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Modeling emoji online marketing on websites among young consumers: the moderation effect of age

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Abstract

The incorporation of emojis in online marketing can result in positive attitudes toward businesses and brands and purchase intentions among Generation Z consumers. This study aims to integrate various other constructs with Technological Acceptance Model variables to assess emoji online marketing on websites. Additionally, this study will also explore the moderating effect of age on behavioral associations. A sample of 485 Generation Z customers was used to determine the effectiveness of using emojis for online marketing. The study used both a quantitative research strategy and a descriptive research design. A non-probability snowball sampling method was used to gather data from young South African respondents via a self-administered questionnaire. The hypotheses were tested using structural equation modeling. The findings of the research proved a number of favorable associations between customer engagement, perceived usefulness, perceived ease of use, involvement, trust, and purchase intention. Notably, older consumers within the Generation Z cohort demonstrated favorable behavioral attitude associations due to emoji online marketing on websites. The study contributes to the development of a comprehensive Technological Acceptance Model in the context of emoji online marketing. The findings are valuable as younger generations seek businesses and brands that possess a deep understanding of their needs to establish a meaningful engagement with them.

Keywords Emojis, Websites, Online marketing, Generation Z, Purchase intention, Technology acceptance model (TAM)

Introduction

Florida-Benítez [34] specifies that organizations are increasingly diversifying their marketing strategies by allocating greater resources toward enhancing online communication with consumers. Ko et al. [55] and Meltwater [68] show that global digital advertising spending has increased significantly to \$790 billion in 2024 and that more businesses are focusing on digital marketing strategies. Consequently, emojis are also

seeing tremendous growth as a method of online marketing worldwide, reflecting a notable change in the way individuals communicate preferences and their preferred message channel of dissemination [63, 64, 73]. The presentation of emojis has caused an extreme positive change in the viability of the digital environment [36, 57, 59, 62, 91]. Ko et al. [55] and Xu et al. [88] suggest that online platforms, such as websites, mobile, social media, blogs, and other online mediums, are progressively incorporating emojis into their content. Emojis, considered a recent advancement in the realm of online marketing, are often seen as playful means of communication and have become crucial elements of worldwide online marketing, especially among younger customers [36, 64, 86]. Several investigations considered emojis and emoticons in a

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worldwide context to understand their ability to express meaning [11, 46, 52, 63, 75, 76, 86] but highlighted the need for additional inquiry to examine emojis in online marketing. Research has also investigated the utilization of emojis as an expanding form of symbolic dialog [36, 59, 73], which has been considered by marketers as a mechanism to research young consumer groups. Hence, the current research is important to provide additional insight to marketers, advertisers, and organizations by providing them with a greater understanding of emoji online marketing when targeting younger generations.

Emojis are visual characters, images, and symbols that are frequently employed in text-based communication and marketing. They serve as representations of personas as well as convey concepts and thoughts, encompassing emotions, personal feelings, climate, celebrations, and various other aspects [59, 74, 81]. Therefore, the inclusion of emojis in online marketing can lead to favorable predispositions toward organizations, products, and brands, as well as a growth in followers and client base that can enhance purchase intention [1, 64, 70, 86]. These ideas suggest that brands and organizations can use emojis to effectively convey their marketing point of view to their desired consumers and enhance their attitudes. Emojis can assist organizations in increasing engagement on various online marketing channels, including websites, mobile, and social media, among others [36, 64, 88]. The interpretation of emojis used in online marketing differs across countries, cultures, and demographic groups, which may result in the misunderstanding of marketing messages over varying contexts. Hence, a number of studies have mandated further research to be conducted in different countries and cultures to provide an enhanced understanding of emojis [8, 15, 27, 33, 47, 56, 60, 69, 71, 81]. This research endeavors to provide greater knowledge of emoji online marketing on websites in a developing nation, which could lead to more effective strategies in targeting young African consumer groups.

Generation Z (born between 1997 and 2012) is the largest cohort and is the most technologically advanced and frequently referred to as “digital natives.” This cohort represents 24.6% of the worldwide population and accounts for \$13 trillion (22.5%) of global spending power. Millennials account for 22.9% of the worldwide population and \$13.5 trillion (23.5%) of global spending power. However, Generation Z will surpass Millennial consumer spending power over the next couple of years and is predicted to reach \$22 trillion by 2034 [26, 97]. Hence, it is important for marketers to increase their knowledge and understanding of the Generation Z cohort, especially in terms of ways to reach them with effective marketing strategies, so this target group will be the focus of this study. Various emoji studies focused on social media platforms and

proposed the need for further research among different cohorts (besides Millennials) and different digital platforms [1, 10, 14, 38, 64]. Other emoji-related researches also proposed that future quantitative studies consider various age groups and use a large sample size [6, 18, 63, 83, 89], especially among Generation Z. Hence, these research gaps lend support to this study’s focus and will provide new insights (via a large sample size) to quantitatively assess the use of emoji online marketing on websites among the Generation Z cohort.

The previous studies on emojis considered the effects of consumer attitudinal constructs toward new technology adoption, which included constructs from the Technology Acceptance Model (TAM) (e.g., perceived usefulness, purchase intention, and perceived ease of use) [5, 15, 16, 43, 63, 82, 86]. Fan et al. [33] included additional variables in the TAM and considered their influence on the emoji behavioral intentions in social service networks. The study proposed further research on emojis in different countries and suggested the inclusion of additional constructs in TAM, for example, involvement and social interaction (engagement). Zhang et al. [93] proposed further research that considers the impact of emojis on trust, especially among different target groups, and not only among college students. Suman and Kurniawati [84] also included trust and customer engagement in the TAM to consider consumer reviews (which also include emojis). The study suggested further research among other target groups, such as Generation Z, and not only among Millennials. Therefore, involvement, trust, and engagement are important to Generation Z consumers who desire to continually share content and interact with organizations and brands on digital platforms [22, 23, 26, 27]. This study aims to narrow these research gaps by integrating the TAM with additional constructs, which will add new knowledge to this theoretical framework in a different setting. The study will quantitatively investigate Generation Z consumer sentiment in terms of customer engagement, perceived usefulness, perceived ease of use, involvement, trust, and purchase intention toward emoji online marketing on websites.

