

Digital Natives and Mobile Advertising: Insights into Consumer Attitudes

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ABSTRACT

This study explores the attitudes of Malaysian digital natives toward mobile advertising, a crucial area given the increasing reliance on mobile devices for marketing. As digital natives—those who have grown up with technology—form a significant consumer base, understanding their perceptions is important for business engagement. Using a sample of 200 respondents, this study applies quantitative methods and employs SPSS for statistical analysis. The results confirm that information, entertainment, and credibility positively influence perceived value, while irritation has no significant impact. Furthermore, perceived value strongly influences attitudes of digital natives toward mobile advertising. These insights provide a framework for developing effective, consumer-friendly mobile advertising strategies. By analyzing these factors, the study seeks to identify patterns and preferences unique to Malaysian digital natives, providing a culturally relevant perspective. The findings will help develop targeted mobile advertising strategies that resonate with this tech-savvy audience, enhancing marketing effectiveness and consumer engagement in Malaysia's rapidly evolving digital landscape. The study also aims to bridge the gap between academic research and practical application, offering actionable insights for marketers and advertisers operating in Malaysia.

Keywords: Mobile Advertising, Attitudes, Information, Entertainment, Credibility, Irritation, Perceived Value

JEL Classifications: M37, M31, D10

1. INTRODUCTION

In recent years, the surge in digital technology has revolutionized our daily lives, making them more convenient and interconnected. This technological advancement has significantly improved communication and streamlined various tasks. Mobile devices, including smartphones, laptops, and tablets, have become indispensable tools for accessing the Internet. Consequently, the global mobile advertising industry is poised for substantial growth. This momentum is in-line with the digitalization lifestyle, where everything should be interconnected digitally 24/7 worldwide.

The growth of advertisements spending in Malaysia is primarily being driven by digital advertising, outpacing all other advertising

formats. This trend indicates a significant move towards digital channels as consumers, particularly Millennials and Generation Z, prioritize connectivity and engagement in the online sphere (Omsan, 2023). Adding to the novelty of this industry, recent data reveals that the average person spends approximately 3 hours and 50 minutes online on their smartphones daily (Backlinko Team, 2024). This usage varies by market, ranging from 1 hour and 54 minutes to 5 hours and 20 minutes per day. Globally, individuals aged 16 to 64 spend 57.6% of their daily online time on smartphones. Backlinko Team (2024) also reports that by 2024, an estimated 4.88 billion people will own a smartphone, with 635 million new users added in the past year alone (2023-2024). This rapid increase in smartphone adoption underscores the immense potential and dynamic nature of the mobile advertising industry.

In Malaysia, smartphone adoption and usage are equally impressive. By 2023, Malaysia is estimated to have a smartphone user penetration rate of over 89%, surpassing the overall smartphone adoption rate of 76% in the Asia Pacific region in 2022. As smartphone penetration in Malaysia continues to grow, the use of mobile internet and mobile applications is also increasing. More than 98% of Malaysian consumers access the internet through handheld mobile phones (Statista, 2025).

This widespread adoption of mobile devices, especially smartphones, has transformed them into essential tools in people's lives, offering numerous opportunities for individuals and companies to connect and communicate with consumers (Teodorescu et al., 2023). Marketers are leveraging mobile devices to introduce goods and services to consumers through mobile advertising. Mobile advertising encompasses techniques such as text messaging, banner advertising, and social media advertising, all of which were developed to enhance consumer communication.

2. LITERATURE REVIEW

2.1. Digital Natives and Mobile Advertising

The use of mobile advertising is growing in Malaysia as more people access the internet through their mobile devices. This trend has led to increased competition in the mobile market, making it essential for advertisers to adapt their strategies and focus on mobile-friendly content. Mobile augmented reality and location-based advertising are emerging as personalized and interactive ways to connect with consumers. The e-commerce market in Malaysia, the Philippines, and Indonesia is significant, with mobile advertising playing a key role in reaching target customers. The digital advertising market is projected to reach US\$1,044 million by 2024, with a significant portion of it coming from mobile advertising (Statista, 2024). Advertising spending is increasing, especially in digital formats, and it is expected to increase by 7.4%, to capture 59.6% of global advertising spend (Camphouse, 2025). Additionally, it will account for 47.7% of the aggregate advertising expenditure by 2027 (Statista, 2023).

