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Health Consciousness and Generation Z Attitude Towards Fast-Food Digital Advertising: A Scoping Review of Saudi Arabian Context

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Abstract:

This study was designed to propose a scope of work for quantitative research to examine the effect of fast-food digital advertising on the attitude of Generation Z consumers towards it in Saudi Arabia. It also proposed considering the moderating effect of Generation Z health consciousness on the previous relationship. The calculations of sample size showed that sample which should be surveyed by a self-administrated questionnaire is 385 participants from young Saudi fast-food consumers. This study concluded from investigating previous studies' findings that there is high correlation between using social media and fast-food consumption especially among young Saudis. It was also found that the high consumption of fast food has serious effects on general health.

Keywords: Fast-Food; Generation Z; Digital Advertising; Saudi Arabia.

1. Introduction

Structural dietary adjustments across sections of the Arabic world due to globalisation, economic openness and changes in trade, coupled by an increase in use and uptake of digital technologies, smart phones and social media have been most profound in Saudi Arabia (Al-Badri, 2023). In these matters, Saudi Arabia has witnessed some striking changes. The uptake of digital technologies and social media profoundly alters the dietary landscape and physical activity of youths when combined with rapid economic development and nutritional transition (Aleid et al., 2024). Digital food advertising is also increasingly widespread but unhealthy advertisements generate more recall in young people as compared to the healthy options despite longer show-up times associated with the healthy ones (Alhothali & Aljefree, 2023). Obese among university students were also shown to have a higher susceptibility to these promotional tactics and students are more likely to buy energy densed items from eating outlets after masive expousure to fast-food digital advertisements (Aljefree & Alhothali, 2022). Use of social media platforms amplified presentation of 'food cues' which triggered perceived hunger and influenced decisions about purchase and consumption of foods among Gen Z (Nandwani et al., 2025). Therefore, the nexus between digital marketing exposure and individual food literacy should be examined closely to see how this translates into actual behavior and food choice among this age group (Alhudhaif et al., 2026; Parks et al., 2025).

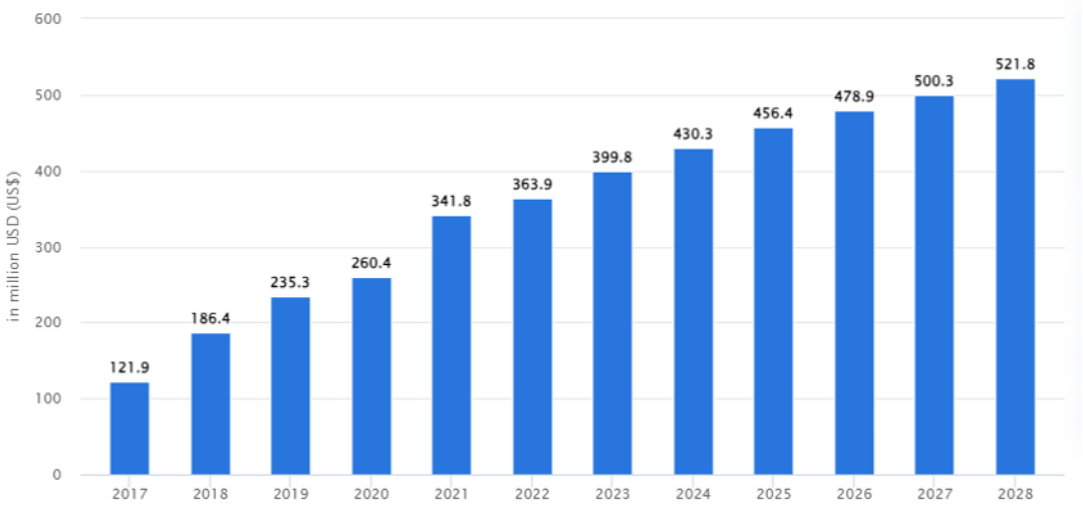
The Saudi food service industry was valued at about USD 27.8 billion in 2023, expected to grow at 11.57% during 2022-29 (Abdou et al., 2023). The restaurant industry on its own generated USD 59 billion-dollar revenue in 2021, an increase of 64% over income generated by 2013, in Jeddah and Riyadh (Pratiwi & Muslikhati, 2024). Consumption prevalence among young Saudis is considered high. During the weekdays for example, 88.8% of young men of Riyadh between 20-35 years of age eat fast-food at least once a week and 50.1 percent do it every day (AlTamimi et al., 2022). Amongst Saudi girls and young women in Riyadh, 95.4% eat at restaurant fast-food and 79.1% eat at least one meal outdoor once every week (AlFaris et al., 2015). In a multi-ethnic sample of young men in Riyadh who are not of Saudi origin, fast-food weekly intake of Sudanese was lowest at 48.6%; highest