Furthermore, researchers investigated age as a determinant or influencing factor in emoji behavior. Oleszkiewicz et al. [72] found that age was a significant predictor of emoticon usage, which decreased as the social media age increased. An et al. [3] asserted that individuals between the ages of 16 and 25 exhibit the greatest emoji usage frequency. Du Plessis [20] demonstrates that the understanding of emojis differs among different platforms and age demographics. Boutet et al. [8] confirmed that older individuals exhibit a lower propensity for emoji adoption and regard them as more challenging to utilize. Chen et al. [14] confirmed that younger people

demonstrate higher precision in categorizing emojis. However, cohort analysis is based on the principle that individuals within a cohort are considered to be similar, but some studies show that different age groups within a cohort can exhibit divergent attitudes and behaviors, especially in terms of social media marketing [24, 25, 39]. Therefore, due to the divergent findings, this study aims to add to cohort analysis theory by establishing whether there is a difference between age groups within a cohort.

In summary, the main research objectives of this study are as follows:

- The first research objective is to investigate the impact of TAM constructs (perceived usefulness, perceived ease of use, involvement, and trust) on customer engagement and purchase intention in terms of emoji online marketing on websites.
- The second research objective is to explore the moderating effect of age on the behavioral construct associations within the Generation Z cohort.

Theoretical background and hypotheses

Technology acceptance model

Technology exerts significant influence over nearly every aspect of the global social structure. Davis [17] developed the TAM framework, which explains the recognized efficacy, aim of the use (perceived usefulness and ease of use), and implementation of technology concerning its social influence and behavioral explanatory processes. The TAM was further expanded by including additional variables, such as behavioral intentions. Zhong et al. [95] have employed the TAM as a framework to explain the adoption and enduring inclination to use emerging technologies throughout their early phases. The TAM has been modified and revised to suit various forms of online marketing research and the acceptance of new technology. Hence, researchers have incorporated other variables to improve its ability to predict outcomes [58, 65]. Many researchers identified the need for additional research to examine the effect of emojis and/or online marketing, especially in terms of involvement, trust, customer engagement, and behavioral or purchase intention [4, 5, 8, 32, 33, 50, 58, 63, 69, 78, 84, 90, 93]. Therefore, this study aims to develop a comprehensive theoretical TAM framework by incorporating additional variables such as trust, involvement, and customer engagement. These new insights will offer marketers a greater understanding of online marketing on websites to effectively target young consumer groups.

Hypothesis development

Trust → *involvement*

Babin [4] reports the outcomes of a text messaging and emoji experiment in laboratory trust games played on mobile devices. Emojis contribute to an increase in trust and a slight increase in reciprocation in individual games. Baek et al. [5] found an increase in social media involvement and behavioral intentions to recycle clothing with tweets via Twitter (X), including emojis. Furthermore, emojis or emoticons increase usage intention when there is involvement [21]. Additionally, emojis may affect levels of trust in interactions with others because they effectively translate text expressions into emotional symbols, reducing the psychological distance between users. Thus, using emojis reduces not just cognitive dissonance between users but also tends to increase their possibility of trusting each other. Trust is crucial when consumers make purchase decisions since they are made in uncertain circumstances, and as a result, situational involvement may encourage the consumer to prevent negative outcomes associated with a product purchase [42]. Extant literature supports a positive relationship between these variables [79, 87]; therefore, the following is hypothesized:

H1 Emoji online marketing results in a favorable association between trust and involvement.

Involvement → *perceived usefulness*

Users who consider that a system has individual importance and appropriateness may perceive the system as useful in their work performance; therefore, inherent involvement is believed to be linked to perceived usefulness [58]. Along the same lines, Chang and Hamid [13] contend that high involvement positively influences behavioral intentions. Jung et al. [48] demonstrated that the utilization of emoticons is positively associated with perceived usefulness when there is a perception of inclusion or acceptance. Cavaleiro et al. [12] suggested that organizations commonly employ emoji marketing endeavors to enhance involvement with consumers. This research concludes that emoji online marketing on websites has an impact on involvement levels, which, in turn, influences perceived usefulness among young consumers, as they actively participate in and acknowledge the use of emojis. Therefore, the following is hypothesized:

H2 Emoji online marketing results in a favorable association between involvement and perceived usefulness.

Involvement → perceived ease of use

Zhang et al. [94] interpreted involvement as a person's assessment of the object's importance based on their inherent interests, values, and needs. The connection between perceived ease of use and involvement is linked to perceptions of usefulness, the degree of inherent involvement, and the users' willingness to make use of technological developments [2]. Sawmong [78] found that the willingness to use paid stickers in direct messages, such as emoticons and emojis, is heavily influenced by perceptions of ease of use and enjoyment. Fan et al. [33] examined the variables that influence the emoji utilization in social service networks. The study found that perceived ease of use and involvement resulted in favorable usage intentions. Nevertheless, this study aims to uncover the impact of involvement on ease of use perceptions regarding emoji online marketing. Extant literature suggests a positive relationship between these variables [2, 58], resulting in the following hypothesis:

H3 Emoji online marketing results in a favorable association between involvement and perceived ease of use.

Perceived ease of use → perceived usefulness

Several inquiries examined emoticons, emoji, and stickers that could not only be useful and easy to use in various forms of digital marketing but also have a positive influence on purchase and/or other behavioral intentions among young consumers [32, 33, 50, 51, 78]. Fan et al. [32] proposed a positive association between perceived ease of use and usefulness in instant messaging, while Fan et al. [33] confirmed that perceived usefulness and ease of use of emojis positively influenced the use of social network services, predominantly among young eastern consumers. Kato et al. [51] proposed that conveying emotions is easy through emojis, emoticons, and stickers in text messaging, which reinforces their usefulness among Japanese students. Sawmong [78] also confirmed a positive correlation between perceived ease of use and behavioral intentions when using stickers (emoticons and emojis) in personal communication, but no significant correlation was shown between usefulness perceptions and behavioral intentions. Extant literature supports a positive relationship between these variables [35, 60]; therefore, the following is hypothesized:

H4 Emoji online marketing results in a favorable association between perceived ease of use and perceived usefulness.