One of the key contributions of mobile advertising is its superiority over traditional advertising channels like newspapers and magazines. Mobile advertising offers real-time communication capabilities and requires less information to operate quickly and respond to users (Grewal et al., 2016). This immediacy and efficiency make mobile advertising a more effective tool for both buyers and sellers. However, the effectiveness of these mobile advertising efforts hinges significantly on the attitudes of digital natives. Digital natives, who grew up in the fast-paced era of smartphones, high-speed internet, and advanced communications (Guevara, 2021), play a crucial role in shaping companies' marketing strategies. Understanding the attitudes of digital natives towards mobile advertising is crucial for marketers targeting this demographic in Malaysia. With a high mobile phone penetration rate and a young population consuming content primarily through mobile devices, it's important to tailor advertising strategies to their specific preferences. Cultural and social factors such as privacy concerns and data security must be taken into account. By studying these attitudes, businesses can create more effective,

culturally appropriate marketing campaigns that bridge the gap between global trends and local consumer behaviors.

Besides that, perceived value is what customers are willing to pay for a product or service. It is determined by the extent to which the product or service can meet the needs of customers, especially relative to competitors. Understanding customer value perception involves thorough market research, strategic positioning, and effective marketing to highlight the benefits that customers are most willing to pay for. These benefits may include convenience, affordability, aesthetic appeal, or innovative design. Therefore, mobile advertising must provide perceived value to digital natives. If it fails to do so, digital natives will likely develop a negative attitude towards mobile advertising.

The novelty here lies in the dynamic nature of perceived value among digital natives. This demographic, with its unique preferences and high expectations, demands that mobile advertising not only meets but exceeds its standards. Companies must continuously innovate and adapt their strategies to align with the evolving perceptions of value among digital natives. This involves leveraging advanced analytics and consumer insights to tailor advertising content that resonates deeply with this tech-savvy audience.

Digital natives' attitudes toward mobile advertising have garnered significant attention in academic research. Studies by Lim et al. (2019), Hakimi et al. (2019), Tsang et al. (2004), and Hajian et al. (2024) highlight key factors like trust, data privacy, advertisements relevance, and security concerns that influence these attitudes. With the growing use of smartphones, mobile advertising offers timely and useful information, yet faces challenges in user engagement due to privacy concerns and commitment issues. While extensive research exists, gaps remain, especially in the Malaysian context. Key areas of focus include understanding the drivers of mobile advertising effectiveness, the impact of data-driven factors like entertainment and credibility, and the role of permission marketing in mitigating privacy concerns. Addressing these gaps can help marketers craft more targeted, effective campaigns that resonate with digital natives.

As a result, exploring the attitudes of digital natives toward mobile advertising is pivotal for companies aiming to excel in the competitive market landscape. Digital natives, characterized by their lifelong interaction with technology, have distinct preferences and expectations that differ significantly from previous generations. By understanding these attitudes, companies can refine their advertising strategies to better meet the desires of this demographic, leading to more effective marketing campaigns. A deep understanding of digital natives' attitudes toward mobile advertising allows companies to create more impactful and resonant advertising campaigns, ensuring they remain competitive and relevant in an ever-evolving digital marketplace.

Moreover, the contributions of this research extend beyond immediate marketing benefits. By tapping into the preferences of digital natives, companies can foster long-term brand loyalty and engagement. This demographic's influence on market trends

and consumer behavior underscores the importance of aligning advertising efforts with their values and expectations. Ultimately, this approach not only enhances marketing effectiveness but also drives sustainable business growth in the digital age.

2.2. Theory of Reasoned Action (TRA)

The theory of reasoned action (TRA) is a widely recognized and accepted theory of human behavior that seeks to explain how people make decisions about their behavior (Hagger, 2019). The theory, proposed by Icek Ajzen and Martin Fishbein in the 1970s, posits that behavior is determined by an individual's attitudes and subjective norms, which are in turn influenced by personal beliefs and the attitudes of others (Fishbein and Ajzen, 1975). According to the theory, digital natives' behavior is influenced by their attitudes toward mobile advertising, which are based on their beliefs and perceptions of others.

In addition, the theory of reasoned action (TRA) predicts that individuals will behave in a manner consistent with their attitudes. Therefore, if digital natives have a positive attitude toward mobile advertising, they are more likely to engage in that behavior, and if the attitude is negative, they are less likely to engage in that behavior. This study uses the theory of reasoned action (TRA) to understand the attitudes of digital natives, who grew up with digital technology, toward mobile advertising. This population is particularly important because they are frequent users of mobile devices and are constantly exposed to mobile advertising. Hakimi et al. (2019) show that information, entertainment, credibility, irritation, and perceived value are key factors influencing digital natives' attitudes toward mobile advertising. The Theory of reasoned action (TRA) suggests that digital natives' attitudes toward mobile advertising are shaped by how well these advertisements satisfy their expectations and needs. When mobile advertising is more interesting, informative, and less annoying, digital natives' customer satisfaction will be higher, and attitudes will be more positive (Kalantarzadeh Tezerjany and Mason, 2025).