intake was of Saudi, Egyptian, and Indian participants at 99.7%. Amongst adolescents between 11-18 years of age, 28.5% in Jeddah and Madinah reported frequent consumption of fast-food (more than twice a week); among boys, the number was marginally 32.8% versus 24.8% of girls; and, adolescents from the group of highest monthly family income (≥SAR 21,000) reported higher fast-food frequency (Mumena et al., 2022).

The consumption of these items is associated with negative health consequences. There was an estimate 32.8% of adults are overweight (41% men and 28.9% women) and around 23% are obese (males - 23.1% and females - 24.2%) and obese individuals were found consuming fast food more than three times each week (Alsulami et al., 2023). These markets reach the young consumer via digital advertising. In survey of university students in Jeddah, it was found that out of the 316 students within the average of 18-29, 20.3% were overweight and 13.6% were obese. The most popular social media used by this surveyed sample was Snapchat (85.8%), followed by Instagram (75%), Youtube (61%), Twitter (51%) and Tik Tok (50%) (Aljefree & Alhothali, 2022). The obese participants showed a better propensity towards purchasing foods and beverages after watching advertisements on social media related to these items, while the respondents who purchased more after social media advertisements tended to have an intake of higher numbers of potato chips and fast foods. Snapchat, Tik Tok and Instagram users had higher consumption levels of fast foods and allied unhealthy items. A recent survey in the Eastern Province had results that stated unhealthy and low-nutrient foods were much preferred than healthy and high nutrient items (Aldossari & Al-Mahish, 2021). The fast-food industry has in general excelled in adapting to digital transformation by adding social media communication to the heart of its strategy (Ali-Alsaadi et al., 2023).

In Saudi Arabia, the number of young populations is significantly increased in recent years (Global Management Indicator (GMI), 2020). According to World Bank (2019) and GMI (2020), the population of Saudi Arabia is 34.14 million. Of them, 26% of the people are millennials. If generation Z is added to millennials, then the percentage reach 54% as per the 2019 records. This young population has different purchasing attitudes in the digital era, which leads to different advertising behaviours (Al-harbi, 2020). The role of the young population and their behaviour is crucial for the next two decades in Saudi Arabia because they account for a large share of the population (World Bank, 2020; GMI, 2020). The younger generation's (millennials and Generation Z) perceptions, habits and attitudes are different from older generations. Therefore, focusing on this younger generation is one of the significant aspects of this research.

The definition of digital advertising is “the practice of delivering promotional content to users through various online and digital channels” (McStay, 2016) such as search engines, display ads, video ads, and pay-per-click. It influences how customers feel in a number of ways, such as by eliciting favorable sentiments and actions, which causes consumers to become devoted to a company's brands (Guo, 2017). Saudi Arabia is not an exception to the Gulf Cooperation Council's (GCC) relatively low per capita advertising spending (Statista, 2019). Saudi Arabia has recorded a 3.5% increase in the use of digital advertising between 2016 and 2020. With 8 million consumers using websites and applications to make purchases totaling 29.7 billion Saudi riyals, the number of people using digital technology has been rapidly increasing (Alotaibi, 2021). The reason is marketing by using social media significantly impacts consumers’ attitudes and purchasing behavior in Saudi Arabia. Studies have found that social media marketing positively influences consumers' cognitive, affective, and behavioral attitudes towards tourism (Bahurmuz & Al-Kubaisy, 2022). Factors such as online advertisements, social networking sites, and digital “word-of-mouth” significantly affect shaping these attitudes (Bahurmuz & Al-Kubaisy, 2022). Research also indicates that social media marketing explains 92.4% of consumer purchase intention in Saudi Arabia (Alfeel & Ansari, 2019). Moreover, social media platforms significantly influence consumers’ behavior and brand development in Saudi Arabia, particularly in the food industry. Instagram and Snapchat positively influence purchasing decisions among young female users and generate electronic word-of-mouth (Alghamdi & Bogari, 2020). However, social media marketing of unhealthy foods is a concern, with consumers showing a preference for nutrient-poor items (Aldossari & Al-Mahish, 2021). As per the report of Statista November 2023, the expected spending on social media advertisement will reach USD 521.8 million in 2028, Figure 1.