Perceived usefulness → customer engagement

Huang et al. [43] posited that the perceived usefulness of a specified technology device enhances the user's intention to express his/her emotions to the recipient via emoticons in a mobile text message, allowing the receiver to form a stronger bond with the sender. Bischoff and Palea [7] found a link between an emoji's inherent qualities (esthetic appeal) and its extrinsic qualities (perceived usefulness), which also made engagement more enjoyable and simpler. Bravo et al. [9] revealed that customers' perceptions of usefulness influence their attitudes toward social tourism websites and their subsequent engagement behaviors. McShane et al. [67] proposed that emojis' impact on brand engagement varies according to the nature of the interaction between emojis and text on Twitter (X). Therefore, the following is hypothesized:

H5 Emoji online marketing results in a favorable association between perceived usefulness and customer engagement.

Perceived ease of use → customer engagement

Eslami et al. [31] described customer engagement as digital community tasks involving interest in posts on these platforms and giving recommendations in response to surveys posted on social sites. Kang et al. [49] investigated the influence of various antecedents on customer engagement in online games, which produced a favorable ease of use and customer engagement association. Wang et al. [86] ascertained that emotional emojis enhance customer engagement by eliciting stronger emotional reactions to tourism promotion, while semantic emojis enhance consumer engagement by increasing the perceived credibility of tourism promotional material. Valenzuela-Galvez et al. [85] reported that emojis influence customer interaction and initiate engaging behavioral patterns, leading to increased customer engagement in email marketing. So, it is hypothesized:

H6 Emoji online marketing results in a favorable association between perceived ease of use and customer engagement.

Customer engagement → purchase intention

The use of emojis in digital marketing communication has influenced customers positively, resulting in significant engagement and possibly higher purchasing intentions [81]. Bravo et al. [9] verified that customer engagement behavior was positively associated with the purchases on

social tourism websites. Furthermore, Zhou et al. [96] found that emojis act as emotional stimuli that attract consumers to advertisements. Husnain and Toor [44] also found that there is a favorable association between engagement and purchase intention due to social network marketing. The use of pictographs in advertising improves the attitude of consumers, which has a major influence on purchase intention [61]. Extant literature suggests a positive relationship between these variables [11, 16, 69], resulting in the following hypothesis:

H7 Emoji online marketing results in a favorable association between customer engagement and purchase intention.

The moderating effect of age

Boutet et al. [8] suggested that older consumers are less likely to use emojis, use a diversity of emojis, and perceive emojis as useful, despite not finding them easy to use. An et al. [3] also found that individuals between the ages of 16 and 25 exhibit the greatest level of emoji usage. The studies suggest further emoji research on age and other demographic variables. Chen et al. [14] found that younger consumers displayed greater emoji classification accuracy than older consumers. Garcia et al. [35] reported that older consumers exhibited a decreased capacity to perceive the intended sarcasm compared to younger consumers. Nevertheless, older consumers' understanding of sarcastic meaning increased when the text included winking emojis. Du Plessis [20] confirms that different digital conduits and ages interpret emojis differently. Many researchers investigated several different elements of emoji communication and marketing, such as perceptions of consumer engagement, usefulness and ease of use, and purchase intention among young consumers (e.g., high school, college, or university students), but have only examined age from a descriptive viewpoint [7, 16, 33, 48, 51, 61, 63, 78, 81, 86]. Therefore, additional inquiry was proposed to determine the impact of age on the aforementioned associations. Several online marketing-associated inquiries found significant differences within and between the younger generational cohorts (i.e., Generation Y and Z) age groups in terms of various behavioral intentions and attitudes. For example, a couple of studies found that younger consumers held positive predispositions [24, 39], whereas other studies found that the older Generation Y and Z individuals within the younger generational cohorts held more positive attitudes and behavioral intentions [22, 23, 25, 28–30]. Consequently, this study supports the latter viewpoint and posits that because older age groups within the Generation Z cohort generally have greater

financial means, so emoji online marketing will result in more positive behavioral intentions and attitudes. Therefore, it is hypothesized:

H8a Age moderates the positive association between ease of use and usefulness perceptions because of emoji online marketing.

H8b Age moderates the positive association between perceived usefulness and customer engagement because of emoji online marketing.

H8c Age moderates the positive association between ease of use perceptions and customer engagement because of emoji online marketing.

H8d Age moderates the positive association between customer engagement and purchase intention because of emoji online marketing.

A summary of the hypotheses is displayed in the conceptual model (refer to Fig. 1).

Methodology

Quantitative research involves gathering and examining statistical information to describe, control, estimate, or elucidate a topic of interest [77]. Hence, the main aim of the study was to examine young consumers' attitudinal responses to emoji website online marketing via quantitative methods. The deductive approach may include developing a hypothesis that is amenable to extensive testing [77]. Therefore, data were collected to test the impact of emoji online marketing on the effects of trust, involvement, perceived usefulness, perceived ease of use, customer engagement, and purchase intention among the Generation Z cohort in South Africa via the aforementioned eight hypotheses. Griffie [40] states that the research design is characterized as an effective framework or research study model that represents intrinsic logic and methodological limitations and that specifies the measures of the research study, how it is arranged, and how it works. In this study, the researcher employed a descriptive research design, which facilitated the development of a comprehensive TAM model to evaluate young consumers' attitudes toward emoji use in website marketing.