2.3. Attitudes of Digital Natives towards Mobile Advertising

Attitude is defined as a psychological tendency expressed by evaluating a particular entity with some degree of favor or disfavor (Kalantarzadeh Tezerjany and Mason, 2025). In the context of mobile advertising, attitudes reflect consumers' views, reactions, and overall stance toward the advertisements they encounter on mobile devices. Recent research has explored this topic and helping researchers to understand how digital natives view mobile advertising. According to the journal article "Consumer Attitudes toward Mobile Advertising: An Empirical Study" provides valuable insights into how digital natives view mobile advertising. The study examined consumer attitudes and usage behavior toward mobile advertising. Particular attention was paid to the attitudes of young, well-educated individuals, often referred to as digital natives. Research has found that digital natives generally have negative attitudes towards mobile advertising. This is because when advertising come unsolicited, they feel they infringe on the personal nature and privacy of their mobile devices. However, research also shows that people's attitudes are more favorable when mobile advertising are sent with permission (Tsang et al.,

2004). In addition, research by Hajian et al. (2024) found that the attitude of digital natives significantly affects their participation in mobile advertising and branding. Moreover, the research highlights that the attitudes of digital natives towards mobile advertising are influenced by several factors, including entertainment, credibility, information, irritation and perceive value. These factors are considered independent variables that can impact the dependent variable, which is the attitude of digital natives towards mobile advertising (Lim et al., 2019).

2.4. Information and Perceived Value

Information is the ability of companies to introduce products in mobile advertising. Information is an important factor in shaping the perceived value of mobile advertising, and consumers tend to respond positively to it. Rich information advertising provides digital natives with relevant and detailed facts, thereby increasing the perceived value of advertising (Disastra et al., 2019).

If mobile advertising effectively provides useful messages, then it is informative (Miluska, 2020). Effective information helps digital natives make informed decisions, thereby increasing the valuation of advertising. Besides, accurate and timely information can enhance digital natives' preferences, positive attitudes, and purchase intentions (Sharma et al., 2021). If the advertisement meets their information needs, it will make them more confident in the advertised product or service. Therefore, perceived value is significantly affected by the richness and relevance of the information provided.

Recent studies emphasize that the informativeness of mobile advertising plays a key role in shaping consumer attitudes, particularly among digital natives who rely heavily on their mobile devices for information and purchases. Perceived value in this context refers to the overall worth that consumers assign to a product or service based on its ability to fulfil their needs (Zeithaml, 1988). It is influenced by the quality, relevance, and timeliness of information provided through mobile ads. When ads offer clear, relevant, and timely information, digital natives tend to perceive greater value in the brand and its products, enhancing their likelihood of positive engagement (Mehra et al., 2021).

For instance, research has shown that informative mobile advertising positively affects digital natives' attitudes and increase their trust in the brand (Hakimi et al., 2019). Advertisements that provide accurate and useful information, such as product features, promotions, or new releases, are seen as more credible and less intrusive, leading to higher acceptance among digital natives (Tsang et al., 2004). However, excessive or irrelevant information can lead to information overload, which may reduce perceived value and foster negative attitudes toward the mobile advertising (Miluska et al., 2020). Therefore, maintaining a balance between message volume and relevance is critical to creating an effective mobile advertising campaign.

To enhance perceived value, marketers should focus on delivering information that is not only accurate and timely but also aligned with the interests and preferences of digital natives. Ensuring that mobile advertising are informative, trustworthy, and helpful leads to more favorable attitudes, as supported by research that

highlights the importance of tailored and relevant information in engaging this demographic (Hajian et al., 2024). The following hypothesis is thus formulated:

H_1 : There is a significant relationship between information and perceived value of mobile advertising.

2.5. Entertainment and Perceived Value

Entertainment in mobile advertising refers to the ability of an advertisement to provide enjoyment, escapism, aesthetic pleasure, or emotional satisfaction to consumers. In the context of digital advertising, entertainment is a critical factor that enhances the user experience by making advertisements engaging, fun, and enjoyable (Lim et al., 2019). This component addresses consumers' desire for diversion and amusement, which is particularly important for digital natives who frequently interact with mobile devices for both information and leisure.

Studies have consistently shown that entertainment is a key determinant of positive attitudes toward mobile advertising. Advertisements that incorporate entertaining elements, such as music, interactive games, or visually appealing content (Slunjski et al., 2020), are more likely to capture the attention of digital natives and improve their overall perception of the mobile advertising. Entertainment can enhance consumer satisfaction and even influence their purchasing decisions, as engaging content makes the advertising experience more enjoyable, thereby increasing the perceived value of the mobile advertising.

