**Generations X, Y, Z: Consumer Perceptions and Responses to**

**Mobile Advertising**

**Abstract**

This study explores Israeli consumer's between-generation differences in attitudes toward mobile ads (addressing their informativeness, irritation, trustworthiness, entertainment and intrusiveness) and actual response to mobile advertising messages. Using an online survey (N=408) and drawing on Generation Cohort Theory we focus on three generations: X, Y and Z. Findings show that all generations responded negatively when receiving an advertisement via smartphone. However, the generations differ in their patterns of association between mobile advertising attitudes and consumer responses to mobile ads. Findings enable marketers to design behavioral targeting to Israeli consumers of different generational cohorts while using mobile platforms as an advertising channel.

*Keywords: Media Generations, Mobile advertising, generations X, Y, Z, Consumer behavior,*

*Smartphone Usage*

**Introduction**

The dynamic nature of technological developments has impacted research on the effects of new-media channels on the advertising process and classical advertising formats. As marketing communications shifts to mobile devices, marketing strategists are increasingly focusing on mobile advertising platforms (e.g. videos, apps, etc.).

A variety of studies have examined mobile advertising from different aspects, mainly facets of online advertising mechanisms, creative elements, engagement, personalization and interactivity (e.g. Okazaki et al., 2012; Ha, Park & Lee, 2014; Grewal et al., 2016; Lin & Bautista, 2018).

Research has also explored mobile advertising through the lens of different age groups. For example, Ünal, Ercis and Keser (2011) found differences between the attitudes, intentions and behaviors of youths and adults toward mobile advertisements. However, only a few recent published studies have assessed this issue from the perspective of generational cohorts. For example, Smith (2019) investigated the preferences of digital natives regarding mobile advertising in terms of content, style, and personalization. Van der Goot et al. (2018) explored generational differences in advertising attitudes and advertising avoidance for five media channels (websites, social media, mobile phones, television, and newspapers) in six different countries. However, there is no research about advertising responses and attitudes on smartphone advertising in the Israeli context. Therefore our contribution is in investigating and analyzing each of the five attitude dimensions toward mobile advertising in order to gain deep insights into different Israeli consumer responses to mobile ads based on three generations. By doing so this research contributes to the broad body of knowledge in new media as it is the first to examine the implementation of generations in the advertising industry in Israel with respect to smartphone adoption shading insights in terms of national and cultural context.

In addition, we employ a higher resolution in the characterization of the generations, drawing on Generational Cohort Theory (Ryder, 1965) in the Israeli context: *Digital immigrants* - Gen-X, *Digital natives* -Gen-Y, and *Mobile natives* - Gen-Z. By doing so, we are well-positioned to generate recommendations for advertisers on how to design behavioral targeting to various generational cohorts.

Indeed, quite a lot is known about mobile advertising, although very little is known about differences between generations (X, Y, Z) reflected in patterns of attitudes and responses to mobile ads. This is surprising since mobile advertising recipient diversity is a core value which cannot be ignored when approaching consumers. The current study sets out to investigate different generational perceptions and behaviors toward mobile advertising. More specifically, we investigate the intergenerational differences in patterns of association between attitudes and response to mobile ads. For advertising scholars, it is valuable to know whether the concept of generational difference has empirical foundations. If so, this would make these three groups relatively easily identiﬁable and distinguishable. The unique traits of each generation can thus be assessed and targeted by marketers.

For advertising and marketing practitioners, recognizing generational differences in mobile ads is increasingly a key factor when approaching consumers. Knowing generational attributes and affective factors may play a role in the formulation of effective ads while using mobile technology as an effective advertising channel in targeting a specific generation.

**Mobile Advertising**

In our mobile age, consumers see their smartphones as an extension of themselves from which they are rarely separated. Consumers use their smartphones not just for conversations, but for a variety of activities (Leopoldina, 2002) which benefits advertisers. By using analytic capabilities, potential audiences can be more accurately targeted and addressed (Grewal et al., 2016).

Mobile advertising is the fastest growing medium of digital communications marketing (Smith, 2019), defined as messaged communication that appears on any mobile device such as smartphones and tablets. The increasing penetration of smartphones and mobile applications has increased global mobile advertising spending in digital media. According to current estimations, by 2020 the mobile sector will represent 43% of total media ad spending in the US, a greater percentage than all traditional media combined (eMarketer, 2018). With marketers and advertisers identifying this trend, mobile ads are forecasted to total more than $76.17 billion in US media ad spending in 2019 (eMarketer, 2018).

Mobile advertisements can take several forms: rich media/videos, display, mobile websites, and mobile apps, encompassing diverse activities such as messaging, social, entertainment, and gaming (Khalaf, 2015). In this paper, we will focus on each generation's attitude and response to the various advertising tools offered by mobile technology.

**Media Generations**

Although different age groups are associated with various generations and life stages, such as adolescence, adulthood, old age, etc., this research focuses on age distinctions based on generational cohorts. The Generational Cohort Theory (Ryder, 1965 (has been applied to divide a population into generational groups. Generational cohorts include individuals born around the same time and who have all experienced and shared distinctive social, political, and economic circumstances. Having undergone similar life events and experiences during their critical developmental periods of socialization and adolescence, especially the so-called formative years, they can be characterized as bound together as a generation (e.g., Strauss and Howe, 1991). Each generation enjoy common value systems, having been influenced by particular historical events as well as by more comprehensive influences, such as parents, peers, media, critical economic and social events, and popular culture. These factors distinguish one generation from another, with each generation’s values, beliefs, expectations, and behaviors generally remaining constant throughout a generation’s lifetime, thus creating a generational identity (Pekerti & Arli, 2017).

