

Do Age and Gender Matter in SMS Marketing in Fiji?

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Abstract

This study recognises and addresses short message service (SMS) advertising research deficits. The empirical study, grounded in the Uses and Gratification theory, presents the perceived advertising values and attitudes (PAVA) of consumers of different age groups and gender towards SMS advertisements. Data was collected from 261 mobile phone users and analysed using SPSS AMOS. The results suggest that the age and gender of consumers - matter when it comes to their PAVA towards SMS advertisements; thus, the need to tailor-make advertisements, particularly if the target markets are segmented by age and gender. The major and original contributions of this study are the different age groups and gender comparisons, using Uses and Gratification theory and a field study of a smaller South Pacific developing economy, unlike prior studies. Such a study is useful in setting the foundation for more research focussing on different age groups and gender comparative studies in smaller developing countries, larger scale research, country comparative studies, as well as ongoing SMS-related studies. Our findings provide a practical reference for marketing companies that use SMS advertisements to persuade consumers.

Keywords: Age; Fiji; Gender; Marketing; SMS communication

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Introduction

Rapid advancements in mobile technology in the 21st century have seen an increase in the use of mobile devices as well as the number of mobile subscribers globally (Khalil et al., 2020). Despite digitalisation, the short message service (SMS), a text-based mobile communication, remains a popular and effective tool for delivering information from one person to another (Muk and Chung, 2015). SMS is considered an important tool for sharing value-added services with customers (Uddin et al., 2019). Because of its ease of use and lesser technological dependency, SMS advertising is often preferred over other mobile advertising tools (Lin and Chen, 2015) as advertisers always try to measure the effectiveness of various types of medias to maximise profitability (Gounder et al., 2021).

While much research has been carried out in both developed and developing countries, more so in the developed countries (e.g. studies by Bhatia, 2020; Khalil et al., 2020; Pongpeng and Piyaphanyamongkol, 2020; Tong et al., 2020), academic literature still falls short on empirical investigations into factors that are important for SMS advertising effectiveness. Hence, little is still known about the factors contributing to the effectiveness of SMS advertising (Sharma et al., 2021). Even with the existing literature, on different forms of mobile advertisements particularly in developed countries, there still remains a need to explore factors that influence SMS advertising value and its outcome in terms of attitude (Bhatia 2020).

While research has been done on age groups and gender perceptions towards SMS marketing, the Uses and Gratification (U&G) dimensions of “infortainment”, credibility and irritability to investigate the perceptions of different age and gender groups in a developing country in the South Pacific country has not been explored. While some studies have looked into gender perceptions, the age groups studied differ. SMS marketing research that has been done thus far (e.g. Aydin and Karamehmet, 2017) mostly focused on Generation Y, aged between 14-25 years – the mobile marketing target group. Such studies focused only on a particular age group, such as Tekkanata and Topaloglu (2015) studied the 21-23 age group, including gender; Roozen and Genin (2008) studied students aged 18-25, including gender, while Vigar-Ellis et al. (2007) studied the 18-34 age group. Coursaris et al. (2010) studied the 18-34 age group only using the U&G dimensions, however, they did not include the credibility dimension. Chhateja and Jain (2014) argue that the younger

generation is tech-savvy with an individualistic approach and high aspirations, thus willing to embrace SMS campaigns. While young consumers are commonly targeted in mobile marketing studies due to their high mobile phone ownership rates and familiarity with the rapid adoption of new technologies, scholars like Aydin and Karamehmet have called for future studies to represent different consumer segments apart from this traditional segment of young consumers. Studies on other segments in terms of other age groups are still understudied (Aydin and Karamehmet, 2017).

Some studies, like that of Adhami et al. (2015), presented a conceptual paper on both gender and age groups above and below 40 years of age but did not consider the U&G dimensions. Other scholars like Humbani and Jordaan (2015) studied the influence of gender and different age groups but also did not consider the U&G dimensions. Whereas Javeed (2015) did use the U&G dimensions and gender perception of attitude towards SMS ads, they did not investigate all U&G dimensions and did not discuss the different age group perceptions.

Other studies that have investigated consumer attitudes towards SMS ads, using few or all U&G dimensions, have not looked into gender and age group differences (e.g. Shaheen et al., 2017). Yet others like Saleem and Mustafa (2020) studied gender and age as control variables but did not investigate the gender and different age group perceptions on all U&G dimensions except discussing the impact of irritation and entertainment variables on overall consumer perception. Studies have also researched the U&G dimensions but focused on advertisements promoted through other types of media, not SMS advertisements, such as online advertising, overall (Cardoso and Cardoso, 2012) and *YouTube* (Firat, 2019).

Investigations into smaller target groups in terms of age and gender are important as marketers have realised that customisation and personalisation features of SMS ads are a better way of reaching out to the target audience (Aslam, 2016). This research has been undertaken against this backdrop, investigating the perceived advertisement value and attitude of consumers of different age groups, not just the younger consumers and gender, towards SMS in a small developing country, employing U&G theory.

Overall, literature on SMS marketing that discusses age and gender perceptions is largely skewed towards developed countries and the younger age groups.

Studies on SMS marketing in the small South Pacific developing economies, such as Fiji and other older age groups based on U&G theory, are rare.