In the case of mobile advertising, entertainment serves as a value-enhancing factor, as enjoyable advertisements are more likely to be viewed positively, improving consumer attitudes and making the brand more attractive (Lim et al., 2019). This is particularly relevant for digital natives, who are accustomed to high levels of interactivity and entertainment in digital environments. Research indicates that entertainment content in mobile advertising has a positive relationship with consumer attitudes and perceived value (Lim et al., 2019; Panjiyar, 2021). For example, incorporating interactive games, appealing visuals, or engaging music into ads can significantly increase the likelihood of user engagement and enhance the consumer's overall experience with the brand (Lim et al., 2019). These findings suggest that marketers aiming to capture the attention of digital natives should prioritize entertainment as a core component of their mobile advertising strategies.

Moreover, entertaining advertisements are often seen as less intrusive, as they fulfill the consumers' need for enjoyment, thereby reducing irritation or negative reactions (Hajian et al., 2024). Therefore, mobile advertising that is designed to entertain not only enhances consumer engagement but also contributes to a more favorable brand image, potentially influencing purchasing behavior and long-term brand loyalty. This underscores the importance of entertainment in creating impactful and value-driven mobile advertising campaigns targeted at digital natives. To validate the role of entertainment in influencing perceived value, the following hypothesis is proposed:

H_2 : There is a significant relationship between entertainment and the perceived value of mobile advertising.

2.6. Credibility and Perceived Value

Credibility refers to the perceived trustworthiness and reliability of mobile advertising. Previous research mentioned that credibility has a positive impact on consumers' attitudes towards mobile advertising and found that it is an important factor influencing attitudes (Tsang et al., 2004). Furthermore, when the information in mobile advertising is conveyed by familiar and trustworthy marketers, consumers are more likely to perceive the content as authentic and trustworthy, thus having a positive impact on their attitudes (Lim et al., 2019). Recent studies continue to support these findings, emphasizing the significant role of credibility in shaping consumer attitudes toward mobile advertising (Panjiyar, 2022). For instance, Sesar et al. (2022) found that advertising disclosure and influencer credibility significantly enhance consumer trust and purchase intentions. The study indicates that transparent and credible advertising, particularly when promoted by trusted influencers, leads to higher consumer engagement and favorable attitudes toward the advertising (Sesar et al., 2022). Additionally, multiple studies underscore the importance of protecting customer privacy in mobile advertising to increase trust and credibility. Ensuring privacy and data security can enhance the perceived credibility of mobile ads, leading to better consumer attitudes and increased trust in the advertised brands (Yadav et al., 2024). These recent studies reinforce the important role of credibility in mobile advertising, showing that credible and trustworthy advertising is more likely to be well-received by digital natives. Therefore, it can help them positively influence their attitudes and behaviors towards the advertised products or services. To further examine the impact of credibility on perceived value, the following hypothesis is proposed:

H_3 : There is a significant relationship between credibility and the perceived value of mobile advertising.

2.7. Irritation and Perceived Value

In recent research on digital natives' attitudes toward mobile advertising, "annoyance" was cited as an important independent variable. Annoyance refers to the irritation and negative emotional responses consumers experience when exposed to intrusive or irrelevant mobile advertising. This irritation can be due to various factors such as intrusive advertising formats, irrelevant content, or frequency of advertising. In the background of mobile advertising, understanding irritation is important. This is because it directly affects the perceptions, behaviors, and attitudes of digital natives towards advertising on their mobile devices. It can lead to mobile advertising avoidance, where digital natives actively take steps to ignore or block mobile advertising. In addition, they may also harm brand recognition and purchase intentions. In the literature review, the researcher will research the existing research and theory related to mobile advertising irritation for digital natives. They will explore how irritation affects digital natives' attitudes towards mobile advertising (Hakimi et al., 2019). By reviewing the previous research on mobile advertising irritation, the literature review aims to provide a comprehensive understanding of this research among digital natives. This understanding can inform the development of effective advertising strategies tailored to this audience, ultimately contributing to more successful mobile advertising campaigns. To investigate the influence of irritation on perceived value, the following hypothesis is formulated:

H_4 : There is a significant relationship between irritation and the perceived value of mobile advertising.

2.8. Perceived Value and Attitude

Perceived value in advertising refers to the consumer's overall assessment of the content received and given in the advertising context (Sharma et al., 2021). Perceived value is important for the continued use of a service, which is a very critical source of competitiveness and one of the key factors affecting purchase intention (Murillo-Zegarra et al., 2020). Value perception consists of financial and non-financial factors. Value perception is a combination of 4 smaller and more specific value subsets. The four value subsets are functional value, financial value, social value, and psychological value. Firstly, the functional value is the product that must solve a specific problem. Secondly, financial value is when the price point seems reasonable compared to the prices of competitors. Thirdly, social value is when the status is reinforced or the product creates social opportunities. Finally, psychological value is when the product reinforces the user's feelings about themselves and creates emotional value, such as happiness or pleasure.