This study addresses three generational cohorts. Although their precise names and time periods are debated in the literature, this study followed the definitions of generational divisions employed by earlier Israeli studies that focused on generational analyses of psychological and sociological aspects of media use (e.g. Almog & Almog, 2019; Lissitsa & Kol, 2016; Zhitmirsky-Geffet & Blau, 2016, 2018): Gen X, born between 1966 and 1980; Gen Y, born between 1981 and 1994; and Gen Z, born in 1995 and later (Chaney, Touzani & Ben Slimane, 2017).

**Gen X** (1966–1980), known also as *digital immigrants* (Prensky, 2001), grew up with both economic and social uncertainty, from the recessions of the early 1980s and 1990s through phenomenon such as divorce, AIDs and more (Schewe & Noble, 2000). Many came of age in a period when both parents were in the workforce or when their parents were divorced, both factors leading these individuals to become more independent at a younger age. Nonetheless, this generation is commonly described as socially insecure and lacking in solid traditions (Barford & Hester, 2011). While generally lacking the social skills of their parents, Gen X tends to exhibit strong technical abilities (Shaw & Fairhurst, 2008). However, in contrast to younger generations of so-called *digital natives*, Gen Xers did not undergo the experience of adopting new technological resources during their youth, and they did not grow up constantly surrounded by and immersed in technology Consequently, media researchers have included Gen X within the “Television Generation”(Bolin & Westlund, 2009), because television was still the preferred media when they were coming of age. Gen Xers are usually characterized by individualism, self-reliance (Gursoy, Maier & Chi, 2008), skepticism (Crumpacker & Crumpacker, 2007), and risk avoidance (Reisenwitz & Iyer, 2009).

**Gen Y** (1981–1994), known also as *digital natives* (Jones et al., 2010), came of age during a period of economic growth, the dramatic emergence of the internet, social media, and reality television, and they experienced globalization and powerful influences from popular culture (Hargittai, 2010; Parment, 2011). Gen Y is considered a confident and optimistic generation that feels empowered to take positive action when things go wrong and has multi-tasking abilities due to their high levels of speed and energy (Bilgihan, 2016). Its members are generally technologically competent, casual, and enjoy entertainment (Gursoy, Maier & Chi, 2008). Their lives and daily activities, including social interactions, friendships, civic activities, and hobbies, are significantly mediated by digital technologies. Gen Yers are accustomed to a constant flow of information, leading them to become multitaskers who constantly use their mobile phones for social networking, job-seeking, and information generated by popular opinion about products, services, schools, employers, and travel destinations (Liu, Wu & Li, 2019). Due to their ability to easily access vast amounts of information, Gen Y members are generally well-informed in many respects, focusing intensely on technical information, and usually making purchase decisions based on prior research (Rahulan et al., 2015).

**Gen Z** (1995-2005), the *mobile natives* (Ozkan & Solmaz, 2015), is the first generation born into a digital world that experiences much of life online virtually and integrates and engages with its favorite brands virtually (Bernstein, 2015). Gen Z members are heavy users of technology (Van den Bergh & Behrer, 2016). Highly educated, socially conscious, technologically savvy, quite innovative, and creative (Priporas, Stylos & Fotiadis, 2017), Gen Zers also constantly seek change, feeling innately comfortable in the virtual world. Gen Z members are continuously connected through smartphones and tablets and have access to more information than any other generational cohort (Smith, 2019). However, economically, they still tend to be dependent on their parents. Therefore, Gen Zers are more selective in spending money and in choosing the products they will buy (Özkan, 2017).

As already mentioned, this study addresses the three generational cohorts of Generations X, Y, and Z. This distinction differs from that of some prior generational identification frameworks in advertising studies, which prefer to explore the differences between two more widely-defined generations: the X generation and the millennial generation, which includes Y and Z; or digital immigrants vs digital natives (e.g., van der Goot et al., 2018; Youn & Kim, 2019). The division suggested here is more appropriate for this study, which employs a process that more closely distinguishes between the Y generation and the mobile native Z generation, in light of their unique features, especially their respective attitudes and practices in mobile use (Dimock, 2019).

**Media Generations and Their Mobile Usage in Israel**

*Smartphone Usage*

Different generations are motivated by different communicative technologies, along with the characteristics that inform them such as information searching, data evaluation, and digital learning strategies (Jong & Junghyun, 2014; Bilgihan, Peng & Kandampully, 2014). Other differences were found between Gen-X and Gen-Y, with the latter's over-use of technology and new media (e.g. Van Deursen et al., 2015) and tendency to develop more addictive habits than their previous generational counterparts. Gen-Y uses cellphones to search for functional-cognitive information, while Gen-Z prefers to use it for social information. It was also found that Gen-Z reports a higher level of emotional satisfaction while searching for information by using a smartphone (Zhitmirsky-Geffet & Blau, 2017).

*Consumer Behavioral Practices*

The generations also differ in the field of online consumption via the internet and cellphone. For example, evidence for greater brand-loyalty was found in Gen-Y (Lazarevic, 2012). Their stances regarding online consumption were different from those of previous generations with their e-loyalty deriving from perception of trust in merchandise, brand-equity and flow. Additionally, significant differences were observed in the level of “status consumption” among Gen-Y, distinct from that of Gen-X. In comparison, Gen-Y and Z differ in the approach to smart technologies and online consumer experience. The approach of Gen Zers to these technologies showed greater influence of new technologies on consumer behavior (Priporas, Stylos & Fotiadis, 2017).

Even so, until now only a few studies have analyzed Gen-Z in the context of consumer behavior and online advertisements (Southgate, 2017) even though Gen-Z shows powerful interest in the advertising industry due to enthusiasm for changing technologies influencing their generation's consumer experience (Wood, 2013).

***Smartphone Diffusion and Usage Habits in Israel***

Recent studies have shown that Israel is a world leader in cellular phone use, with the second-highest rate of cellular phone adoption, of both old (“dumb”) phones and smartphones. Among the population, 88% own a smartphone while another 10% own at least a “dumbphone” (Taylor & Silver, 2019). Israel is distinctive not only due to its remarkable level of ownership, but also due to the rapid rate of diffusion of the technology in the country. Israel was the first country in the world where the number of cellular phone units sold exceeded the size of the population (Kornstein, 2015).