The research population consisted of South African Generation Z website users who had previously interacted with emoji online marketing. South Africa is an appropriate research population since it has a young population with a median age of 27.8 years and exhibits the highest average daily amount of time spent online in the world at 9:27 h [68]. Snowball sampling allows

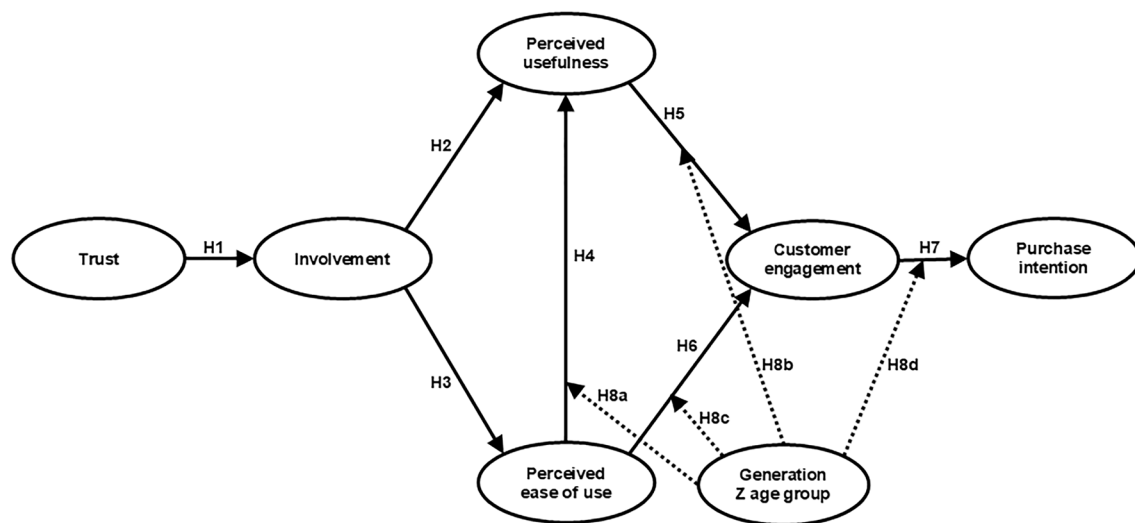


Fig. 1 Emoji online marketing conceptual model

researchers to access difficult-to-reach populations and include target features that are difficult to access via a chain of referrals [40]. The study used snowball sampling, with Cape Town as the starting point. Hence, the researchers asked respondents for the contact particulars of other potential respondents in order to extend the reach of the self-administered questionnaire electronically (email, SMS, WhatsApp, Instagram, Facebook, and X) throughout South Africa. The study aimed for a large sample size through non-probability sampling, ensuring a sufficient number of respondents to accurately represent young consumers (i.e., Generation Z, aged 16–25 years) who interacted with online emoji marketing on websites. Using the above-mentioned sampling technique, the research was able to obtain a high response rate from the respondents, resulting in a final sample size of 485 respondents.

The questionnaire used in this study was a self-administered survey, which was largely modeled on Zareen et al.'s [92] research. The questionnaire presented screening questions, emoji online website usage, and demographics sections through multiple-choice and closed-ended questions. The questionnaire used a 5-point Likert scale to assess consumer sentiments and engagement with emoji online marketing via websites. The researchers incorporated different TAM-related constructs from multiple studies, which included involvement [54]; trust [45]; customer engagement [45]; perceived usefulness [17]; perceived ease of use [17]; and purchase intent [24, 25, 39]. SPSS was the software utilized for the exploratory analysis and AMOS for the confirmatory factor analysis to examine the reliability and validity measures via average variance extracted (AVE), Cronbach's alpha (α), and

Table 1 Demographic variable data

Demographic variables	<i>n</i>	%
Gender		
Male	251	51.8
Female	234	48.2
Age		
16–20 years	134	27.6
21–25 years	351	72.4
Education		
Grades 8–11	34	7.0
Completed grade 12	133	27.5
Degree or certificate	205	42.3
Postgraduate degree	113	23.3

composite reliability (CR), factor loadings (FL), and the component correlation matrix [37]. The subsequent section details the descriptive findings and the statistical assessment of the seven hypotheses, which used AMOS to generate the casual model via Gaskin's [37] structural equation modeling process.

Results

The emoji online website usage variables also showed that most of the respondents used emojis often (28.9%) or always (61.0%); sometimes (28.9%), often (20.2%), and always (35.5%) participated in emoji brand engagement; spent 3 h (33.2%) or ≥ 4 h (38.4%) online per session; and 89.9% of the respondents spent less than ZAR1000 per month making online purchases. Table 1 summarizes the demographic data for 485 respondents.

Table 2 Data normality measures

Measures	M	SD	Var	Skewness	Kurtosis
Trust	4.00	0.960	0.921	0.737	−0.123
Involvement	3.98	0.988	0.977	0.916	0.924
Perceived usefulness	4.07	0.884	0.781	0.612	−0.204
Perceived ease of use	4.13	0.871	0.758	0.772	0.359
Consumer engagement	4.05	0.980	0.960	0.589	−0.362
Purchase intention	3.93	0.991	0.983	0.612	−0.116

The confirmatory factor analysis produced six variables (constructs) with a total variance of 85.599%, which shows an excellent level of correlation between the variables. The Kaiser–Meyer–Olkin measure was utilized to assess the adequacy of sampling, which yielded an excellent value of 0.953. Bartlett's Measure of Sphericity was implemented to gauge the correlation matrix factorability, which yielded a significant result at $p < 0.001$, so the correlations were deemed to be sufficient between the construct items [37]. The data showed acceptable normality ranges based on the multivariate construct means, standard deviations, variance, kurtosis, and skewness (refer to Table 2).

The range of AVE rates was 0.771–0.860, and the range of FL rates was 0.787–0.972, which confirmed convergent validity as per Hair et al.'s [41] measure of 0.5. The range of CR values was 0.931–0.961, and the range of Cronbach's α was 0.930–0.954, which confirmed reliability as per Hair et al.'s [41] measure of 0.7. The mean values of the construct also exceeded 3.94, showing that young consumers' attitudes toward emoji online marketing on websites were generally favorable (refer to Table 3).

