuals in Ho Chi Minh City. This limitation may hinder the generalizability of the findings to other age groups or locations. To improve this research, we would extend the level of participants from various demographics and geographical areas to obtain a more representative and comprehensive understanding of the impact of playable advertisements. *Secondly*, the study primarily focuses on the mediating factors of frequency, informativeness, entertainment, irritation, personalization, credibility, Advertising Value and attitude in the relationship between playable advertisements and app download intention. While these factors have been identified as important, there may be other variables influencing this process. Future studies could explore additional psychological and behavioral factors to gain a more comprehensive understanding of the underlying mechanisms. *Additionally*, the study relies on self-reported measures and hypothetical scenarios to assess viewers' intentions and perceptions. While self-reporting is a common method in research, it may be subject to biases and may not fully capture participants' actual behavior in real-world situations. Future studies could incorporate more objective measures, such as tracking actual app download advertisements and usage patterns after exposure to playable advertisements. This would provide more accurate data on users' actual behavior and strengthen the study's findings.

To enhance the quality of our research, we have devised several future directions, such as Objective measures, future research could incorporate objective measures of app download behavior and engagement with playable advertisements. Towards Moderating Effects of Privacy Concerns, given the growing importance of privacy concerns in the digital advertising landscape, it would be beneficial to investigate how privacy concerns moderate the relationship between playable advertisements and cognitive and affective factors. With Influence of Demographic Factors: Understanding how demographic factors, such as age, gender, and educational background, influence the relationships among personalization, cognitive and affective factors, Advertising Value, and flow experience can provide valuable insights. Regarding Cross-Platform Analysis: Expanding the research scope to encompass multiple platforms and devices (e.g., mobile phones, tablets, desktops) could offer a broader perspective on how the effectiveness of playable advertisements varies across different platforms. Finally, with Long-Term Effects and App Engagement: Investigating the long-term effects of playable advertisements on app engagement beyond the initial download intention is another promising avenue for future research.

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