Current data show that 47% of cellular phone users in Israel use applications for over three hours a day, while 35% use them for between one and two hours daily. Ninety-seven percent of smartphone users routinely use social applications. Of these, 20% for over three hours daily, and 82% of all smartphone users make routine use of various financial applications (*Telecom News*, 2018). Other studies show that the majority of daily internet surfing by Israelis, 44%, is performed via smartphone applications, a minority, 34% with a computer, and a negligible amount through tablet applications (Auslander, 2017).

**Theoretical Background and Hypotheses**

Significant generational gaps exist in smartphone usage (Bilgihan, Peng & Kandampully, 2014), dependency and addictive traits (Zhitomirsky-Geffet & Blau, 2016), and consumer behavioral practices (Priporas, Stylos & Fotiadis 2017). Therefore, in order to determine consumer perceptions and responses toward mobile advertising, five dimensions of advertising attitudes were measured: informativeness, entertainment, trustworthiness, intrusiveness, and irritation. These dimensions, based on Ducoﬀe's (1995) approach to study the eﬀectiveness of attitude toward web advertising, are latent constructs in advertising attitudes, as extensively discussed in previous literature (e.g., Brackett and Carr 2001; Ducoffe 1996; Smit and Neijens 2000; Tsang, Ho, and Liang 2004; Chowdhury, Parvin, Weitenberner, & Becker, 2006; van der Goot et al., 2018; Ünal et al., 2011). The following research question was constructed: What are the between Israeli generational differences (X, Y, Z) concerning mobile advertising attitudes and consumer responses to mobile ads?

**Informativeness**

The *informativeness* dimension is the ability of advertisements to provide updated, timely, and easily accessible information (Ünal et al., 2011). Information that is sent to consumers via mobile devices should be correct and provide benefits to consumers. The information aspect is based on performance, features, and logical facts describing the qualities of the product

As noted, Gen-X adopts new technology at a slower rate than Gen-Y and Gen-Z (Lissitsa & Kol, 2016). Due to their lack of digital skills, we assume that when receiving persuasive messages via mobile advertising they will look for information and process this information intensively. Therefore, we may posit that among “digital immigrants” (Gen-X) that are less accepting of new technologies, we will find that informativeness of the advertisement will encourage their mobile advertising positive response.

Gen-Y use smartphones to search for functional-cognitive information, while Gen-Z prefer to use them for social information (Zhitmirsky-Geffet & Blau, 2017(. Therefore, we may assume that among Gen-Y, who are multi-taskers and gather information before consumption, we will find that informativeness will encourage their mobile advertising positive response. On the other hand, Gen-Z are very picky about the type of information they are willing to receive. It must be mainly product that generates benefit (Clow & Baack, 2016) or data from their peers (Smith, 2019). Moreover, they are accustomed to high-tech and multiple information sources (Williams & Page, 2011). Gen-Z are mostly connected through smartphones and tablets and have access to more information than any other generational cohort. Therefore, they may experience lack of interest in mobile ads conveying facts and product features.

Accordingly, we formulate the following hypothesis:

**H1**: Among Gen-X and Gen-Y, informativeness will be positively correlated with positive response to mobile ads while among Gen-Z this correlation will be insignificant.

**Irritation**

*Irritation* occurs when offending, insulting, or manipulative advertising techniques cause consumers to perceive advertisements as undesirable and irritating (Ünal et al., 2011).

The *Theory of Psychological Reactance* argues that people react negatively when they perceive that their freedom to choose is threatened (Brehm, 1989). In other words, offending or insulting advertising tactics may cause consumers to perceive advertisements as undesirable.

The mobile advertising ads are delivered by "pull" or "push" methods. In a pull-based mobile advertisement, the recipient is actively searching on their own for content and brand products using mainly social media and blogs (Zubcsek, Katona & Sarvary, 2017). A push-based ad relies on the permission marketing principle: in order to receive messages, one should sign into a subscriber base such as newsletters, mailings, and SMS (Fong, Fang & Luo, 2015). Due to the fact that among Gen-Y and Z, any interference with freedom of action online (such as ads) engenders feelings of irritation, push ads may be perceived as irritating since they interfere with consumer online freedom of action (Youn & Kim, 2019). These negative emotions may reflect a coping response to persuasive messages, such as ignoring advertisements (Wehbe et al., 2017). Gen-X are characterized by skepticism (Crumpacker & Crumpacker, 2007) and an attitude of risk avoidance (Reisenwitz & Iyer, 2009). As such, they gather information and want to learn more about brand features as well as an explanation for why these features are necessary (Williams & Page, 2011). Hence, lacking the skill to independently collect data, Gen-X might perceive mobile advertisements as useful information sources and not as irritating persuasive messages.

Accordingly, we formulate the following hypothesis:

**H2**: Among Gen-Y and Z, irritation will be negatively correlated with consumer response to mobile ads while among Gen-X this correlation will be insignificant.

**Trustworthiness**

*Trustworthiness* in advertising is generally the perception related to credibility of an advertisement by consumers (Ünal et al., 2011). Ad credibility is defined as the extent to which the consumer perceives claims made about the brand in the ad to be truthful and believable (MacKenzie & Lutz, 1989).

Indeed, many studies have shown that the fear of risk and desire for trust in the online space, especially when it comes to online/mobile shopping and contact with commercial companies, has existed throughout all generations (Groß, 2016; Kimery & McCord, 2002; Dhanapal, Vashu & Subramaniam, 2015). As many scholars have pointed out, Gen-X are reactive, which tends to have an attitude of risk avoidance and low capacity for risk compared to younger generations (Reisenwitz & Iyer, 2009).