The discriminant validity was proven by AVE's square root exceeding the correlations between the construct items. The square root values of the AVE and the correlation between the construct items are displayed in Table 4.

The effectiveness of the common method factor measures was assessed using an estimation of the method of common method bias. A chi-square (χ^2) test with a value of $p < 0.001$ revealed a significant amount of shared variation between the controlled and uncontrolled common method factor models. Consequently, the uncontrolled common method factor model was deduced and utilized for the quantitative analysis. The measurement model metrics demonstrated an adequate structural equation modeling fit based on threshold measures proposed by Khan et al. [53], which were as follows: RMSEA = 0.031, CFI = 0.993, IFI = 993, RFI = 969,

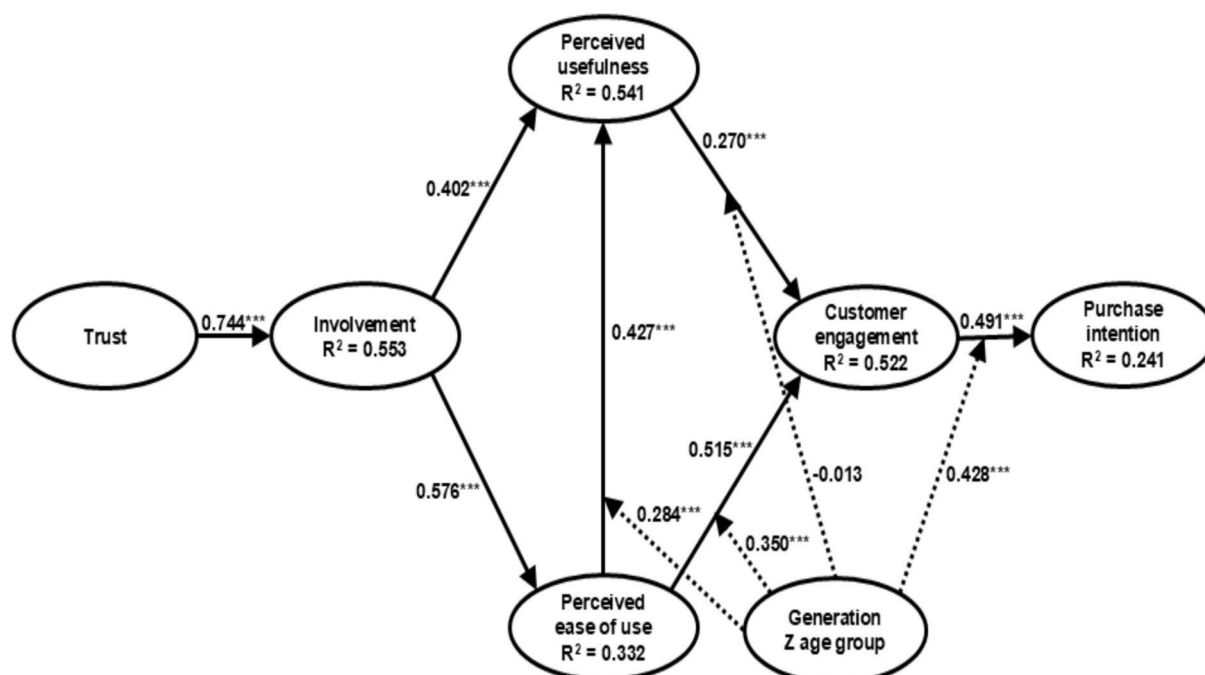
Table 3 Validity and reliability measures

Measures	Codes items	M	SD	FL	AVE	CR	Cronbach's α
Trust (TR)	TR1	3.95	1.054	0.866	0.796	0.940	0.945
	TR2	3.96	1.036	0.937			
	TR3	4.03	1.005	0.904			
	TR4	4.05	1.046	0.860			
Involvement (INV)	INV1	3.99	1.051	0.918	0.818	0.931	0.930
	INV2	3.96	1.047	0.893			
	INV3	3.97	1.067	0.902			
Perceived usefulness (PU)	PU1	4.07	0.995	0.908	0.778	0.933	0.930
	PU2	4.06	0.967	0.923			
	PU3	4.09	0.964	0.902			
	PU4	4.07	0.962	0.787			
Perceived ease of use (PEU)	PEU1	4.19	0.940	0.915	0.771	0.931	0.931
	PEU2	4.13	0.962	0.888			
	PEU3	4.09	0.963	0.830			
	PEU4	4.10	0.960	0.878			
Customer engagement (CE)	CE1	4.10	1.066	0.865	0.792	0.938	0.935
	CE2	3.98	1.137	0.950			
	CE3	4.04	1.038	0.858			
	CE4	4.08	1.040	0.883			
Purchase intention (PI)	PI1	3.90	1.054	0.889	0.860	0.961	0.955
	PI2	3.94	1.019	0.918			
	PI3	3.95	1.066	0.972			
	PI4	3.96	1.085	0.929			

Table 4 Correlation component matrix

Measures	TR	PU	PEU	INV	CE	PI
Trust	0.892					
Perceived usefulness	0.532	0.882				
Perceived ease of use	0.479	0.569	0.878			
Involvement	0.507	0.628	0.583	0.904		
Customer engagement	0.511	0.577	0.661	0.628	0.890	
Purchase intentions	0.559	0.606	0.517	0.616	0.547	0.927

Bold represents the “square root values of the AVE”

**Fig. 2** Emoji online marketing model. Note: *** $p < 0.001$

GFI=0.959, NNFI=0.989, NFI=0.980, SRMR=0.016, and $\chi^2/df=1.500$. The emoji online marketing constructs tolerance range was 0.446–0.521 (greater than 0.1), and the VIF range was 1.920–2.242 (lower than 3), which shows that the constructs were not exceedingly correlated to one another and therefore at acceptable levels.