. Figure 1: Advertisement Spending on Social Media in Saudi Arabia Source: Statista (2023)

In the context of dairy industry in Saudi Arabia Alharbi et. al (2026) concluded that, digital advertising significantly and positively influences the consumer attitude towards dairy products in Saudi Arabia. Alharbi et. al (2026) also concluded that, nutritional information, consistency, competitiveness, credibility and type of digital media significantly shape consumer attitudes toward digital advertising, Health consciousness was found to strengthen the effects of clarity, consistency and competitiveness on consumers' attitudes.

Fast food is the meals prepared and sold by quick-service outlets or takeaway restaurants; is often energy dense and poor in nutrients; frequently eating fast food is linked with weight gain, obesity and risks for metabolic and cardiovascular disease (Bahadoran et al., 2015; Prentice & Jebb, 2003). People from different societies have sold ready-to-eat meals from stalls in marketplaces for a long time, but modern fast food began as an industry of franchised, standardized outfits of hamburger restaurants in America after the Second World War (Manko, 2022; Thiemann & Roman-Alcalá, 2019). This distinction is relevant because the contemporary model combines convenience and broad market reach with commercial promotion, including digital advertising. Reviews associate frequent fast-food consumption with higher energy and fat intake, weight gain, impaired glucose and lipid regulation, and increased risks of metabolic syndrome and cardiovascular disease, although these associations do not establish that advertising alone causes such outcomes (Bahadoran et al., 2015; Rosenheck, 2008). Academic literature has increasingly started to identify the different ways with which the digital environment has an impact on psychosocial drivers of dietary choice. For example: the more frequently students of a Saudi university watched advertisements for food products in the social media they used, the more pronounced differences in their food habits with greater junk-food intake, the link between such viewing and the body mass index being, however, only slight (Tami & Alyousef, 2022). Another recent Saudi sample comprising of members of the general population indicated that individuals who more frequently watched junk-food advertisements in social media as well as were more keen to try out a particular food product after seeing it were more prone to unhealthy food habits (Aleid et al., 2024). In combination the results of those studies suggest that digital advertising influences food consumption habits by a gradual effect of increasing exposure and appetite response over time alike and also points at the necessity of looking also into the effects of individual's attitudes and health consciousness, with which their reaction to digitally led commercials might be co-determined as well.

Consumer health consciousness refers to the awareness, concern, and proactive actions taken by individuals to prioritize and promote their health and well-being, as well as the health and well-being of the environment and society at large (Delgado et al., 2022). It also refers to awareness of concepts which are related to nutrition and health such as adequate food intake, diet-related diseases, foods representing major sources of nutrients, as well as dietary guidelines and recommendations (Zarnowski et al., 2022). Also, health conscious refers to the consumer

who prefers to purchase green or healthy products that address both healthy and sustainable concerns (Ali-Alsaadi et al., 2023).

Health consciousness is a key factor in consumer behavior, influencing purchasing decisions and lifestyle choices. It involves awareness of health impacts, active efforts to maintain well-being, and consumption of health-enhancing products (Hayakawa, 2017). Health-conscious consumers often seek functional foods and are interested in healthy nutrition, though barriers like time and cost can hinder implementation (Szakály et al., 2011). The COVID-19 pandemic significantly increased health consciousness levels, with demographic factors playing a role in its variation (Čvirik, 2020). From an economic perspective, health consciousness affects consumer choices by adjusting the perceived value of goods based on their health impacts (Hayakawa, 2017). Understanding and promoting health consciousness can have implications for public health, consumer behavior, and economic outcomes, particularly during health crises (Čvirik, 2020).

1.1 Underpinning Theories

In order to understand the relationships between variables, this study adopted SOR (Stimulus-Organism-Response) Model. Mehrabian and Russell first developed the SOR model in 1974 as shown in Figure 2.