Similarly, Gen-Y and Z always strive to feel safe, even if it will restrict their activities in virtual space (Wood, 2013; Priporas, Stylos & Fotiadis, 2017). Therefore, we may formulate the following hypothesis:

**H3:** Among all generations, trustworthiness will be positively correlated with consumer response to mobile ads.

**Entertainment**

*Entertainment* expresses the consumer sense of pleasure related to messages. In this respect, there are games, music, and visual applications in many mobile advertising applications (Ünal et al., 2011).

Mood Management Theory posits that individuals choose media messages for the purpose of improving negative moods or states and creating or maintaining more positive ones (Zillmann & Bryant, 1985). Regarding consumption, most studies have focused on the pleasure derived from emotionally-charged, high-involvement, infrequent extraordinary consumption experiences (Sussman & Alter, 2012), or mainstream but isolated behaviors, such as enjoying a pleasant escape from the monotony of routine life (Kerrigan et.al, 2014).

According to research, entertainment is one of the most effective elements for the creation of a persuasive mobile ad. Earlier studies support the theory that entertainment contributes to positive attitudes toward an ad (Tsang, Ho & Liang, 2004). In addition, studies have found that the Gen Yers are fun loving (Gursoy, Maier & Chi, 2008). In addition, these digital natives, far more than digital immigrants, expect entertainment in many contexts online, such as information searching and online shopping (Lissitsa & Kol, 2019). As Gen Xers grew up under general conditions of financial insecurity, they are more likely to want to learn details about the product and prefer frank advertising messages that use straightforward facts with no humor (Williams & Page, 2011). With humor being a preferred form of entertainment (Smith, 2019), theyseek simple, uncomplicated ads that are entertaining, and search for mobile ads that provide personal benefit in an entertaining fashion.

Accordingly, we formulate the following hypothesis:

**H4**: Among Gen-Y and Z, entertainment will be positively correlated with consumer response to mobile ads while among Gen-X this correlation will be negative.

**Intrusiveness**

The perception of an advertisement as *intrusive* can be considered a cognitive evaluation of the degree to which the advertisement interrupts a person's goals. The perception of intrusiveness may be affected when an ad offers the viewer either utilitarian or aesthetic value or both. To the degree that advertising does not provide value, it may be perceived as coercive and unwelcome. It is this feeling of intrusiveness that may drive negative reactions toward ads that are recognized as trying to persuade (Edwards, Li & Lee, 2002).

As noted above, Gen Y and Z value and look for brands to which their peers also respond (Williams & Page, 2011). Gen Yers are characterized by e-loyalty, as they exhibit trust in merchandise, brand equity, and flow. Consequently, they may not consider an advertisement of one of their favorite brands interruptive. Gen Zers, who are bombarded by messages from all media channels, are accustomed to technological innovation and multiple information sources (Williams and Page, 2011). They both create and share personal content as well as consume media. Generations Y and Z share their everyday life experiences on social media, with only extrovert sharing being more extreme. Therefore, it can be assumed that neither generation would consider an ad conveying a value as intrusive. As Gen X is characterized by skepticism (Crumpacker & Crumpacker, 2007) and risk aversion, they may react suspiciously to today’s Big Data era, especially as they frequently receive related promotional messages immediately after searching for a product category. Gen X may find the prospect of algorithms detecting their ad use and following their online behavior disturbing, thereby creating a negative response to persuasive content. Therefore, it can be assumed that among mobile natives (Gen Z), digital natives (Gen Y), and digital immigrants (Gen X), different patterns of association between intrusiveness of a mobile ad and consumer response will be found.

Accordingly, we formulate the following hypothesis:

**H5**: For Gen-X, intrusiveness will be negatively correlated with consumer response to mobile ads while for Gen-Y and Z this correlation will be insignificant.

**Methodology**

*Procedure*

This study was conducted in 2018 by a professional research institute using an internet survey among a representative sample of smartphone owners in the Jewish population of Israel, aged 14–60. Panel participants were paid for their participation in an attempt to encourage those with lower economic status to take part. The sample consisted of 408 interviewees – 181 from Gen-X, 101 from Gen-Y and 126 from Gen-Z. Based on data from the Central Bureau of Statistics (CBS), the sampling error was ± 4.6%. Interviewees completed questionnaires during different hours of the day. Distribution by gender and age was similar to that of the data obtained by the CBS with regard to the sampling error percentage.

The questionnaire is a modified version of Tsang et al. (2004) and Chowdhury, Parvin, Weitenberner and Becker (2006) designed to collect data regarding attitudes toward mobile advertising and its determinants and included about 60 questions on smartphone usage habits, digital skills, different channels of exposure to advertising on smartphone, attitudes toward smartphone advertising, response to smartphone advertising and socio-demographic characteristics.

*Sample*

Of the sample, 48.5 percent were male and 51.5 female. The mean age was 34.1 (SD=14.2). In addition, 11.3 percent of the sample had less than a high school education, 19.3 percent had a high school education, 23.1 percent had some vocational studies, 30.3 percent had a BA, and 16.0 percent had a MA or PhD. In terms of religiosity, 52.9 percent were secular, 29.4 percent were traditional Jews, and 17.7 percent were religious or ultraorthodox Jews.

*Measures*

Table 1 presents how the variables were defined and their mean values.

**Table 1 is about here**

*Dependent Variable*

Consumer response to mobile ads was measured by frequency of willingness to receive mobile advertising, patterns of advertising, exposure, and patterns of behavior after receiving a mobile ad. The reliability index Cronbach’s Alpha was 0.68.

*Independent Variables*

The independent variable was advertising attitude (Smit 1999; Smit & Neijens 2000) that was measured for mobile advertising with 13 items measuring ﬁve dimensions of advertising attitude: informativeness, entertainment, trustworthiness, intrusiveness, and irritation. Each dimension consisted of multiple items. *Trustworthiness* was measured by four items, for example: “I trust mobile advertisements”. The reliability index Cronbach’s Alpha was 0.67. *Entertainment* was measured by two items, for example: “I believe mobile advertising provides an entertaining experience”. (Cronbach’s Alpha was 0.82). *Informativeness* was measured by two items, for example: “Mobile advertisements are a good source of up-to-date information”. (Cronbach’s Alpha was 0.76). *Irritation* was measured by three items, for example: “Getting mobile ads is problematic because I feel that they are annoying.” (Cronbach’s Alpha was 0.66). *Intrusiveness* was measured by two items, for example: “Mobile advertisements are intrusive”. (Cronbach’s Alpha was 0.65).