The β coefficient paths revealed favorable and significant associations between the emoji online marketing constructs as follows: trust $\rightarrow$ involvement ($p < 0.001$, $\beta = 0.744$) supporting H1, involvement $\rightarrow$ perceived usefulness ($p < 0.001$, $\beta = 0.402$) supporting H2, involvement $\rightarrow$ perceived ease of use ($p < 0.001$, $\beta = 0.576$) supporting H3, perceived ease of use $\rightarrow$ perceived usefulness ($p < 0.001$, $\beta = 0.427$) supporting H4, perceived usefulness $\rightarrow$ customer engagement ($p < 0.001$, $\beta = 0.270$) supporting H5, perceived ease of use $\rightarrow$ customer engagement ($p < 0.001$, $\beta = 0.515$) supporting H6, and customer

engagement $\rightarrow$ purchase intention ($p < 0.001$, $\beta = 0.491$) supporting H7. Figure 2 and Table 5 provide a summary of the first seven hypotheses results.

As previously mentioned, structural equation modeling was employed to examine the relationships between the emoji online marketing constructs, which also showed the variance of the constructs. The variable of trust accounted for 55.3% of the variation in involvement. Involvement accounted for 33.2% of the variation in perceived ease of use. The combined effects of perceived ease of use and involvement accounted for 54.1% of the variation in perceived usefulness. Perceived ease of use and perceived usefulness together accounted for 52.2% of the variation in customer engagement. Customer engagement accounted for 24.1% of the variation in purchase intention. Figure 2 displays the explained variance, β coefficient paths, and significant measures.

The β coefficient paths revealed that age, as a moderator, increased the positive associations between the emoji online marketing constructs as follows: $PEU \times Age \rightarrow PU$ ($p < 0.001$, $\beta = 0.284$), $PEU \times Age \rightarrow CE$ ($p < 0.001$, $\beta = 0.350$), and $CE \times Age \rightarrow PI$ ($p < 0.001$, $\beta = 0.428$). Therefore, H8a, H8c, and H8d were confirmed (refer to Figs. 2, 3, 4, and 5 and Table 5). However, no significant association was found for $PU \times Age \rightarrow CE$ ($p = 0.990$, $\beta = -0.001$) moderation, so H8b was rejected (refer to Figs. 2, 3, 4, and 5 and Table 5).

Discussion

Generation Z participants exhibited a notable favorable association between trust and involvement due to emoji online marketing on websites. Studies have confirmed that there are similar relationships among the young generations [79, 87]. Young consumers who have confidence in a business are more likely to trust and participate in their website's emoji online marketing. Emojis facilitate message comprehension and can serve as a powerful marketing strategy to cultivate a robust young audience of brand advocates. Young customers who trust a brand are more likely to be involved with a brand's emoji online marketing.

The investigation results also confirmed favorable involvement and usefulness perceptual association due to emoji online marketing on websites. Leso and Cortimiglia [58] verify an analogous association in terms of the adoption of information systems. Generation Z consumers are familiar with emoji usage and prefer to use these visual symbols over words. This is because emojis can convey a wide range of information in a direct manner, which increases their usefulness and stimulates involvement within the younger generations.

The results also showed favorable involvement and ease of use perceptual association due to emoji online

marketing on websites. Studies corroborate this result by indicating the same association in various forms of digital technology [2, 58]. Therefore, it can be inferred that Generation Z customers comprehend and have a positive perception of website emoji online marketing. Marketers and brands should continually monitor the type of marketing communications that have a positive influence on Generation Z involvement and perceived ease of use predispositions. For example, emojis can replace words because they are simple and eliminate the need to write them out in full.

The inclusion of emoji online marketing on websites has led to favorable ease of use and usefulness perceptual associations. Other studies also observed a positive relationship between individuals who indicated regular use of emojis and their perception of them as both beneficial and user-friendly [12, 33]. This study verifies that Generation Z consumers find the use of emojis as easy and useful on digital marketing platforms. Brands can develop tailor-made emojis to align with their online website marketing messaging, thereby involving younger consumers in ways that may generate favorable reactions to enhance the perceived ease of use and perceived usefulness association.

The inclusion of emoji online marketing on websites led to favorable perceptions of their usefulness and customer engagement among young consumers. Studies have demonstrated a similar association across various online marketing platforms [7, 9]. Emojis may at times be misunderstood, but when used correctly and in the appropriate setting, they can enhance consumer engagement via their usefulness in online marketing. Emojis make a message stand out and are easily interpreted by the receiver, which increases the perceived usefulness and customer engagement among the Generation Z group.

Table 5 Results of the hypotheses

H	Paths	β	t-values	SE	p-values	Results
H1	TR $\rightarrow$ INV	0.744	24.473	0.035	0.001***	Supported
H2	INV $\rightarrow$ PU	0.402	18.694	0.031	0.001***	Supported
H3	INV $\rightarrow$ PEU	0.576	5.953	0.038	0.001***	Supported
H4	PEU $\rightarrow$ PU	0.427	11.334	0.043	0.001***	Supported
H5	PU $\rightarrow$ CE	0.270	6.472	0.046	0.001***	Supported
H6	PEU $\rightarrow$ CE	0.515	12.344	0.047	0.001***	Supported
H7	CE $\rightarrow$ PI	0.491	12.394	0.037	0.001***	Supported
H8a	$PEU \times Age \rightarrow PU$	0.284	6.361	0.021	0.001***	Supported
H8b	$PU \times Age \rightarrow CE$	-0.001	-0.013	0.028	0.990	Rejected
H8c	$PEU \times Age \rightarrow CE$	0.350	6.742	0.026	0.001***	Supported
H8d	$CE \times Age \rightarrow PI$	0.428	9.437	0.023	0.001***	Supported