The findings of this study make various contributions to the existing literature on SMS advertisements. Firstly it provides empirical evidence of the understudied small developing country context. Additionally, unlike prior studies, this is the first study to examine gender and age differences together, using different age brackets (of less than 20-year-olds, between 21 and 30 years, 31 and 40 years and 41 and 50 years) as suggested by scholars like Aydin and Karamehmet (2017) in a smaller South Pacific developing country, using the U&G theory. Even in online advertisement studies, ... no study included the full age range of young people solely” (De Battista, 2021: 70). This study examined four new measured variables within the U&G constructs, three of which proved useful, paving the way for the creation of even better conceptualisation. The findings present useful implications for practice in terms of gender and age group differences which practitioners can note when creating SMS ads to better appeal to their target markets. The study indicated that consumers do differ in their perception and the degree to which they are affected, given their age and gender. Thus, the need to customise advertisements, particularly if the target markets are segmented by way of age and gender.

This research was guided by the following two research questions:

- How do U&G dimensions influence Perceived Advertising Values and Attitudes (PAVA) toward SMS advertisements?
- How do the U&G dimensions influence the different age groups, male and female 'consumers' Perceived Advertising Values and Attitudes (PAVA) toward SMS advertisements?

Literature Review, Theoretical Background and Hypotheses Development

Perceived Value and Attitude towards SMS Advertising: the Dependent Variable

Advertising value is a measure of advertising effectiveness. It is the 'subjective evaluation of the relative worth or utility of advertising to consumers (Ducoffe, 1995, p.1). In other words, advertising value is the 'consumers' evaluation of the relative worth of the advertisement, in that consumer satisfaction will only materialise if the perceived value of the advertisement is high enough to fulfil

their expectations (Aydin and Karamehmet, 2017; Herrando and Martin-De Hoyos, 2022).

The value of advertising has shown considerable effects on consumer attitudes towards mobile advertising (Thavorn et al., 2022). Consumers perceive the received message as a worthy read if these are in line with their needs or include valuable information regarding purchase (Lin and Narasimhan, 2020).

However, acceptance of SMS may depend on many factors like age, income, the nature and frequency of the message as well as the value of the offer. In terms of age, Coursaris et al. (2010) argued that age does have a different impact on attitudes towards mobile ads. In their study, the older consumers reported a lower impact of mobile ads when compared to the younger consumers. Another study by Kaasinen (2003) reported similar results – younger consumers showed highly positive attitudes towards mobile ads. In terms of gender, while Shavitt et al.'s (1998) earlier study on traditional advertising found that males have a more favourable attitude towards ads than females, Javeed's (2015) study on Pakistani consumers found that age does not affect attitude towards SMS ads, also reporting that both males and females have similar attitudes towards SMS ads.

Given that customers' attitudes are largely affected by the U&G dimensions of irritation, information, entertainment and credibility (Tsang et al., 2004), this study employs this theory to investigate SMS ads' perceived value and attitude of consumers as these are thought to be good predictors (Liu et al., 2012). SMS ads do stimulate changes in consumer value and their belief systems, which in turn influence not only their attitude but also their purchase behaviour (Javeed, 2015). The U&G theory purports that the effects of users' motivational factors influence their attitudes and intentions (Herrando and Martin-De Hoyos, 2022), making this theory suitable for this study.

Uses and Gratification Theory

First developed in the late 1940s, the U&G theory was formulated to better understand consumers motivational elements towards the use of different media sources (Ducoffe, 1996). As per Governor and Akata (2020), this theory has its roots in Abraham Maslow's Hierarchy of Needs, as it explains why individuals choose what they want to see or read. According to Margareth et al. (2006), this theory is developed from the constructs of motivations, behavioural usage and gratification. From the time this theory was proposed, it has been widely applied

in many studies, and this continues with further advancements in communication technologies (Samani and Guri, 2019). The U&G theory explains the different motives and reasons behind using different mediums (Gan, 2017), to investigate how a person uses media to satisfy needs and helps researchers understand what motivates an individual to use a particular media (Lin, 1999). Voorveld et al. (2018) elaborate that this theory can explain and help better understand an individual's psychological needs, that in turn influences the reasons and motivations of engaging with a particular media, which then fulfils user needs. The theory assumes that individuals will use media for their own purposes (Samani and Guri, 2019).

The theory has been applied extensively to various media forms as well as mass contents, including both modern as well as traditional media like the internet (Larose and Eastin, 2004), newspapers, television, smartphones (Hossain et al., 2019), social networking sites, and social media (Sutrisno et al., 2020), such as *Facebook*, *Twitter*, *Snaphat* and *Instagram* (Phua et al., 2017).

Various studies mention the main dimensions of this theory as *Informativeness*, *entertainment* and *irritation* (e.g. Herrando and Martin-De Hoyos, 2022; Korgonkar and Wolin, 1999; Liu et al., 2012). Since the constructs of Informativeness and entertainment can be incorporated into one construct of infotainment (Herrando and Martin-De Hoyos, 2022; Liu et al., 2012) and because 'consumers' prefer information that is both relevant and interesting, the present research uses dimensions of *infotainment*, *irritation* and *credibility*. These were also used in the studies by Hongyan and Zhankui (2017) and Okazaki (2004). Overall, prior studies are inconclusive on which of the three dimensions is the most important in influencing consumers. For instance, in a recent study by Sharma et al. (2022), they found Informativeness and entertainment as the most important predictors of advertisement value while reporting that irritation reduced the effectiveness of advertisements significantly. In a previous study, informativeness, entertainment and irritation were reported as important constructs (Tsang and Liang, 2004), whilst another research reported only infotainment and irritation as the most important dimensions (Okazaki, 2004).

Infotainment

In SMS advertising, both information and entertainment are critical (Bauer, et al., 2005). The present study has incorporated the information and entertainment

dimensions into one construct (*infotainment*) (Ducoffe, 1995; Lin et al., 2016; Liu et al., 2012) as done in studies by Herrando and Martin-De Hoyos (2022), Hongyan and Zhankui (2017) and Okazaki (2004). As recently reported, “Informativeness and entertainment can aid consumers’ attitudes towards advertisement to drive them to instil the desire and ultimately purchase, while irritation can enact adverse effects” (De Battista et al., 2021: 3).