We applied the advertising attitude scales to Israel, following earlier studies (for example: van der Goot et al., 2018; Ünal et al., 2011) that consisted on these measures and were executed in different countries (i.e. Netherlands; Bangladesh; Turkey; Spain etc.), various markets and populations.

*Control Variables*

*The frequency of use of different mobile functions* (for example, voice calls, SMS, clock, and e-mail etc.) was measured by 16 items. The reliability index Cronbach’s Alpha was 0.76. *Digital skills* were measured by three items, for example: “ability to navigate pages, save favorites, search through search engines, use keywords to perform search”. The reliability index Cronbach’s Alpha was 0.78.

We also controlled for socio-demographic variables of gender, age, religiosity and education.

*Descriptive Statistics*

The findings show very negative consumer response to mobile ads (M= 1.87, on scale 1-5) (see Table 1). The level of irritation (M= 4.19, on scale 1-5) was high and the level of intrusiveness quite high (M=3.89). However, levels of entertainment (M=2.01), informativeness (M=2.38) and trustworthiness (M= 2.06) were relatively low. Between-generational differences were found in entertainment and trustworthiness (in both dimensions of attitudes the highest score was found among Gen-Z and the lowest among Gen-X). Gen-Y reported the highest level of digital skills, compared to Gen-X and Z. The frequency of use of different mobile functions was quite high (M=5.77, scale 1-7).

*Multivariate Analysis*

In order to examine the research hypotheses, we conducted a hierarchical regression analysis separately for three generations in two stages. In the first stage, only attitudes toward mobile advertising were included. In the second stage, all control variables were added. The multivariate analysis findings are presented in Table 2.

**Table 2 is about here**

*Generation X.* Our findings show the negative effect of irritation on consumer response to receiving mobile ads (see Table 2, Model 1a), which remains significant also after controlling for digital skills, the frequency of use of different mobile functions, and socio-demographic variables (see Table 2, Model 2a). We also found positive effects of informativeness and trustworthiness, which remained significant after adding the control variables. The effect of intrusiveness was insignificant, while the initially insignificant positive effect of entertainment became marginally significant after adding the control variables. Education was negatively correlated with mobile advertising supporting behavior. The effects of other control variables were insignificant. Attitudes toward mobile advertising explained 46 percent of variance in the dependent variable, while total model fit was 0.50.

*Generation Y.* Our findings show the positive effect of informativeness on consumer response to mobile ads (see Table 2, Model 1b), which remained significant also after controlling for control variables (see Table 2, Model 2b). Initially, the insignificant positive effect of entertainment became marginally significant after adding the control variables. The effects of irritation, trustworthiness and intrusiveness were insignificant. The effects of all control variables were insignificant. Attitudes toward mobile advertising explained 32 percent of variance in the dependent variable, while total model fit was 0.36.

*Generation Z.* The findings show the negative effect of irritation and positive effect of informativeness on consumer response to mobile ads (see Table 2, Model 1c), which remained significant also after including the control variables into the regression model (see Table 2, Model 2c). The effects of entertainment, trustworthiness and intrusiveness were insignificant. The effects of all control variables were also insignificant. Attitudes toward mobile advertising explained 44 percent of variance in the dependent variable, while total model fit was 0.49.

**Discussion and Conclusions**

To our knowledge, this research is a first attempt at investigating between-generation differences of Israeli consumers in attitudes, and consequently in actual response, toward mobile ads. Moreover, the process employed a higher resolution between the three generations: Gen-X; Gen-Y, and Gen-Z in light of their unique features, which are especially evident in their attitudes toward and practices of mobile use. Unexpectedly, we found that all generations responded negatively when receiving an advertisement via smartphone. However, the findings imply different reasoning for the unified consumer response to mobile ads.

Our **H1** claimed that informativeness will be positively correlated with positive response to mobile ads among Gen-X and Gen-Y while among Gen-Z this correlation will be insignificant. Our findings partially supported this hypothesis: We found that among all generations, informativeness was positively associated with supportive response to mobile ads. Regarding Gen Y and Z, the possible explanation is that both young generations grew up in an environment flooded with advertising, to which they are normalized and naturalized. Thus, they appreciate any source of information, including mobile advertising. Moreover, according to the literature, Gen-Z prefers ads that facilitate access to the product website and allow the consumer to request more information. Mobile natives prefer mobile ads that contain a ‘swipe’ option, which allows the user to swipe the ad if he or she wants more detail (Smith, 2019).

The **H2** on negative correlation between irritation and Gen-Y and Z responses to mobile ads and insignificant correlation between these variables among Gen X was only partially supported. We found negative correlation between irritation and consumer response to ads among Gen-X and Gen-Z, while among Gen-Y it was insignificant. A possible explanation for insignificant correlation among Gen-Y may be related to the constant flow of information that has become the rule for this cohort. They are multi-taskers, who are constantly using their mobile phones for social networking, job-finding, and information-gathering (Parment, 2013; Liu, Wu and Li, 2019). Therefore, they know how to control persuasive messages and are not irritated by them. We may assume that Gen-Y consider ads as another channel of ideas that provide them with knowledge and do not violate their autonomy. As for the negative correlation between irritation and consumer response to ads, we may speculate that for Gen-Z any interference (such as ads) with online freedom of action generates feelings of irritation. As for Gen-X, we may assume that they consider ads to be a manipulative force, and are skeptical of their contribution, therefore when they perceive ads as irritative they are more likely to respond negatively to the ad.