*** $p < 0.001$

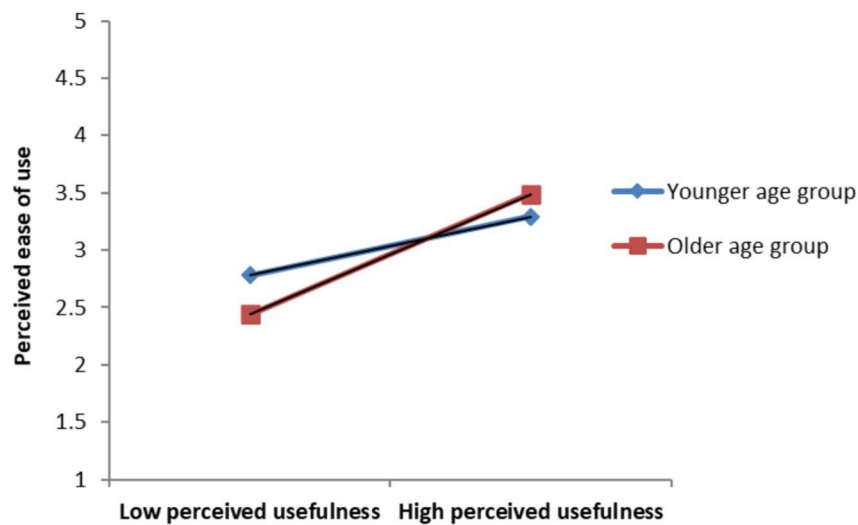


Fig. 3 PEUxAge → PU ($p < 0.001$, $\beta = 0.284$) moderation

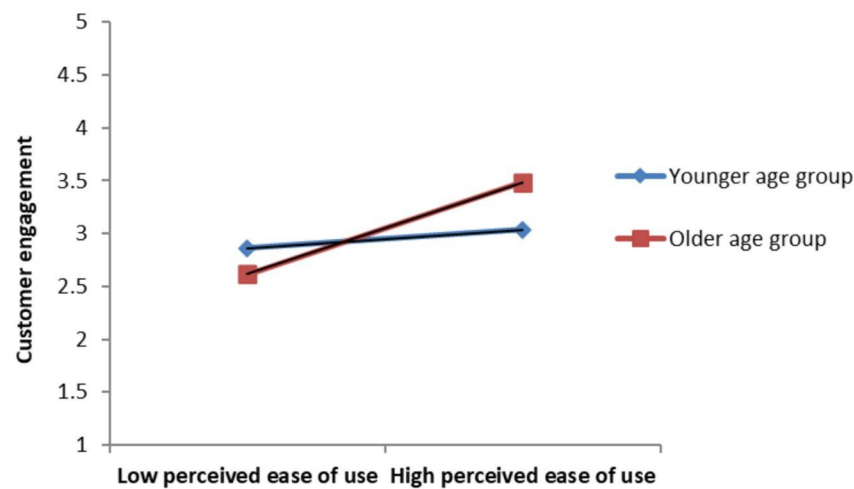


Fig. 4 PEUxAge → CE ($p < 0.001$, $\beta = 0.350$) moderation

A statistically significant favorable ease of use and customer engagement association was also found due to emoji online marketing on websites. Additional online marketing studies have corroborated the notion that ease of use perceptions are positively associated with customer engagement [85]. Emojis play a valuable role in online marketing because they elicit emotional responses from young consumers and prompt them to freely express their feelings through these digital symbols. Marketers and brands can use emojis by adding context, appealing to the emotions of the audience on a deeper level so that their messages can be more relatable, understood, and easy to use or interpret.

Generation Z participants exhibited a notable favorable association between customer engagement and purchase intention due to emoji online marketing on websites. Other inquiries validate this result by indicating similar associations in an array of online marketing formats [16, 69, 71, 81]. Furthermore, emojis are acknowledged as an essential and straightforward instrument that marketers can effectively utilize in the constantly evolving realm of digital technology. Therefore, it is imperative for marketers to carefully consider how they may capitalize on the high engagement levels of emojis to entice young consumers to foster purchase intention.

The study's results affirmed that older Generation Z consumers displayed more positive behavioral intentions

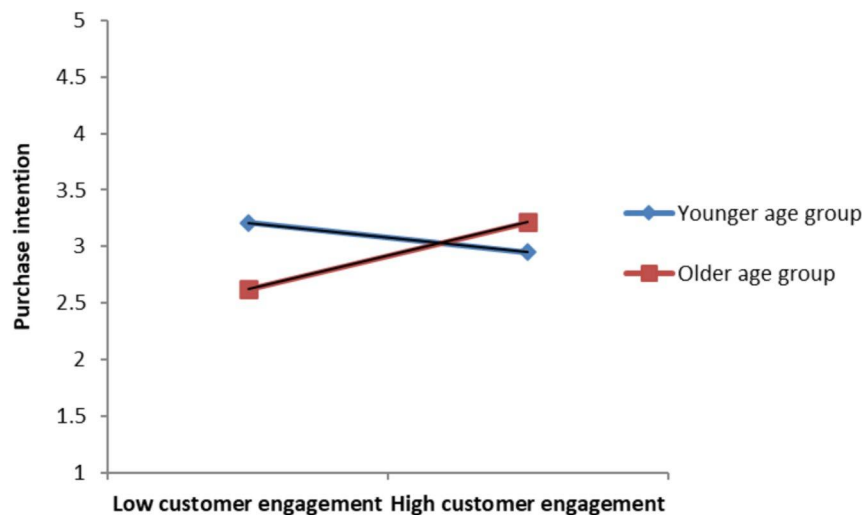


Fig. 5 CExAge $\rightarrow$ PI ($p < 0.001, \beta = 0.428$) moderation

and attitudes due to emoji online marketing on websites. Age was found to moderate the favorable association between ease of use and usefulness perceptions, ease of use perceptions and customer engagement, and customer engagement and purchase intention due to emoji online marketing. However, the usefulness perceptions and customer engagement relationship did not show a significant different moderation effect. Researchers used cohort analysis to substantiate that older Generation Y and Z age groups exhibited more favorable behavioral intentions and attitudes in online marketing [22, 23, 28–30].