According to Ducoffe (1995) and Liu et al. (2012), the informativeness of an advertisement is what provides an individual with resourceful, practical and helpful information to make an informative decision. Studies such as those by Taylor et al. (2011) on social network ads found that informativeness has a positive effect on attitudes toward ads. The entertainment construct was reported as the construct with the strongest effect on an individual’s attitude towards digital advertisements in various studies (Liu et al., 2012; Tsang and Liang, 2004). Sharma et al. (2021) and Xiao et al. (2019) stress that consumers view SMS advertisements to obtain information only if it is interesting and relevant to them. Moreover, consumers’ motivation to use enjoyable and pleasant services like SMS can guide their perception of ease of use and usefulness (Xiao et al., 2019). As Gounder et al. (2021: 9) mentioned, “... consumers like to look at entertaining advertisements which they find interesting, enjoyable and funny. Consumers appear to be put off by advertisements which are [too] believable, ... intrusive and annoying”.

In terms of age, Arya and Kerti (2020) found that the millennials are interested in informative ads that generate a positive effect on their perceived advertising value. As per Firat's study (2019) on YouTube ads, participants aged 40 and over found ads more informative than the younger participants aged 18-29. Murillo’s (2016) study on Mexican millennials found that only a third of them confirmed clicking on a mobile-sponsored search only if it is informative. Participants aged 30-39 suggested that ads such as those on YouTube should be more entertaining and trendier than other age groups. Another study by Coursaris et al. (2010) reported lower perceptions of entertainment associated with mobile ads for older users than younger users. In terms of gender, 'Firat's (2019) study on YouTube ads found that males give more importance to informativeness than females, while Coursaris et al.' (2010) study reported that females perceive more informativeness and entertainment in mobile ads compared to males. Another study by Murillo (2016) argued that both males, as well as females, are strongly affected by entertainment. Thus, we hypothesise that,

H1a: Experienced infotainment gratification is positively related to the perceived advertisement value and attitude of both male and female consumers towards SMS.

H1b: Experienced infotainment gratification is positively related to the perceived advertisement value and attitude of consumers of different age groups towards SMS.

Credibility

Mackenzie and Lutz (1989, p 50) define advertisement credibility as 'the extent to which the consumers perceive the claims about the brand/product advertised in the advertisement to be truthful and believable'. As per Salaudeen and Onyechi (2020), credibility is about information's accuracy, factuality, fairness and a balance of content. The credibility aspect and a consumer's attitude towards the advertisement are greatly influenced by the content, brand, company name and the trustworthiness and reliability of the source providing the information (Izquierdo-Yusta et al., 2015). Martins et al. (2019) revealed that perceived credibility in mobile ads has a positive relationship with perceived advertising value. Various studies (e.g. Liu et al., 2012; Martins et al., 2019; Okazaki 2004; Tsang and Liang, 2004) found that credibility of an advertisement has a significant impact on users' attitudes towards the advertisement and their behavioural intentions. Credibility can thus have the strongest positive impact on user ratings of advertising value (Arya and Kerti, 2020). A study conducted by Aydin and Karamehmet (2017) found negative attitudes towards mobile advertising where the credibility of the advertisement sources was questionable. A similar study by Karjaluoto et al. (2008) also confirmed the same. The credibility of information is important since it affects how individuals interpret, make sense of and the extent to which they can rely on that information

As per Howe and Teufel (2014), age is associated with credibility in advertisements. According to Eagan et al. (2014), only less than 50% of Gen Z judge the reliability or quality of messages which may be because of their young age and lack of experience (Zimand-Sheiner et, 2020). Maturity can influence the impact of advertisements on teens (Kuppuswamy and Narayan, 2010) since, at this age, they may be unable to judge what is 'fair'(Zimand-Sheiner et al., 2020). In terms of gender, Murillo et al's. (2016) study found that credibility in ads appeared more important to female millennials than males. We therefore hypothesise that,

H2a: Credibility is positively related to the perceived advertisement value and attitude of both male and female consumers towards SMS.

H2b: Credibility is positively related to the perceived advertisement value and attitude of consumers of different age groups towards SMS.

Irritation

Advertisements that exploit human anxiety, distract attention, adversely affect human experiences (Ducoffe, 1996) and bring about discomfort, obnoxiousness (Luo, 2002), perceived intrusiveness and privacy concerns, leading to avoidant intention (Ko et al., 2019) are irritating advertisements. “Consumers are sensitive about certain products, services and even choice of words” (Gounder et al., 2021: 10). As per Yang et al. (2013), mobile advertisements with frustrating and insolent content involving negative feelings irritate individuals. Consumers find those advertisements irritating and perceive them as manipulative, offensive or insulting to their intelligence (Aydin and Karamehmet, 2017). Consumers can avoid ads on any medium because of the irritation ads create (Niu et al., 2021). Consumers reading or watching ads when using smartphones experience ad wear-out effects (Alwreikat and Rjoub, 2020) that result in irritation, negatively affecting the ad’s value (Lee et al., 2017).

In their study, Rettie and Brum (2001) reported that most consumers found some SMS annoying, so much so that they looked for ways to block unwanted messages. Research has shown that perceived irritation has a significant negative impact on advertising value (Liu et al., 2012; Martins et al., 2019) since “... if marketing SMS’s irritate the consumer then it will create the negative perception about certain products and services which ultimately hinder the purchasing” (Saleem & Mustafa, 2020: 735). As per Mustafi and Hosain (2020), the connection between irritation and purchase intent may also be affected by the value of ads and experience.