**H3** which predicts a positive association among all generations between trustworthiness to response to mobile ads was supported by the findings only among Gen-X. To the younger generations (Y and Z), advertising is a natural part of life (van der Goot et al., 2018). They may thus be interested in ad content knowing that it may not always be credible as they do not inherently trust persuasive messaging, only themselves. In fact, they can validate information conveyed via ads independently (by searching the web) and confirm data reliability due to their online skills and smartphone connectivity (Van Deursen, Bolle Hegner & Kommers, 2015), therefore as long as the mobile ads meet their other needs, its trustworthiness does not matter.

Our **H4** that posited that among Gen-Y and Z entertainment will be positively correlated with consumer response to mobile ads while among Gen-X this correlation will be negative was only partially supported by the findings. Entertainment was positively correlated among Gen-X and Gen-Y while among Gen-Z this correlation was insignificant. For Gen-Z, the explanation may lie in the fact that any strong positive emotion will have an impact on their generation (Smith, 2019) and not only humor. While Gen-Y are described as fun lovers, Gen-X have grown up under conditions of financial insecurity. They may thus have an aspiration for pleasure as a compensation for lack of material goods experienced in childhood and coming-of-age years (Lyons et al., 2007; Schewe & Noble, 2000). As a result, when low cost or free sources of enjoyment are available, they will be likely to consume them.

Our **H5** claimed that among Gen-X intrusiveness will be negatively correlated with consumer response to mobile ads while among Gen-Y and Z this correlation will be insignificant was not supported. In all generations, the effect of intrusiveness was insignificant. This result may be explained by the fact that we live in a high consumption society. Thus, ads that sell the idea of a life-changing product are not considered intrusive to any of the generations. Gen-X are a major force in different market categories (Williams & Page, 2011) and Gen-Y developed over-consume technology (Zhitomirsky-Geffet & Blau, 2016) with a greater brand-loyalty than any other cohort. Moreover, Gen-Z is characterized by ubiquitous sharing of personal details and status updates on social media, and so persuasive messaging via mobile ads will not be perceived as unwelcome. Instead, it represents an exciting opportunity to learn more about a brand. This generation's behavior is driven by technology and the evolution of Gen-Z and the evolution of mobile devices are linked. Therefore, the smartphone is not just a tool, but also a source of social connection, entertainment, information, and shopping (Smith, 2019). Hence, ads are depicted as non-distinct from mobile use and therefore have no effect on consumer response.

**Theoretical and Practical Implications**

For marketing scholars, it is valuable to assess the empirical value of the notion of different generations that mark three consumer groups as relatively easily identiﬁable and distinguishable. Moreover, the different experiences and preferences of various generational cohorts are valuable for advertising researchers because of the unique patterns of personality traits, affect attitudes, and behavior. These insights can be related to generational behavior in various consumption-related scenarios and can produce fresh insights.

For advertising and marketing practitioners, the differences between generations in factors affecting response to mobile ads are a key factor for approaching consumers. In audience targeting, ad consumption attitudes and habits are of crucial importance. Therefore, knowing each generation's traits and affective factors may help advertising practitioners to formulate more effective ads while using mobile platforms. In practical terms, our findings enable advertisers to design behavioral targeting to various generational cohorts as follows: 1) Gen X accepts informative and credible messages, including entertainment. Supplying product data in a mobile ad will benefit Gen-X and the ad will not engender a feeling of irritation. Marketers are encouraged to provide access to information in order to educate Gen-X into buying. 2) Gen-Y responds well to informative and reliable messages. As multi-taskers, they do not consider a mobile ad to be irritating or intrusive. 3) Gen Z responds positively to simple, informative and trustworthy messages that are entertaining. However, they are annoyed when mobile ads interrupt their personal mobile activity. Therefore, the ad should be made to assimilate into their natural content consumption.Moreover, as none of the generations have technology barrier, marketers can reach various consumers groups via smartphone.

**Limitations and Future Research**

The limitations of this study stem from the limitations of our database that was limited in size. Participants in this study were Israeli consumers representative of the cultural, social and technological characteristics of Israeli society. Therefore, it would be beneficial for further research to apply the proposed methodology to study participants from other countries and regions, and compare cross-generational attitudes to mobile advertising in countries and cultures different to those presented in the current study.

This research did not check consumer attitudes toward adverting creative appeals or audience attitudes toward "pull" or "push" methods. It may also be possible that there is a significant difference between a statement as an answer to a survey and an actual behavior in this area of research. Perhaps respondents act according to a social rationale since it is common to think advertising is unreliable and only focused on sales. A possible solution to be implemented in future research is an experiment or observation on how consumers respond in real-time to mobile ads.

Following Liu-Thompkins's (2018) argument that digital media research should investigate new settings in online advertising research and better understand the influence of environmental elements such as setting and social context at the time of mobile ad exposure, the current research focused on the differences among generations in mobile advertising perceptions and responses. As native ads on mobile apps are gaining more popularity due to its covertness, future research may focus on attitudes of consumers from different generations to this somewhat new advertising concept. In addition, future research may investigate the three generations attitudes in relation to the brand, focusing on whether brand engagement may affect their attitudes and responses or their shopping intentions via mobile platforms. Due to earlier research that found differences between gender in mobile use (e.g. van Deursen et al., 2015) alongside other studies that found gender differences in advertising attitudes (e.g. Phillip & Suri, 2004; Heinonen & Strandvik, 2007), further research may investigate whether and if so how different gender perceptions in each generation could affect mobile advertising attitudes.**References**

Acar, A. B. (2014). Do intrinsic and extrinsic motivation factors differ for Generation X and Generation Y. *International Journal of Business and Social Science,* 5, (5), 12–20.

Almog, O. & Almog, T. (2019). Generation Y Generation Snowflake? Elstree, UK: Vallentine Mitchell.