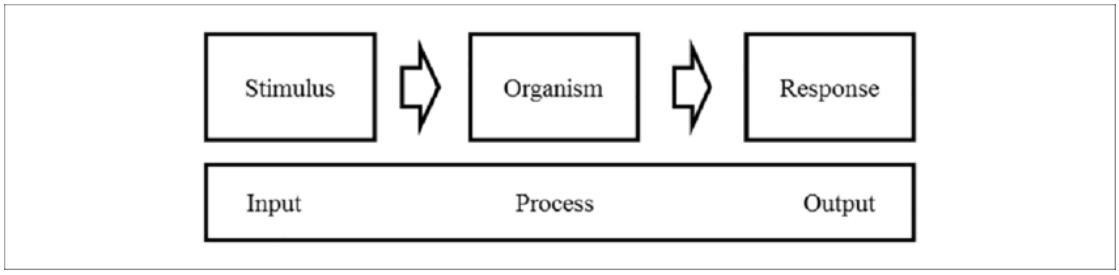


Figure 2: SOR Model Mehrabian and Russell (1974)

According to this model, environmental stimulation (S) causes an emotional reaction (O), which in turn encourages a behavioral response (R). Many academics from a variety of fields, including decision-making about purchases (Demangeot & Broderick, 2016; Lucia-Palacios et al., 2016), impulsive buying (Chang et al., 2013), and service fairness (Namkung & Jang, 2010), have discussed its significance in retail environments. Based on this theory, environmental stimuli (S) will stimulate cognitive and affective (O) reactions, which in turn will drive certain psychological reactions (R) such as attitudinal and behavioural reactions. More specifically, environmental stimuli can be described as external contextual attributes that would attract individuals' attention and influence their internal state (Yang et al., 2021).

The SOR model (Stimulus-Organism-Response) explains how stimuli in the environment (S) influence internal processes (O) in an individual, resulting in a response (R). Nutritional information can act as a stimulus that influences the organism's internal processes and subsequent responses (Sultan et al., 2021). Environmental inputs, both social and physical, are considered stimuli since they have an impact on an individual's internal moods (Ulrich, 2001). In order for people to be stimulated when choosing what to eat, nutritional information is provided. It gives them knowledge about a product's nutritional value, which affects their opinions. An organism is described as internal structures and processes that stand between an individual's ultimate responses, actions, or reactions to external inputs. Perceptual, physiological, affective, and cognitive processes make up the intermediate processes and structures (Bagozzi, 1986).

Response represents the final outcomes and the final decisions of consumers, which can be approach or avoidance behaviours (Chang et al., 2011). Based on their internal processes and evaluations, individuals respond to nutritional information through their food choices, consumption patterns, and dietary behaviours. Positive perceptions may lead to a purchase or consumption decision, while negative perceptions may result in avoidance or rejection of a product. Jacoby (2002) claims that the SOR model proved effective in illuminating the ways in which consumers' behaviors change in response to diverse marketing cues and cognitive factors. The main advantage of the SOR model is its adaptability, which allows for the examination of a range of internal and

external stimuli, as well as tangible and intangible stimuli, experiences, and responses, such as consumers' attachment to virtual reality and their intention to visit in the context of food tourism (Kim et al., 2019).

Moreover, S-O-R model has been widely used in investigating and explaining human behaviours, it is proved to be useful in providing a deeper understanding of why and how customers make their decisions (Molinillo et al., 2021). These contextual attributes would serve as cues that pierce consumers' consciousness and motivate them to act (Loureiro et al., 2020). The response structure, on the other hand, refers to the behavioural outcomes following exposure to the external environment. It can be broadly divided into avoidance behaviours, such as discontinuous intention (Cao & Sun, 2018), and approach behaviours, such as purchase intention (Kaur et al., 2021) or customer loyalty (Yuan et al., 2020). The organism reaction is an internal structure that includes psychological concepts that indicate functions of the organismic component, such as perception, emotion, or judgement (Islam & Rahman, 2017).

1.2 Study Gaps

While digital food marketing is increasingly ubiquitous, there is a scarcity of explicit research demonstrating the link between data-driven promotional tactics like emotional appeals or leveraging social influence and the dietary choices of Saudi adolescents and young adults (Maksi et al., 2024). Conventional health promotion frameworks often ignore the influence of localised cultural norms and the specific ways in which social media marketing enables the uptake of harmful nutrition patterns by target groups (Aljahdali, 2025; Friedman et al., 2022). In addition to that, whether the proliferation of conflicting nutritional advertisements that confuses users or makes them disillusioned with scientific evidence and dietary guidelines, needs further evaluation (Chung et al., 2021). The effectiveness of marketing tools designed to promote healthy food needs future research (Folkvord & Hermans, 2020). Longitudinal surveys that can show the cause-effect relationship between algorithmic marketing platforms and long-term metabolic health in Saudi youth may be necessary before food policy interventions based primarily on research literature.