Cardoso and Cardoso (2012) while finding a consensus amongst gender on entertainment and credibility, reported that females find online advertising more informative and irritating. In contrast, 'Firat's (2019) study on YouTube ads showed that males were more irritated than females, but this did not differ for different age groups. Hence, the hypothesis that,

H3a: irritability is negatively related to the perceived advertisement value and attitude of both male and female consumers towards SMS.

H3b: irritability is negatively related to the perceived advertisement value

and attitude of consumers of different age groups towards SMS.

Some researchers used gender, age, race, education level and job status as control variables, mentioning these factors as important in influencing attitude (Wolin and Korgaonkar, 2003), whilst others suggest further exploration of such factors (Aydin and Karamehmet, 2017; Rettie and Brum, 2001; Roozen and Genin, 2008). However, our research explored the effects of different age groups and gender only, given that investigating all the factors as mentioned above is beyond the scope of this research and can limit good discussion on all factors in one article.

As per the research aim and in keeping consistency with the literature reviewed, the following conceptual model was developed as in Figure 1 below, illustrating the relationship between the U&G dimensions and consumers perceived advertisement value and attitude. The framework has been adopted and modified from the work of Saleem & Mustafa (2020).

Figure 1. Conceptual Framework

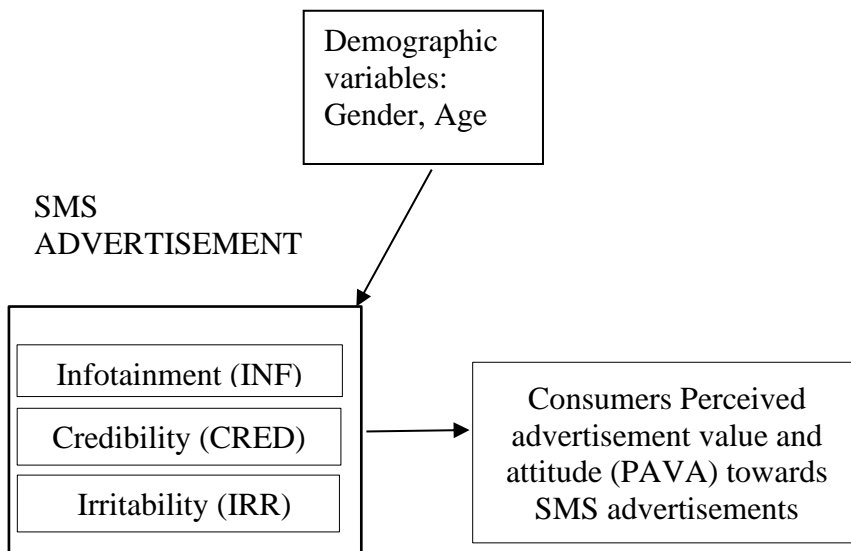


Figure 1 illustrates the relationship between the U&G dimensions and consumers' perceived advertisement value and attitude.

Materials and Methods

Participants and Procedure

The target participants for this study were mobile phone users. While most research on SMS marketing used mixed method data collection approaches,

authors like Bhave et al. (2013) suggested that future studies employ more quantitative survey methods with larger samples to improve the validity of results. Considering Bhave et al.'s (2013) suggestion, and assuming a positivist approach, this study employed a convenience sampling method through an online survey. This is also in line with Roozen and 'Genin's (2008) suggestion of an online questionnaire to reach out to different groups. A pilot test was carried out with 12 respondents to ascertain whether or not the survey instrument was clear and easy to understand. These respondents included university (The University of the South Pacific) students, friends and academic colleagues of the researchers who own and use mobile phones. All pilot study respondents understood the content and structure of the survey and filled them out appropriately. Thus, no changes were made to the survey questionnaire. Therefore, their responses were not included in the final dataset. The main survey was then conducted on Facebook. Since an online questionnaire helps reach out to different groups (Roozen & Genin, 2008), links to the revised questionnaire were messaged by the authors of this paper to their Facebook friends. The Facebook users are already part of the online community, most of whom access their Facebook using their mobile phones. Participants were further requested to forward the link to their acquaintances for a diverse sample and to reach out to others unknown to the researchers. Participation was voluntary, and participants were allowed to decline participation if they found any question inappropriate. The survey was conducted in May 2020 and collected 261 responses. The sample size is similar to the sample size of 271 in Bhatia's study (2020). Table 1 provides the demographic profile of the present study's sample.

Table 1. Demographic Characteristics of Respondents

Characteristics	N	%
Gender		
Male	113	43.3
Female	148	56.7
Age		
less than 20	48	18.4
21-30	123	47.1
31-40	54	20.7
41-50	20	7.7
51 and above	16	6.1

Measures

The infotainment (INF) construct has eight measurement items (1. SMS ads provide helpful information to keep individuals updated with various products and services; 2. SMS ads provide timely information on various products and services; 3. SMS ads provide relevant information on various products and services; 4. SMS ads are more valuable when they have incentives for products, brands or deals; 5. SMS ads are a good source of advertisements; 6. SMS ads are interesting; 7. SMS ads are enjoyable and funny, and; 8. SMS ads are pleasing) sourced from the work of Ducoffe (1995); Liu et al. (2012), and Yang et al. (2013). The credibility (CRED) construct has four measurement items (1. SMS ads are trustworthy because of the company and brand name used in the advertisement; 2. I believe that SMS ads are a good reference point for purchasing products; 3. SMS ads are reliable, and; 4. SMS ads are believable) sourced from Liu et al. (2012) and Yang et al. (2013). The irritation (IRR) construct has three measurement items (1. I feel that some SMS ads are irritating when the ads keep popping up; 2. I feel that some SMS ads are frustrating and produce negative feelings and; 3. I feel that some SMS ads' contents are intrusive and annoying) sourced from the work of Ducoffe (1995) and Liu et al. (2012). The perceived advertisement value and attitude (PAVA) construct has three measurement items (1. I like to look at mobile advertisements; 2. On average, brands that are advertised on mobiles are better in quality and; 3. SMS ads affect my decision to purchase a product or service) sourced from Ducoffe (1995) and Chowdhury et al. (2006).