The perceived value can attract potential users to the products promoted by mobile advertising. Of course, digital natives will only adopt their products if they think that the design of mobile advertising provides them with value. Perceive value in the context of mobile advertising refers to the utility and benefits that digital natives believe they gain from mobile advertising relative to the costs or sacrifices they must make, such as an overall assessment of time or data consumption. Understanding perceived value is important in developing an effective mobile advertising strategy, especially for digital natives who often have negative attitudes toward unsolicited marketing messages. When digital natives perceive the information, entertainment, and credibility provided by mobile advertising as high value, their attitudes are more likely to be positive. Conversely, if advertising is viewed as intrusive, perceived value decreases and leads to negative attitudes. In addition, negative attitudes can be cultivated, causing users to ignore or block advertising or even develop a negative view of the brand.

In summary, advertisers should focus on crafting relevant and personalized mobile advertising that meets the interests and needs of the target audience to increase perceived value. Perceived value

plays a key role in shaping digital natives' attitudes toward mobile advertising. By providing mobile advertising that digital natives perceive as valuable, advertisers can cultivate positive digital natives' attitudes and improve the effectiveness of their mobile advertising campaigns, ultimately building long-term brand loyalty (Hakimi et al., 2019). To further explore the influence of perceived value on consumer attitudes, the following hypothesis is proposed: H_5 : There is a significant relationship between perceived value and the attitude of digital natives toward mobile advertising.

Figure 1 the research framework.

3. METHODOLOGY

A pilot test was conducted with a total of 30 respondents to assess the clarity, reliability, and validity of the questionnaire. These respondents were selected based on their experience with mobile advertising and their habitual use of mobile advertising. The pilot study helped to identify and refine any ambiguities in the survey before conducting a full data collection. The pilot test results were tested for reliability using Cronbach's Alpha to ensure the internal consistency of the measurement tools. Adjustments were made to improve clarity and relevance whenever necessary.

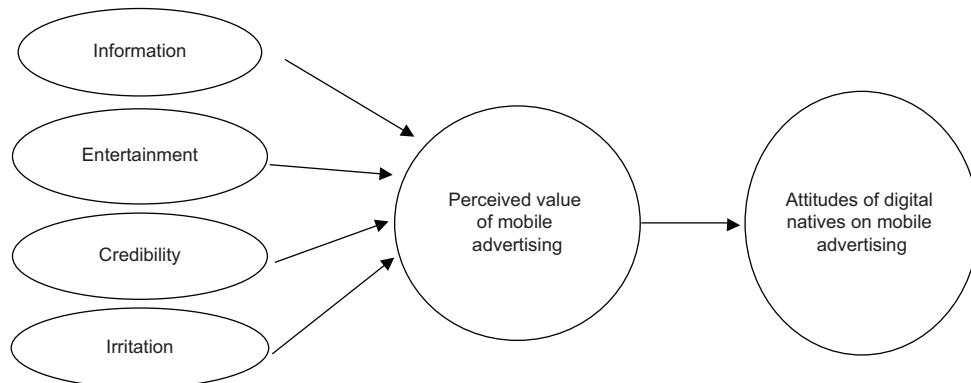
After refining the questionnaire based on the pilot study results, the full survey was conducted. A total of 200 respondents successfully participated in the study, ensuring a diverse and representative sample of digital natives.

Convenience sampling method was adopted to improve the representativeness of the digital native population. The questionnaires were distributed online via Google Forms to maximize reach and ensure broad population representation. Responses were carefully reviewed, and incomplete or inconsistent responses were excluded to maintain data quality.

3.1. Sampling Procedures

A set of structured questionnaires is used for primary data collection. The construction number of questions are based upon the research questions and the formulated hypotheses. The questionnaire consists of three sections. Section 1 consists of eight questions on the demographic profile of the respondents such

Figure 1: Conceptual framework



as age, gender, education level, occupation, state of residence, primary language, marital status, and household income. Section 2 is captured information related to mobile advertising engagement. This section included questions on respondents' exposure to mobile advertising, frequency of interaction, and their preferences regarding mobile advertising content. The Section 3 contained 20 questions measuring respondents' perceptions and attitudes toward mobile advertising, based on independent and dependent variables, namely information (IN), entertainment (EN), credibility (CR), irritation (IR), and perceived value (PV). The dependent variable is the attitude of digital natives toward mobile advertising (ATT). These questions were collected from Xu (2007) and Hakimi et al. (2019). The Items in section 3 were scored using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

3.2. Data Collection and Analysis Procedures

The data were coded and run using the Statistical Package for Social Sciences version 29.0. Frequency tests were conducted on items in Sections 3. Inferential statistics, i.e., multiple regression analysis, was carried out to test the hypotheses.