Barford, I. N. & Hester, P. T. (2011). Analysis of generation Y workforce motivation using multi attribute utility theory. *Defense Acquisition Univ FT Belvoir* VA.

Bernstein, M. H. (2015). *Regulating business by independent commission*. Princeton University Press.‏

Bilgihan, A. (2016). Gen Y customer loyalty in online shopping: An integrated model of trust, user experience and branding. *Computers in Human Behavior*, 61, 103–113.

Bilgihan, A., C. Peng, & Kandampully, J. (2014). Generation Y's dining information seeking and sharing behavior on social networking sites: An exploratory study. *International Journal of Contemporary Hospitality Management*, 26, (3), 349-366.‏

Bolin, G. & Westlund, O. (2009). Mobile generations: The role of mobile technology in the shaping of Swedish media generations." *International Journal of Communication,* 3, 108–24.

Brehm, J. W. (1989). Psychological reactance: Theory and applications. *ACR North American Advances*.‏

Chaney, D., Touzani, M., & Ben Slimane, K. (2017). *Marketing to the (new) generations: Summary and perspectives*. London: Taylor Francis.

Chowdhury, H. K., Parvin, N., Weitenberner, C., & Becker, M. (2006). Consumer attitude toward mobile advertising in an emerging market: An empirical study. *International Journal of Mobile Marketing*, *1*(2), 33-42.

Clow, K., & Baack, D. (2016). *Bütünleşik reklam, tutundurma ve pazarlama iletişimi*, Çeviri ed. Gülay Öztürk.Nobel Akademik Yayıncılık.

Crumpacker, M. & Crumpacker, J. M. (2007). Succession planning and generational stereotypes: Should HR consider age-based values and attitudes a relevant factor or a passing fad? *Public Personnel Management*, 36, (4), 349–369.

Dimock, M. (2019). Defining generations: Where Millennials end and Generation Z begins. *Pew Research Center* 17 Abatable at: <http://tony-silva.com/eslefl/miscstudent/downloadpagearticles/defgenerations-pew.pdf>

Ducoﬀe, R. (1995). How consumers assess the value of advertising. Vol. 17,1 –18.

Ducoﬀe, R. (1996). Advertising value and advertising on the web. *Journal of Advertising Research,* 36(5), 21–35.

Edwards, S. M., H. Li & Lee, J. H. (2002). Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising,* 31, (3), 83-95.

eMarketer. (16.10.2018). Retrieved from<https://www.emarketer.com/content/mobile-ad-spending-to-surpass-all-traditional-media-combined-by-2020>

Fong, N. M., Z. Fang & Luo, X. (2015). Geo-conquesting: Competitive locational targeting of mobile promotions." *Journal of Marketing Research*, 52, (5), 726-735.

Grewal, D., Y. Bart, M. Spann & Zubcsek, P. P. (2016). Mobile advertising: a framework and research agenda. *Journal of Interactive Marketing*, 34, 3-14.

Groß, M. (2016). Impediments to mobile shopping continued usage intention: A

trust-risk-relationship. *Journal of Retailing and Consumer Services,* 33, 109-119.

Gursoy, D., T. A. Maier & Chi, C. G. (2008). Generational differences: An examination of work values and generational gaps in the hospitality workforce. *International Journal of Hospitality Management*, 27, (3), 448–458.

Ha, Y. W., M. C. Park, & Lee, E. (2014). A framework for mobile SNS advertising effectiveness: user perceptions and behavior perspective. *Behavior and Information Technology,* 33, (12), 1333-1346.

Hargittai, E. (2010). Digital na(t)ives? Variation in internet skills and uses among members of the “Netgeneration". *Sociological Inquiry*, 80, (1), 92–113.

Heinonen, K. & Strandvik, T. (2007) Consumer responsiveness to mobile marketing. *International Journal of Mobile Communications,* 5, (6) 603-617.‏

Jones, C., R. Ramanau, S. Cross, & Healing, G. (2010). Net-generation or digital natives: Is there a distinct new generation entering university? *Computers and Education,* 54, (3), 722–32.

Jong, H. L. & Junghyun, K. (2014). Socio-demographic gaps in mobile use, causes, and consequences: A multi-group analysis of the mobile divide model. *Information, Communication & Society,* 17(8), 917-936

Kerrigan, F., G. Larsen, S. Hanratty & Korta, K. (2014). ‘Gimme shelter’ Experiencing pleasurable escape through the musealization of running. *Marketing Theory*, 14, (2), 147-166.‏

Khalaf, S. (2015). Seven years into the mobile revolution: Content is king…again. Flurry Analytics Blog. Retrieved November 11, 2016, from<http://flurrymobile.tumblr.com/post/127638842745/sevenyears-into-the-mobile-revolution-content-is>

Kimery, K. M. & McCord, M. (2002). Third-party assurances: Mapping the road to trust in e-retailing. *Journal of Information Technology Theory and Application,* 4, (2), 63.

Lazarevic, V. (9.3.2012).‏ Encouraging brand loyalty in fickle generation Y consumers. *Young Consumers*.

Leopoldina, F. (2002) The mobile phone: Towards new categories and social relations. *Information, Communication & Society*, 5 (4), 513-528

Author. (2019). Four generational cohorts and hedonic m-shopping: association between personality traits and purchase intention. *Electronic Commerce Research*, 1-26.‏

Author. (2016). Generation X vs. Generation Y–A decade of online shopping. *Journal of Retailing and Consumer Services,* 31, 304-312.

Lin, T. T., & Bautista, J. R. (2018). Content-related factors influence perceived value of location- based mobile advertising. *Journal of Computer Information Systems*, 1-10.

Liu-Thompkins, Y. (2019). A decade of online advertising research: What we learned and what we need to know. *Journal of Advertising,* 1, 1-13.

Lyons, S. T., L. Duxbury & Higgins, C. (2007). An empirical assessment of generational differences in basic human values. *Psychological Reports,* 101, (2), 339-352.