The above measured variables include four variables that were added to suit the consumers within this cluster of research and were sourced from Chowdhury et al. (2006), Liu et al. (2012) and Yang et al. (2013). These new measured variables were: INF 4 - SMS ads are more valuable when they have incentives for products, brands or deals, CRED 10 - I believe that SMS ads are a good reference point for purchasing products, IRR 13 - I feel that some SMS ads are irritating when the ads keep popping up and, PAVA 18 - SMS ads affect my decision to purchase a product or service. In total, this study used 18 questions more than other similar studies (e.g. Chowdhury et al., 2006; Liu et al., 2012; Yang et al., 2013). The enhanced questionnaire helped consumers better understand and correctly respond to the questions, enhancing analysis, results and discussion.

Results

Prior to analysis, using the data screening procedure, the dataset was first checked for any missing values and outliers. While frequency tests using SPSS v25 of all variables showed no missing values, the outlier test of boxplot results did identify some outliers. A thorough manual check of each row identified as an outlier showed that these were neither outliers nor data entry errors since responses fell within the scale range. As per Orr, Sackett & DuBois (1991), some data points may be legitimate and probably represent the population as a whole if outliers remain; hence these were not removed. Data was considered Normally-distributed since skewness values ranged from -1.488 to .266, falling within the acceptable range of -2 to +2, and kurtosis ranged from -1.397 to 4.238, also within the acceptable range of -7 to +7 (Bryne, 2010). All Variance Inflation Factor (VIF) scores were <10, ranging from 1.500 to 4.733 and tolerance (t)>0.1 (Paruq et al., 2021), ranging from .211 to .667, thus multicollinearity was not an issue.

Assessment of measurement model

Reliability analysis was carried out for internal validity and reliability of constructs, using the Cronbach's alpha coefficient. The results were well above >0.7 for good internal validity and reliability (Griethuijsen et al., 2015), being 0.904 for INF, 0.894 for CRED, 0.822 for IRR, 0.841 for PAVA.

Convergent validity was confirmed for all scales since these were within the acceptable range of Average Variance Extracted (AVE) >0.5 (Hair et al. 2016). Composite reliability (CR) scores were also >0.60 (Fornell and Larcker, 1981), and the square roots of AVE were more than the inter-construct correlations, confirming discriminant validity (Hamilton & Tee, 2015). See Table 2 below.

Table 2. Validity Analysis

	CR	AVE	INF	CRED	IRR	PAVA
INF	0.892	0.552	0.743			
CRED	0.926	0.759	.721**	0.871		
IRR	0.840	0.644	-.454**	-.349**	0.802	
PAVA	0.842	0.640	.753**	.686**	-.571**	0.799

Sqrt of AVE are the boldfaced diagonal scores.

INF=Infotainment, CRED=Credibility, IRR= Irritation,

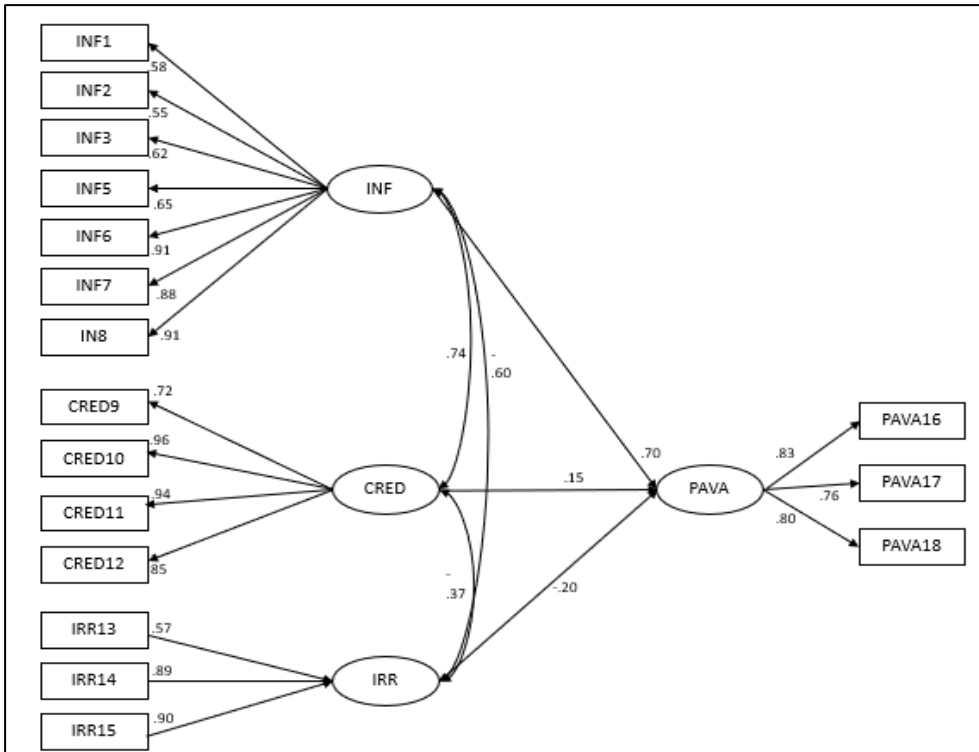
PAVA=Perceived Advertisement Value and Attitude

In addition, common method bias was tested using Harman's single factor score. The total variance for a single factor was 47%, below the 50% threshold, confirming that common method bias did not affect this 'study's 'findings'.