Table 1 presents that most of the respondents are female (60.0%), predominantly between the ages of 18 and 24 (46.0%). This aligns with the typical demographic profile of university students, who often fall within this age range. Most respondents are single (59.0%), pursuing a bachelor's degree (48.0%), and are currently students. The majority reside in Pahang, Kuala Lumpur and Selangor (both are 12.5%), with a substantial percentage (60.5%) choosing not to disclose their household income.

Table 1: Demographic profile of respondents

Variables	Classification variables	n	Percentage	Variables	Classification variables	n	Percentage
Gender	Male	80	40.0	Marital status	Single	118	59.0
	Female	120	60.0		Married	43	21.5
Age	Under 18	19	9.5		In a relationship	29	14.5
	18-24	92	46.0		Divorced	0	0.0
	25-34	54	27.0		Widowed	1	0.5
	35-44	35	17.5		Prefer not to say	9	4.5
Education level	Primary Education (Standard 1-6)	1	0.5	Household income (annually)	<RM20,000	51	25.5
	Lower Secondary (Form 1-3)	8	4.0		RM20,000-RM39,999	14	7.0
	Upper Secondary (Form 4-5)	24	12.0		RM40,000-RM59,999	10	5.0
	Pre-University (Form 6, Matriculation, Foundation, A-Levels)	17	8.5		RM60,000-RM79,999	2	1.0
	Diploma/certificate	25	12.5		RM80,000-RM99,999	1	0.5
	Bachelor's degree	96	48.0		RM100,000 and above	1	0.5
	Master's degree	19	9.5		Prefer not to say	121	60.5
	Doctorate (PhD)	7	3.5				
	Professional Qualification (e.g., ACCA, CLP)	3	1.5				
	Student	98	49.0				
Occupation	Employed (Full-time)	68	34.0	What do you do when you are sent a mobile advertisement?	I delete without reading	41	20.5
	Employed (Part-time)	18	9.0		I occasionally read	46	23
	Self-employed	14	7.0		I read collectively	32	16
	Unemployed	2	1.0		I read when I have time	64	32
	Retired	0	0.0		I read at once	17	8.5
	Other	0	0.0				
	Johor	29	14.5				
Place of residence	Kedah	8	4.0	How much of a mobile advertisement do you read?	I never read	38	19
	Kelantan	9	4.5		I read a quarter of it	66	33
	Kuala Lumpur	25	12.5		I read half of it	47	23.5
	Labuan	2	1.0		I read — of it	29	14.5
	Malacca	16	8.0		I read all	20	10
	Negeri Sembilan	12	6.0				
	Pahang	25	12.5				
	Penang	8	4.0				
	Perak	14	7.0				
	Perlis	11	5.5				
	Putrajaya	4	2.0				
	Sabah	3	1.5				
	Sarawak	3	1.5				
	Selangor	25	12.5				
	Terengganu	6	3.0				

In terms of mobile advertising engagement, the data suggests that a considerable number of respondents tend to ignore or delete mobile advertisements without reading them (20.5%), while others only read them occasionally (23.0%) or selectively (32.0%). This behavior may be attributed to advertising overload, where excessive exposure to mobile advertising leads to advertising fatigue and disengagement. Additionally, digital natives, who are accustomed to filtering large amounts of online content, may disregard advertisements they perceive as irrelevant or intrusive.

To enhance engagement, marketers should focus on creating more targeted, relevant, and interactive advertisements that align with digital natives' interests and preferences. Understanding their behavior towards mobile advertising can help improve ad effectiveness and increase consumer interaction.

Table 2 shows the mean and standard deviation scores of how digital natives perceive mobile advertising based on different factors. The results show that Information is one of the independent variables has the highest average score (4.1337), meaning that respondents find mobile advertising to be a valuable source of information. Perceived Value follows closely (4.1250), suggesting that digital natives see mobile advertising as beneficial. Entertainment (3.9450) and Credibility (3.9033) also received relatively high ratings, indicating that people find mobile advertising engaging and somewhat trustworthy. While the dependent variables which is Attitudes of digital natives, which measures overall sentiment, ranks third (3.9588), showing that most respondents have a fairly positive view of mobile advertising. On the other hand, Irritation scored the lowest (1.8800), meaning that digital natives do not find mobile advertising annoying. Looking at variation in responses, Irritation had the highest standard deviation (0.89670), followed by Entertainment (0.91625) and Credibility (0.90139), showing that opinions on these aspects vary more widely. Meanwhile, Perceived Value (0.82496) and Attitude (0.86122) had more consistent responses. Information had the lowest standard deviation (0.77891), indicating strong agreement among respondents that mobile advertising provide useful information. Overall, these findings suggest that digital natives generally see mobile advertising as informative and valuable, with mostly positive attitudes and little irritation. The consistency in responses also strengthens the reliability of these insights for further analysis.