MacKenzie, S. B. & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *Journal of Marketing*, 53, (2), 48-65.

Mannheim, K. (1952). The sociological problem of generations. In *Essays on the sociology of knowledge*, K. Kecsckemeti, ed. New York, NY: Oxford University Press.

Okazaki, S., F. J. Molina, & Hirose, M. (2012). Mobile advertising avoidance: exploring the role of ubiquity. *Electronic Markets,* 22, (4), 169-183.

O'Keeffe, L., & Kerr, A. (2015). Reclaiming public space: Sound and mobile media use by teenagers. *International Journal of Communication*, *9*, 3562-3582.

Özkan, P. M. (2017). Generation Z—The global market’s new consumers-and their consumption habits: Generation Z consumption scale. *European Journal of Multidisciplinary Studies,* 5, (1), 150–157.

Ozkan, M. & Solmaz, B. (2015). Mobile addiction of generation z and its effects on their social lifes:(An application among university students in the 18-23 age group). *Procedia-Social and Behavioral Sciences,* 205, 92-98.‏

Parment, A. (2011). *Generation Y in consumer and Labor* markets (Vol. 15). London: Routledge.

Parment, A. (2013). Generation Y vs. Baby Boomers: Shopping behavior, buyer involvement and implications for retailing. *Journal of Retailing and Consumer Services* 20, (2), 189-199.

Phillip, M. V. & Suri, R. (2004). Impact of gender differences on the evaluation of promotional emails. *Journal of Advertising Research*, 44, (4), 360-368.‏

Prensky, M. (2001).‏ Digital natives, digital immigrants. *On the Horizon* 9, 5

Priporas, C. V., N. Stylos & Fotiadis. (2017). Generation Z consumers' expectations of interactions in smart retailing: A future agenda. *Computers in Human Behavior*, 77, 374-381.‏

Rahulan, M., O. Troynikov, C. Watson, M. Janta, & V. Senner. (2015). Consumer behavior of generational cohorts for compression sportswear. *Journal of Fashion Marketing and Management* 19, (1), 87–104.

Reisenwitz, T. H. & Iyer, R. (2009). Differences in Generation X and Generation Y: Implications for the organization and marketers. *The Marketing Management Journal* 19, (2), 91–103.

Ryder, N. B. (1965). The Cohort as a Concept in the Study of Social Change. *American Sociological Review,* 30, 843-61.

Schaie, K. W. A. (1965). general model for the study of developmental problems. *Psychological Bulletin,* 64, 92-107.

Scharl, A., A. Dickinger & Murphy, J. (2005). Diffusion and success factors of mobile marketing. *Electronic commerce research and applications*, 4, (2), 159-173.‏

Schewe, C. D., & Noble, S. M. (2000). Market segmentation by cohorts: the value and validity of cohorts in America and abroad. *Journal of Marketing Management,* 16, 1-3, 129-142.

Shaw, S., & Fairhurst, D. (2008). Engaging a new generation of graduates. *Education + Training, 50*, (5), 366–378.

Southgate, D. (2017). The emergence of Generation Z and its impact in advertising: Long-term implications for media planning and creative development. *Journal of Advertising Research*, 5, (2), 227-235.‏

Strauss, W. & Howe, N. (1991). *Generations: The history of America's future, 1584 to 2069*. William Morrow and Co.‏

Sussman, A. B., & Alter, A. L. (2012). The exception is the rule: Underestimating and overspending on exceptional expenses. *Journal of Consumer Research,* 39, (4), 800-814.‏

Smith, K.T. (2019). Mobile advertising to Digital Natives: preferences on content, style, personalization, and functionality. *Journal of Strategic Marketing,* 27, (1), 67-80.

Tsang, M. M., S., C. Ho, & Liang, T.P. (2004). Consumer attitudes toward mobile advertising: An empirical study. *International Journal of Electronic Commerce*, 8, (3), 65-78.‏

Ünal, S., Ercis, A. & Keser, E. (2011). Attitudes towards mobile advertising–A research to determine the differences between the attitudes of youth and adults. *Procedia-Social and Behavioral Sciences*, 24, 361-377.

Van den Bergh, J. & Behrer, M. (2016). *How cool brands stay hot: Branding to Generations Y and Z*. Kogan Page Publishers.‏

Van der Goot, M. J., E. Rozendaal, S. J. Opree, P. E. Ketelaar & E. G. Smit. (2018). Media generations and their advertising attitudes and avoidance: A six-country comparison. ***International Journal of Advertising, 37,(2),*** **289-308.**

Wehbe, M.S., Basil, M. & Basil, D. (2017). Reactance and coping responses to tobacco counter advertisements." *Journal of Health Communication* 22, (7), 576–83.

Weiler, A. (2005). Information-seeking behavior in generation Y students: Motivation, critical thinking, and learning theory. *The Journal of Academic Librarianship,* 31, (1), 46-53.‏

Williams, K. C. & Page, R. A. (2011). Marketing to the generations. *Journal of Behavioral Studies in Business*, 3, 1-18.

Wood, S. (2013). Generation Z as consumers: trends and innovation. *Institute for Emerging Issues: NC State University,* 1-3.‏

Youn, S. & Kim, S. (2019). Newsfeed native advertising on Facebook: young millennials’ knowledge, pet peeves, reactance and ad avoidance. *International Journal of Advertising,* 1-33.‏

Zhitomirsky-Geffet, M., & Blau, M. (2017). Cross-generational analysis of information seeking behavior of smartphone users. *Aslib Journal of Information Management*.

Zhitomirsky-Geffet, M. & Blau, M. (2016). Cross-generational analysis of predictive factors of addictive behavior in smartphone usage. *Computers in Human Behavior*, 64, 682-693.‏

Zubcsek, P. P., Katona, Z. & Sarvary, M. (2017). Predicting mobile advertising response using consumer colocation networks. *Journal of Marketing,* 81, (4), 109-126.‏