After the reliability and validity tests, an initial Confirmatory Factor Analysis (CFA) was carried out for the measurement model assessment for comprehensive data. In so doing, INF4 was dropped because of a lower standardised estimate, and few correlations were created between some infotainment and credibility error variables to improve model fit. A good model fit was then confirmed (CMIN/DF=2.279<3.0, NFI=0.917, IFI=0.952, CFI=0.951; PNFI=0.695, PCFI=0.721; RMSEA=0.050 (Schmitt 2011).

Structural model results

SPSS v25 and SPSS AMOS v23 were used for descriptive analysis, validity tests, and covariance-based structural equation modelling (CB-SEM) for regression path analysis to test the hypotheses. SEM proves effective when developing and expanding theories, with second, and third-order factors leading to an improved understanding of relationships that may not appear so initially (Astrachan, Patel & Wanzenreid, 2014). AMOS was employed in this research to test the hybrid model based on two relevant theories with confirmatory factor analysis, for which CB-SEM is more applicable (Ringle & Sarstedt, 2013) as it helps with the development of scales, exploratory and confirmatory analyses, latent constructs' relative salience as well as evaluates causal relationships (Byrne, 2010). As per the recommendation of Schmitt (2011), an acceptable model fit was also confirmed for the structural model (CMIN/DF=2.734<3.0, NFI=0.917, IFI=0.945, CFI=0.945; PNFI=0.728, PCFI=0.750; RMSEA=0.08). Figure 3 illustrates the Structural Equation Model.

Figure 3. Structural Equation Model

The results (standardised loadings) for gender and age comparisons are presented in Tables 3 and 4.

Table 3. Results: Gender Comparison

Factor and Item Description	Male	Female		
	SL	SL	SL	
Infotainment (INF)				
1. SMS ads provide helpful information to keep you up to date with various products and services and;	0.667	0.503		
2. SMS ads provide timely information on various products and services;	0.584	0.509		
3. SMS ads provide relevant information on various products and services;	0.671	0.580		
5. SMS ads are a good source of advertisements;	0.669	0.628		
6. SMS ads are interesting;	0.924	0.890		
7. SMS ads are enjoyable and funny	0.875	0.893		
8. SMS ads are pleasing	0.940	0.876		
Credibility (CRED)				
9. SMS ads are trustworthy because of the company and brand name used in the advertisement	0.774	0.683		
10. I believe that SMS ads are a good reference point for purchasing products	0.932	0.980		
11. SMS ads are reliable	0.972	0.922		
12. SMS ads are believable	0.817	0.867		
Irritation (IRR)				
13. I feel that some SMS ads are irritating when the ads keep popping up	0.569	0.575		
14. I feel that some SMS ads are frustrating and produce negative feelings	0.873	0.899		
15. I feel that some SMS 'ads' contents are intrusive and annoying	0.932	0.881		
Perceived Advertisement Value and Attitude (PAVA)				
16. I like to look at mobile advertisements	0.838	0.818		
17. On average, brands that are advertised on mobiles are better in quality	0.688	0.823		
18. SMS ads affect my decision to purchase a product or service	0.799	0.807		
		P value	P value	
INF → PAVA	0.632	***	0.742	***
CRED → PAVA	0.125	0.155	0.178	0.006
IRR → PAVA	-0.308	***	-0.131	0.033

SL = Standard Loadings; *** = Significant p value of <0.001

Table 4. Results: Age Group Comparison

Age (years)	< 20	21-30	31-40	41-50				
Factor and Item Description	SL	SL	SL	SL				
Infotainment (INF)								
1. SMS ads provide helpful information to keep you up to date with various products and services and;	0.701	0.537	0.647	0.907				
2. SMS ads provide timely information on various products and services;	0.776	0.501	0.664	0.929				
3. SMS ads provide relevant information on various products and services;	0.686	0.577	0.665	0.937				
5. SMS ads are a good source of advertisements;	0.777	0.616	0.726	0.330				
6. SMS ads are interesting;	0.924	0.897	0.902	0.945				
7. SMS ads are enjoyable and funny	0.782	0.883	0.871	0.952				
8. SMS ads are pleasing	0.866	0.884	0.911	1.004				
Credibility (CRED)								
9. SMS ads are trustworthy because of the company and brand name used in the advertisement	0.745	0.699	0.826	0.862				
10. I believe that SMS ads are a good reference point for purchasing products	0.972	0.934	0.940	1.028				
11. SMS ads are reliable	0.962	0.959	0.856	1.006				
12. SMS ads are believable	0.913	0.792	0.843	0.958				
Irritation (IRR)								
13. I feel that some SMS ads are irritating when the ads keep popping up	0.137	0.624	0.660	0.468				
14. I feel that some SMS ads are frustrating and produce negative feelings	1.311	0.817	0.970	1.244				
15. I feel that some SMS ads' contents are intrusive and annoying	0.630	0.828	0.960	0.747				
Perceived Advertisement Value and Attitude (PAVA)								
16. I like to look at mobile advertisements	0.817	0.768	0.847	0.987				
17. On average, brands that are advertised on mobiles are better in quality	0.611	0.795	0.681	0.999				
18. SMS ads affect my decision to purchase a product or service	0.904	0.765	0.790	0.890				
		P value	P value	P value	P value			
INF → PAVA	0.893	***	0.601	***	0.723	***	1.173	***
CRED → PAVA	0.069	.593	0.284	.001	0.138	.249	-0.266	.042
IRR → PAVA	-0.082	.136	-0.214	.007	-0.233	.016	-0.032	.267