4. RESULTS

Table 3 presents the reliability analysis of the scales used to measure attitudes toward mobile advertising. The results indicate high internal consistency, with Cronbach's alpha values exceeding 0.7 for all key factors (Information, Entertainment, Credibility, Irritation, and Perceived Value). This suggests that the items within each factor reliably measure the same underlying concept (Lance and Guy, 2006).

Among these factors, Information recorded the highest Cronbach's alpha (0.902), indicating that respondents consistently evaluated the trustworthiness and relevance of mobile advertisements. Other factors also demonstrated strong reliability, reinforcing the robustness of the measurement scales used in this study.

Table 4 presents the results of the multiple regression analysis examining the relationship between perceived value and four independent variables: Information, Entertainment, Credibility, and Irritation. With an R^2 value of 68.3%, the model explains a significant portion of the variation in perceived value, indicating that these four factors strongly influence how digital natives assess mobile advertising. Among these variables, Information and Entertainment are found to have a significant positive impact on perceived value, supporting H_1 and H_2 . Credibility also plays a positive role, confirming H_3 . However, Irritation negatively affects perceived value, validating H_4 . This suggests that while informative, entertaining, and credible advertising enhance perceived value, excessive or intrusive advertising may diminish it.

Similarly, Table 5 examines the relationship between perceived value and attitude towards mobile advertising. The model shows a moderate predictive power, with an R^2 value of 49.1%, meaning that perceived value significantly influences attitude. As expected,

Table 2: Means, standard deviation scores for all the variables

Variables	Mean	Standard deviation
Attitudes of digital natives on mobile advertising	3.9588	0.86122
Information	4.1337	0.77891
Entertainment	3.9450	0.91625
Credibility	3.9033	0.90139
Irritation	4.1250	0.82496
Perceived value	1.8800	0.89670

Table 3: Reliability test

Variables	Cronbach's alpha
Attitudes of digital natives on mobile advertising	0.902
Information	0.893
Entertainment	0.861
Credibility	0.843
Irritation	0.902
Perceived value	0.882

Table 4: Results of multiple linear regression (H_1-H_4)

Variables	Unstandardized coefficients		Standardized coefficients	t	Significance
	B	Standard error	Beta		
Information	0.403	0.060	0.381	6.701	<0.001
Entertainment	0.186	0.066	0.207	2.813	0.005
Credibility	0.236	0.071	0.257	3.317	0.001
Irritation	-0.090	0.051	-0.097	-1.774	0.078
Perceived value	0.731	0.053	0.700	13.810	<0.001

$R^2=0.683$

Table 5: Results of multiple linear regression (H_5)

Variables	Unstandardized coefficients		Standardized coefficients	t	Significance
	B	Standard error	Beta		
Perceived value	0.731	0.053	0.700	13.810	<0.001

$R^2=0.491$

Table 6: Summary of results of hypotheses testing

Hypotheses	Decision
H ₁ : There is a significant relationship between information and perceived value of mobile advertising.	Supported
H ₂ : There is a significant relationship between entertainment and perceived value of mobile advertising.	Supported
H ₃ : There is a significant relationship between credibility and perceived value of mobile advertising.	Supported
H ₄ : There is a significant relationship between irritation and perceived value of mobile advertising.	Rejected
H ₅ : There is a significant relationship between perceived value and attitude of digital natives towards mobile advertising.	Supported

higher perceived value leads to a more positive attitude, supporting H₅. However, 50.9% of the variation remains unexplained, indicating that other factors, such as personal experiences with advertising, brand trust, or advertising frequency, may also shape attitudes. Table 6 shows the summary of results of the hypotheses testing.

5. DISCUSSION, CONCLUSION AND IMPLICATIONS

The findings from this study confirm the reliability and robustness of the measurement tools used to assess attitudes of digital natives toward mobile advertising. With Cronbach's alpha values exceeding 0.7 across all key factors—Information, Entertainment, Credibility, Irritation, and Perceived Value—the study demonstrates strong internal consistency, ensuring that these constructs accurately capture digital natives' perceptions. This validation provides a solid foundation for further research and enhances confidence in the measurement tools for broader applications.

The findings from the results validate the robustness of the scales used in assessing attitudes toward mobile advertising. The high Cronbach's alpha values suggest that the items are consistently measuring the intended factors, ensuring the reliability of the instruments for future research. This paves the way for the main study, which can now be conducted with confidence in the measurement tools' ability to capture key attitudinal dimensions accurately.