1.3 Research Questions

RQ1: Does the fast-food digital advertising result avoidance attitude for Generation Z consumers by considering the moderating effect of health consciousness?

RQ2: Does the fast-food digital advertising result approaching attitude for Generation Z consumers by considering the moderating effect of health consciousness?

RQ3: Does the fast-food digital advertising result loyalty attitude for Generation Z consumers by considering the moderating effect of health consciousness?

2. Methodology

2.1 Study Theoretical Framework:

Based on SOR model and previous studies, the theoretical framework shown in Figure 3 plots the relationship between fast-food digital advertising as independent variable and attitude of Generation Z consumers towards this digital advertising as dependent variable. These direct relationships are moderated by health consciousness of Generation Z consumers.

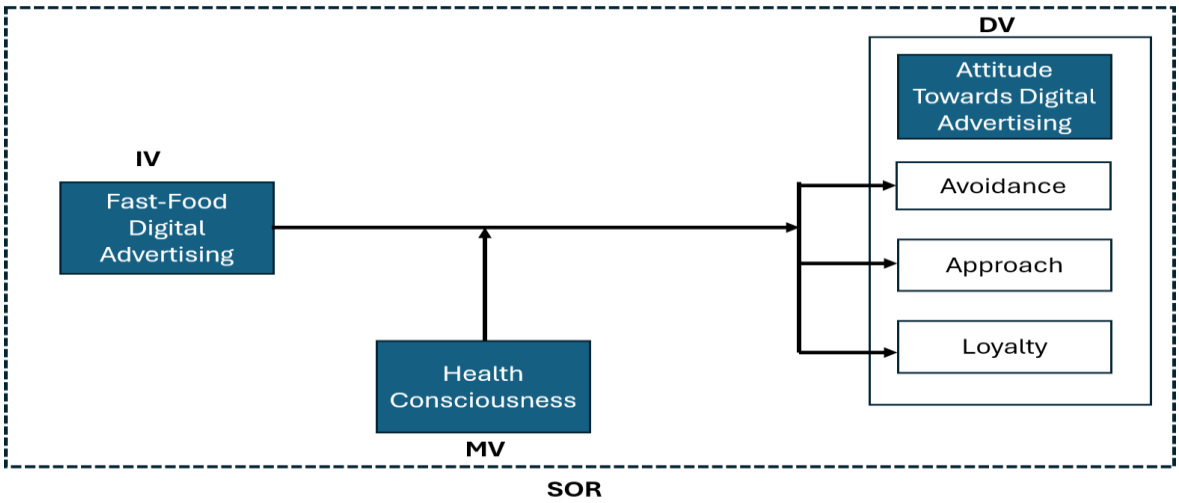


Figure 3: Study Theoretical Framework

2.2 Population and sampling

In this research, the target population is a group that consists of generation Z consumers of fast-food in Saudi Arabia. Convenience sampling will be employed because of the rarity of statistics on the target group. A population usually stands for a large group of people or objects which researchers are intended to analyse. However, considering the limitation of cost, time and energy, researchers rarely include the whole population in the study, instead, they usually study a sample consisting of the members selected from the whole population (Sekaran & Bougie, 2016). According to Craig (2013), the Raosoft sample size calculator asks the user to enter a number of parameters, such as the size of the population to be surveyed, the allowable margin of error, the confidence level, and the response distribution. After that, it can offer an estimate of the "sample size," or the bare minimum that is advised for the survey. Therefore, this study recommends Raosoft sample size calculator to calculate the minimum required sample size because it achieves the needed confidence level with a margin of error of usually 5%. Also, it is strongly encouraged by McCrum-Gardner (2010) when considering large population's size. By assuming that 50% of the population would have good information with a 5% margin of error and a confidence interval of 95%, the minimum sample size of 385 was determined.

2.3 Study Instrument

This study recommends using a self-administrative questionnaire as a primary research instrument in order to investigate the link between each variable. Among the survey strategy's most popular data collection tools is the questionnaire (Saunders et al., 2009). Respondents are required to provide written responses to a series of assertions or questions. Since every responder is required to answer the same set of questions, questionnaires offer an effective means of gathering data from a large sample prior to doing quantitative analysis (Sekaran & Bougie, 2016). The selection of five points on a scale was deliberate because, studies examining the attitude of consumers have frequently employed five points. Also, it was found that there were three reasons why respondents liked a five-point rating scale in most polls. First, respondents felt that the five option points were sufficient to cover the gamut of answers. Secondly, using five points was simple, and finally, it offers a midpoint (Chyung et al., 2017).