*** = significant p value of $p < 0.001$

As per the results, infotainment (INF) depicts the strongest association with both the males and females' perceived advertisement value and attitude (PAVA: H1a), more so for females ($\beta = 0.742$, $p < 0.001$). Credibility (CRED) does not significantly impact for males but was significant for females with $\beta = 0.178$, $p < 0.05$ (H2a) while irritation (IRR) was significant, more so for males with $\beta = -0.308$, $p < 0.001$ (H3a). Results for age showed that INF has a significant association with PAVA for all age groups, indicating the strongest impact on

the oldest group, the 41-50 year olds. CRED had a significant impact on the 21-30 year olds ($\beta = 0.284$, $p < 0.05$) and 41-50 year olds ($\beta = -0.266$, $p < 0.05$) only but is negative for the latter age group. IRR (F3) showed significant impact on 21-30 ($\beta = -0.214$, $p < 0.05$) and 31-40 year olds ($\beta = -0.233$, $p < 0.05$) only. Interestingly, all three dimensions (INF, CRED and IRR: H1b, H2b, H3b) showed significant positive impact for the 21-30 year olds only. However, for the older group of 31-40 year olds, only INF and IRR were significant. Lastly, for the oldest of the four groups (41-50 year olds), only INF and CRED were significant but negative for CRED. Table 5 summarises the structural model relationships.

Table 5. Structural Model Relationships

Hypothesis	Decision	Interpretation
H1a: Experienced infotainment gratification is positively related to the perceived advertisement value and attitude of both male and female consumers towards SMS.	Supported	The positive relationship between infotainment and PAVA towards SMS is confirmed but is stronger for females.
H1b: Experienced infotainment gratification is positively related to the perceived advertisement value and attitude of consumers of different age groups towards SMS.	Supported	The positive relationship between infotainment and PAVA towards SMS is confirmed since it is significant for all age groups, being strongest for the oldest group, 41-50 year olds.
H2a: Credibility is positively related to the perceived advertisement value and attitude of both male and female consumers towards SMS.	Partially supported	The positive relationship between credibility and PAVA towards SMS is partially confirmed since results are significant only for females.
H2b: Credibility is positively related to the perceived advertisement value and attitude of consumers of different age groups towards SMS.	Partially supported	The positive relationship between credibility and PAVA towards SMS is partially confirmed since it is only significant for the 21-30 year olds and is significant but negative for 41-50 year olds.
H3a: Irritability is negatively related to the perceived advertisement value and attitude of both male and female consumers towards SMS.	Supported	The negative relationship between irritability and PAVA towards SMS is confirmed for both, more so for males.
H3b: Irritability is negatively related to the perceived advertisement value and attitude of consumers of different age groups towards SMS.	Partially supported	The negative relationship between irritability and PAVA towards SMS is only confirmed and significant for the 21-30 and 31-40 year olds.

Discussion

Discussion of results

As per the empirical results of this study, while infotainment is positively related to both male and female consumers' perceived advertisement value and attitude towards SMS, the impact was higher for females than males. The study by Karjaluoto et al. (2008) reported similarly - males appeared less likely to be persuaded by mobile marketing when compared to females. This may suggest that females seek more helpful, timely, relevant, valuable, interesting and entertaining SMS advertisements than males.

The empirical results of this study also confirmed that infotainment is positively related to consumers' perceived advertisement value and attitude for all age groups towards SMS, strongest for the oldest of the four groups (41-50 years). For the less than 20-year-olds, credibility and irritation were not significant. While various studies (e.g. Tsang and Liang, 2004) have shown that an advertisement's credibility has a significant effect on 'users' attitudes towards the advertisement, this 'study's empirical results could not confirm this for the youngest consumers. The impact was also not as much for the 21-30-year-olds. This may be because this group more readily believes in SMS, is more excited about SMS and is less irritated by frequent SMS compared to older consumers.

Furthermore, it is evident from the various age groups' results that the 21-30-year-olds are the most affected by all three dimensions of infotainment, credibility and irritation. This is because they are considered the e-generation, being more tech-savvy and reliant on their mobile phones compared to the other age groups. This empirical finding concurs with previous studies (Bhave et al., 2013; Chhateja and Jain, 2014; Roozen and Genin, 2008) that argued that SMS campaigns are particularly successful in the younger segments of the market because they are tech-savvy and demonstrate stronger consumer and individual traits. However, for the older group of 31-40-year-olds, only infotainment and irritation are related to their perceived advertisement value and attitude, more so infotainment. This may be because, being older and generally busier than other age groups, the 31-40-year-olds are less tolerant of frequent SMS and more concerned about relevant information. For the oldest of the four groups - the 41-50-year-olds, infotainment and credibility are related to their perceived advertisement value and attitude, with credibility reporting negative relation. This may be because these customers are more cautious and do not readily

believe in SMS advertisements, making them more sceptical and difficult to persuade. Overall, the comparative results indicate that consumers of different age groups have different perceived advertising values and attitudes towards SMS advertising.

Theoretical contributions

The findings of this study make various contributions to the existing literature on SMS advertisements. First, this study provides empirical evidence from a developing country perspective, particularly a small South Pacific nation.