Several studies affirm that young consumers are more probable to utilize emojis and display a more favorable predisposition to these visual symbols. However, these investigations assessed differences between cohorts and not within a specific young generation [3, 8, 14, 35]. This research shows that Generation Z consumers displayed varied behavioral intentions and attitudes within a single cohort based on the moderation effect of age. So, the study verifies that the sentiment of cohort members is not fully homogeneous as postulated by cohort theory. Moreover, marketers recognize emojis as a crucial and uncomplicated tool that they can effectively employ in the ever-changing domain of technological innovation [63]. Hence, it is crucial for businesses and brands to strategically analyze how they may leverage the significant levels of usefulness, ease of use, and engagement that users have with emojis to attract older consumers of the Generation Z cohort and stimulate their intention to make a purchase.

Conclusions and contributions

Practical contributions

Emojis have become an important tool in online marketing. They can strengthen the persuasive appeals, which can generate customer engagement and encourage purchase intention. This study can be beneficial to businesses and brands, which can leverage the use of emoji online marketing on websites to engage young consumers who desire brands that understand them.

Emojis are time-efficient, simple to understand, and clearer than voice notes or videos. Sharma et al. [80] stated that the most important feature of emojis is their ability to convey a message in a simple, convincing, and humorous manner, which is why they appeal to Generation Z consumers and facilitate sustainable brand recall. Given the multiple benefits that emoji online marketing offers marketers, businesses should prioritize the inclusion of emojis in digital communication.

Emojis appeal to young consumers' emotions and establish trust, which provides a secure environment and fosters a connection that resonates with them. Businesses should prioritize the use of emojis in their online marketing content on websites. The marketing content adapted to accurately target young demographics and align with the overall brand identity. This strategy can establish strong emotional bonds, which can increase customer engagement and purchase intention among Generation Z consumers.

Generation Z consistently utilizes emojis whenever they access the internet due to their familiarity and regular usage of websites. Hence, this paper shows that emojis can be advantageous for establishing trust, involvement, engagement, purchase intention, and interaction, especially when these digital communication symbols are

perceived as useful and easy to use by Generation Z consumers. The moderation effect of age shows that emojis enable marketers to customize online content to communicate with specific target consumer demographics within a cohort.

This investigation confirms that emojis are beneficial, user-friendly, involving, engaging, trustworthy, and reliable in online marketing, as shown by previous recent research [27, 36, 88].

Theoretical contributions

By examining emoji online marketing among Generation Z consumers, this research contributes to previous TAM investigations, originally designed as a tool for assessing the acceptability of information technology. This research also offers a modified TAM by combining customer engagement, trust, involvement, ease of use and usefulness perceptions, and purchase intention to form a novel concept model framework to analyze the use of emojis on websites. The research findings revealed a number of favorable associations among the aforementioned constructs, namely, trust → involvement, involvement → perceived usefulness, involvement → perceived ease of use, perceived ease of use → perceived usefulness, perceived usefulness → customer engagement, perceived ease of use → customer engagement, and customer engagement → purchase intention, which collectively contribute to the development of a comprehensive TAM in the context of emoji online marketing. The findings reinforce the value of including emojis in online marketing on websites, as they have the potential to captivate and engage young customers while also influencing their views and behaviors toward businesses and brands. These results contribute to our understanding of consumer purchasing behavior, and emojis are deemed appropriate for usage and effectively increase attention to marketing content. These results add to the expanding body of knowledge about the relevance of emoticons and their capacity to enhance the impact of online marketing. McLean and Wilson [66] found that emojis used in online marketing caused a favorable association with regard to customer engagement and purchase intention. Dmitrieva [19] reports that if the context of the campaign is acceptable, employing emojis in online marketing can create a more favorable effect, which can lead to higher purchase intention. This study reveals that the moderating influence of age can lead to diverse attitudes and behavioral intention associations within a single generational group. This confirms that the general predisposition of individuals within a single cohort is heterogeneous, which is contrary to what is hypothesized in the cohort theory. In reality, emojis are acknowledged as an essential, inexpensive

technique that businesses and brands can successfully use in the constantly evolving field of online marketing and digital innovation.

The study gathered data from South African Generation Z consumers, who may have unique behavioral intentions and attitudes compared to worldwide Generation Z consumers, especially those from wealthy regions. The primary differentiations may encompass disparities in socioeconomic divisions, unemployment rates, income, and education. Hence, further studies could prioritize exploring different regions worldwide to obtain a more extensive cultural and geographical outlook on the utilization and acceptance of emojis from a global standpoint. This study represents a preliminary effort to empirically investigate the engagement and purchase intention of young Generation Z consumers when exposed to online marketing content that incorporates emojis on websites. Potential avenues for subsequent studies could involve examining the use of emojis on different online marketing channels, which could include social media, mobile apps, messaging platforms, search engines, video posting platforms, and blogs. The research sample was comprised of consumers from the Generation Z cohort, specifically targeting older members of this generation. However, subsequent studies should prioritize studying the youngest members of this cohort (10–15 years) as well as other generational cohorts. This may assist in assessing the influence of online marketing on the demographic that cannot independently manage their own digital transactions at this stage in life. This investigation especially assessed the level of engagement and purchase intention among young consumers. However, it is likely that answers may vary, and there are discrepancies in the information provided by respondents while filling out a questionnaire, which may lead to bias and the accuracy of their answers. A qualitative study might be executed to elicit more detailed responses from consumers, enabling researchers to explore an increased number of attributes that may impact how young Generation Z consumers perceive the usage of emoji online marketing on websites.

Abbreviations

TAM	Technology Acceptance Model
AVE	Average variance extracted
CR	Composite reliability
FL	Factor loadings
TR	Trust
INV	Involvement
PU	Perceived usefulness
PEU	Perceived ease of use
CE	Customer engagement
PI	PI

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Author contributions

The study's conceptualization, methodology, visualization, formal analysis, and data curation were performed by MM and RD. RD and TE developed the original draft. TE was responsible for the writing (review and editing). All authors have read and approved the manuscript.

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Availability of data and materials

The corresponding author will make the dataset available upon reasonable request.

Declarations

Ethics approval and consent to participate

Ethical clearance was granted by the CPUT Ethics Committee (FOBREC807), and the respondents gave their full informed consent to participate in the study.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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