Questionnaires will be self-administered for the following reasons: First of all, a self-administered questionnaire approach may guarantee a response rate of around 100%, claims Sekaran (2003). Second, as noted by Elanain (2003), it is appropriate for gathering information regarding attitudes and opinions. The third reason it could cover a large area at lower cost; additionally, respondents can take their time and reflect before responding; furthermore, the questions are standard and the respondents are kept anonymous (Zikmund, 2013).

2.4 Data Collection

In order to gather data for this study, direct field collection will be employed. Data will be gathered from the sample population using an online survey that will be disseminated among Saudi fast-food consumers, electronically through various social media platforms, including Facebook, Twitter, Snapchat, and WhatsApp communities' groups. Data collected from filled questionnaires will be directly reflected in the data base of the file and will be ready for statistical analysis processes.

2.5 Data Analysis

For analysing the collected data, SPSS software will be utilized for the first stage of data analysis to conduct descriptive analysis about the demographic factors in the respondent's profile. In addition, data screening is also performed by SPSS to check missing values, dealing with potential non-response bias and common method bias problems. Since missing value and bias are all common issues that need to be properly dealt with in quantitative research (Wang & Singh, 2021). After that, Smart-PLS software will be used to analyse and test the hypotheses and the research model. Smart-PLS is a software that is adopting the Structural Equation Modelling (SEM) method. SEM is one the most commonly used statistical technique that simultaneously evaluates relationships between different constructs represented by multiple variables (Morin et al., 2020). PLS-SEM technique is proven to be competent in dealing with complicated modelling issues such as non-normal data or highly complex models that commonly existed in studies (Hair et al., 2014). Besides that, the PLS-SEM technique has several advantages in social science research, such as its high efficacy in coping with a complex model, establishing dominant latent variable reliability and informatively assessing specified measurement models (Ghasemy et al., 2020; Sarstedt et al., 2020). Therefore, Smart-PLS software which adopts a PLS-SEM technique is deemed appropriate and chosen for this study

3. Discussion

3.1 Implication of Study

Since this is deductive approach-based research, this research integrated the SOR model to support the theoretical framework of this study. This model will help in deeply understanding Generation Z consumers' attitude toward fast-food digital advertising in Saudi Arabia and provides valuable insights into how health consciousness moderates these relationships.

Moreover, the contributions of this research are threefold. Firstly, it will be a guideline for marketers and advertisers to understand the factors that play an important role in digital advertising. The major implications of this study that it will provide fast-food companies in Saudi Arabia with a model by which they will be able to understand how their digital advertisement could influence Generation Z fast-food consumers.

In addition to that, this study will highlight the importance of health consciousness of young Saudis in moderating the effect of fast-food digital advertisement on consumers' behaviour which may lead to restructuring for fast-food marketing strategies.

3.2 Limitations and Further Research Directions

This study is applied on a wide range of population which may need to limit the population to include only certain range of age, degree of education, level of monthly income or certain region in Saudi Arabia because these factors may play vital roles in changing the study's results which gives more knowledge about the relationship between variables. Also, this study focused only on one product while it is essential to examine the effect of the same variables on other type of products which is related to food industry as well.

So that, future studies should consider segmenting this study's population into smaller group for deeply investigating the influence of fast-food digital advertisement on the attitude of Generation Z consumers. Moreover, the future studies should add more variables to this study's framework to examine their effect and whether the overall results will change or not.

4. Conclusion

This study was designed to scope from previous literatures the pattern of fast-food digital advertising could affect the attitude of Generation Z consumers towards fast-food in Saudi Arabia by considering the moderating effect of health consciousness among Generation Z Saudi consumers. By investigating previous studies, it was found that majority of Saudis especially young people are higher consumers of fast-food which is booming as food industry in Saudi Arabia. In addition to that, digital advertising has tremendous effect in promoting fast-food for Generation Z consumers in Saudi Arabia. There were high correlations between frequent use of social media and the consumption of fast-food among young Saudis. So that, this study suggested to consider the moderating effect health consciousness of Generation Z fast-food consumers on the relationship between fast-food digital advertising and their attitude towards it whether it is avoidance, approaching or loyalty attitude

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