Second, another contribution of this research is the gender and age group comparisons when investigating consumers' perceived value and attitude towards SMS. This study is the first to examine gender and age group differences, using different age brackets, employing all U&G dimensions. Scholars (e.g. Aydin and Karamehmet, 2017) suggested that future studies should explore different consumer segments apart from the traditional segment of young consumers. In addressing this gap, this study provided empirical evidence of differences in consumers' perceived value and attitude towards SMS for males, females, and the age groups of less than 20, 21-30, 31-40 and 41-50 year-olds.

Lastly, while the present study used existing variables, it added four new measured variables within the three U&G constructs. These were:

- “SMS ads are more valuable when they have incentives of products, brands or deals(INF4-infotainment);
- “SMS ads are a good reference point for purchasing products” (credibility);
- “some SMS ads are irritating when the ads keep popping up” (irritation); and
- “SMS ads affect my decision to purchase a product or service” (perceived value and attitude).

The INF4 scale item was dropped with lower loading while the other three proved useful, paving the way for the creation of a more refined questionnaire

Implications for Practice

Marketers need to consider gender and age group differences when creating SMS advertisements (Luxton & Ferraro, 2009) and, tailor their advertisements, especially if they segment their markets in terms of different age groups and gender. Companies need to consider such demographic factors of their target

segments (Firat, 2019). Their SMS advertisements would then most likely better appeal to their target markets. As Bhave et al. (2013) mentioned, personalised messages can increase consumer involvement. The more involved the consumer, the more likely they will be persuaded to purchase what is advertised. For instance, for less than 20-year-olds, credibility and irritation are not significant, but infotainment is. As such, marketers should focus on creating , relevant, incentivised, and enjoyable advertisements for this age group. What is worth noting is that marketers must be mindful that what may be relevant and interesting to one age group may not be so for other groups. For the 21-30-year-olds who are affected by all three dimensions of infotainment, credibility and irritation, marketers should ensure that their advertisements provide useful information that captures interest, is believable, is the truth, mentions trusted brands without exaggeration and is not annoying in any way. For the older group of 31-40-year-olds who are affected by infotainment and irritation, more so infotainment, the focus should be on relevant and interesting SMS which are not annoying, manipulative or insulting in any way since this group appears to be the most sensitive. Since older mobile users get annoyed more easily, 'a more prudent approach is recommended in terms of the design and execution of the mobile ad campaign' for older users (Coursaris et al. (2010). For the 41-50-year-olds, who are affected by infotainment and credibility, advertisements should mention well known, trusted brand names and believable benefits from product usage without any exaggeration. "Although older consumers show a positive attitude towards mobile advertising, but they are comparatively more watchful, whereas younger consumers show a much more satisfactory attitude towards mobile ads as compared to older ones" (Javeed, 2015: 129).

In terms of gender, the impact of infotainment is higher for females. Coursaris et al. (2010) study reported the same on informativeness and entertainment. Thus, if the female group is the target market, then more effort should be made towards providing information that females find more relevant, offering desirable incentives with content that females perceive as enjoyable. If a target market is well selected with a good marketing strategy and a non-aggressive message; the SMS marketing campaigns can represent an efficient communication instrument. (Costea & Nedelea, 2014).

Research Limitations and Future Directions

Like any other study, the present study has some limitations that can be used to inform future research. Firstly, this study may not present a holistic SMS

advertising scenario. The sample is skewed towards the 21-30-year-olds and females of one South Pacific developing economy, but one that has been rarely studied in this subject matter. However, it encourages marketing scholars to examine the subject matter further, making gender and age group comparisons in other smaller developing countries. Secondly, because convenience sampling was employed, this may limit the generalizability of findings (Ellis and Levy, 2009). Therefore, future studies may employ other data collection methods. Thirdly, this research employed a quantitative research approach. Therefore, future studies can adopt a mixed methodology for better understanding.

Notwithstanding, the 'Harman's single factor test of 47% confirms that common method bias did not affect this 'study's findings, thus, the findings do provide a meaningful basis for future comparative and large-scale studies. Additionally, R squared, which is the explained variance was 60%, reflecting high predictive power; still, the model can be improved further. Future research can also look into adding more variables to the U&G model, such as urgent needs and message timing. For instance, if the product advertised is what is needed by the consumer at that time and is sent at a time when the consumer is not too busy, then consumer's perceived advertisement value and attitude will most likely be positive. In addition, as Margareth et al. (2006) suggested, future researchers can combine the Technology Acceptance Model (TAM) with the U&G theory. TAM is also a motivational theory. Furthermore, based on our findings and given the different impacts on consumers of different age groups and gender, future studies can carry out comparative studies and investigate the impact on these groups between different developing and/or developed countries. Studies can also explore the impact of other factors, such as ethnicity/race, education level, religion, job status, cultural dimensions etc., that were not covered and beyond the scope of this study.

Conclusion

The study contributes to a better understanding of consumers' perceived value and attitude towards SMS advertising from a smaller developing country context. As Mustafa et al. (2019) argued, the behaviour of Asian consumers is very different from that of Western consumers. This paper presents a similar argument: the behaviour of smaller Pacific Island consumers can also differ. The findings of this study indicate that consumers differ in their perception and the degree to which they are affected, given their age and gender, This study collected data from 261 mobile phone users using the quantitative approach and

a convenience sampling technique.

The empirical results suggest that the age and gender of consumers do matter when it comes to their perceived advertising value and attitude towards SMS advertisements, thus, the need to tailor- make advertisements, particularly if the target markets are segmented by age and gender.

Declaration of Interest and Disclosure Statement

The authors report that there are no competing interests to declare.

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