The multiple linear regression analysis provides deeper insights into the relationships between key factors influencing perceived value and attitudes toward mobile advertising. The results indicate that Information ($\beta = 0.381$, $P < 0.001$) has the strongest positive effect on perceived value, emphasizing the importance of providing clear and relevant content. Entertainment ($\beta = 0.207$, $P = 0.005$) also significantly contributes to perceived value, highlighting the role of engaging and visually appealing advertisements. Credibility ($\beta = 0.257$, $P = 0.001$) further strengthens perceived value, demonstrating the necessity for reliable and trustworthy advertising content. Irritation ($\beta = -0.097$, $P = 0.078$) was found to have a negative but statistically insignificant impact, suggesting

that while some users find mobile advertising annoying, it does not substantially reduce perceived value. Finally, perceived value ($\beta = 0.700$, $P < 0.001$) was the strongest predictor of attitudes toward mobile advertising, confirming that when advertisements provide useful, entertaining, and credible content, digital natives respond more positively and engage more actively.

The high internal consistency across the key factors has several important implications. First, it confirms that the selected constructs—Information, Entertainment, Credibility, irritation, and perceived value—are crucial in understanding how digital natives perceive mobile advertising. This insight can guide advertisers and mobile banking platforms in refining their strategies by focusing on improving aspects that enhance user experiences, such as credibility and perceived value, while minimizing irritation. For researchers, the validated scales allow for more rigorous testing of hypotheses in future studies, contributing to the literature on digital natives and mobile advertising. Additionally, the results support the potential use of these tools in cross-cultural studies or other demographic groups to compare attitudes across various populations.

5.1. Implications for Researchers

The strong reliability of the scales means they are clear, consistent, and effective in measuring digital natives' attitudes toward mobile advertising. Researchers can trust these tools to accurately capture how digital natives think and feel about mobile ads, making them useful for future studies. This provides a solid foundation for deeper research, helping to understand how different factors influence attitudes.

Since Cronbach's alpha values are above 0.7, these tools are reliable and can be used in different types of research, such as short-term (cross-sectional) or long-term studies. They can also be applied to different groups of people, such as older consumers or people from different cultures. This allows researchers to compare attitudes and understand how mobile advertising strategies should be adjusted for different audiences.

Additionally, the multiple linear regression results highlight the intricate relationships between key advertising factors. For instance, Irritation do not significant relationship between irritation and perceived value of mobile advertising. This suggests that while some users may find mobile advertising annoying, it does not heavily dictate their overall perception. Researchers can explore more on making valuable and enjoyable mobile advertising to avoid the negative attitudes of digital natives. For example, businesses can avoid intrusive advertising by focusing on paid search advertisings, contextual display advertising, native advertising, or permission-based email advertising, all of which deliver relevant content without disrupting the user experience (Mialki, n.d.).

These tools can help researchers' study how different factors influence each other. For example, irritation might affect the link between perceived value and a person's willingness to engage with mobile advertising. Exploring these relationships can provide new insights into mobile marketing, consumer behavior, and how digital natives interact with technology.

5.2. Implications for Practitioners

For practitioners, particularly in marketing and mobile banking sectors, these findings offer actionable insights into improving the effectiveness of mobile advertising strategies. The high internal consistency of factors like Information and Entertainment suggests that these elements significantly influence user engagement with mobile advertising. Therefore, enhancing the informational content and entertainment value of mobile advertising can improve their reception among digital natives, making advertising campaigns more effective. Practitioners can use this knowledge to create content that appeals to users' desire for useful information or entertaining experiences, increasing both user satisfaction and engagement rates.

The credibility factor also stands out as a critical element in the perception of mobile advertising. This highlights the importance of trust in the relationship between consumers and mobile banking platforms. To build on this, advertisers and mobile banking services should focus on creating credible and transparent communication that reassures users about the safety and reliability of their services. By addressing this need, brands can foster stronger customer loyalty and higher adoption rates.

Additionally, the irritation factor implies that poorly designed or overly intrusive ads can lead to negative attitudes toward mobile advertising, potentially harming the overall user experience. To mitigate this, marketers should prioritize ad relevance and frequency, ensuring that ads are well-targeted and minimally disruptive. By doing so, businesses can reduce user irritation and improve the effectiveness of their mobile advertising strategies, ultimately leading to better customer retention and positive brand perception.

Finally, the significant role of perceived value implies that users are more likely to respond positively to mobile ads if they perceive them as adding value to their lives. Whether through personalized offers, discounts, or relevant information, businesses can focus on delivering advertisements that resonate with the user's needs and interests. By emphasizing the value that their services or products provide, mobile banking platforms can enhance customer satisfaction, drive conversion rates, and foster a more positive brand-customer relationship.

In summary, the high internal consistency of these factors suggests that researchers have reliable tools for further exploration of digital natives' attitudes, while practitioners gain valuable insights into optimizing mobile advertising strategies to better align with consumer preferences.

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