



How Should Emoji be Used in Advertisements?

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Abstract. Previous studies have focused on studying the emoji usage in marketing from a univariate perspective. Thus, this study seeks to appraise the utilization of emojis in advertisements by considering a combination of emoji characteristics. Study employed fuzzy set qualitative comparative analysis (FSQCA) to examine the combined impact of valence, face or non-face, arousal, number, and position of emojis on purchasing intention from social presence and interest. The results revealed five combinations of advantageous emoji characteristics for purchasing intention, as well as three combinations of disadvantageous emoji characteristics. These combinations exhibited some variability, indicating that benefits can be derived in various scenarios. Besides, emoji characteristics can evoke feelings of social presence and interest among consumers, with different combinations of emoji characteristics yielding varying effects on social presence and interest.

Keywords: emoji; FSQCA; social presence; interest; purchasing intention;

1 Introduction

This article primarily adopts Zou's definition, which views emojis as non-written language symbols with Unicode codes. Marketers and consumers use emojis to convey information, create a specific atmosphere, provide entertainment, and fulfill other needs.¹ The use of positive emojis has been shown to increase consumer's brand attachment and processing fluency in social media.^{2,3} While a few recent studies have commenced shedding light on the significance of employing emojis in marketing, the exploration of how emojis influence purchasing intentions remains relatively limited. The existing literature predominantly focuses on the mere presence or absence of emojis, with only a handful of studies delving into the multifaceted dimensions of emoji usage as an independent research topic. For instance, the inclusion of emojis in marketing communications has been found to precipitate greater positive affect among consumers, thus fostering more favorable purchasing intentions.⁴ Shen discovered that the incorporation of emojis in product advertisements enhances consumers' willingness to purchase, with the underlying mechanism being mediated by psychological simulation.⁵ In addition, Shen's research revealed that the position of emojis in the tagline exerts a moderating effect on consumers' responses. Hill, in a

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separate study, determined that emojis elicit a more positive shift in purchase intent compared to textual content alone in the context of online consumer reviews.⁶

Previous studies have predominantly focused on a singular emoji variable, thereby, studying emojis solely from the perspective of a single variable is inherently flawed and imposes limitations on its practical application. Hence, it is necessary to analyze the variable combinations of emojis in order to rectify this deficiency. Moreover, current scholars have assessed the effects of emoji usage from diverse perspectives. However, these perspectives fail to explicate the individual dimensions of emojis at the same time. Shifts in social presence across different situations prompt corresponding changes in individual thoughts and behaviors. Dai et al have discovered that the utilization of online emojis enhances the sense of social presence.⁷ Moreover, consumer interest in advertisements represents a variable that is intrinsically linked to purchasing intention, however, it remains unexplored. We anticipate that interest will play a pivotal role in shaping purchasing intention. Accordingly, this study introduces social presence and interest as components of a multi-theoretical interpretive framework.

In order to address the aforementioned issues, this paper selects five characteristics of emojis and relies on the FSQCA method. Furthermore, the study includes two clearly different products—cola and headphones—in order to decrease the potential impact of product type. A total of 72 combinations of these characteristics were distributed among 1500 questionnaires.

2 Study: Examine the Emoji Characteristics Combined for the Benefit of Purchasing Intention

2.1 Pre-test: Conditional Characteristic Identified

Current research on emojis primarily focuses on various aspects, including valence, position, face or non-face representation, arousal, number, and aesthetic appeal. In order to further refine and identify the research variables, this study employs questionnaire methodologies.

2.1.1 Design.

When the advertisement incorporates emoji, the most concerning characteristic of the emoji is examined. Participants were instructed to rate the attention given to 10 emoji characteristics on each questionnaire using a Likert seven-point scale (1-not at all, 7-very much)... I have concerns... A total of 135 questionnaires were distributed through the Questionnaire Star platform, of which 101 were deemed valid; resulting in an effective recovery rate of 74.8%. The gender distribution consisted of 34.7% male and 65.3% female participants. With a cronbach's alpha coefficient of 0.782, the overall reliability of the questionnaire was deemed high, and the obtained results were deemed usable.

2.1.2 Results.

The six characteristics that received the highest average scores were valence, face or non-face, meaningfulness, arousal, familiarity, and clarity. Familiarity and clarity shared the fifth position, both with average scores of 5.48, 5.46, 5.23, 5.29, and 5.2, respectively. On the other hand, the four characteristics with the lowest average scores were number, position, aesthetic appeal, and visual complexity, scoring 5.07, 5.05, 5.01, and 4.81, respectively. Due to the high familiarity (58.82%), meaningfulness (88.24%) and clarity (79.08%) attributed to the majority of emoji, we focused solely on the first five criteria for the study.⁸ Therefore, valence, arousal, face or non-face, number, and position were considered as conditional characteristics.

2.2 Case Selection and Outcome Variable Determination

Valence was categorized into positive and negative, while position was divided into three sections: upper, middle, and lower within the entire ad space. Face or non-face was classified as either face versus non-face, and arousal was categorized as high or low intensity. Number was divided into 1, 2, and 4. In total, there are 72 combinations of these five characteristics, resulting in eight distinct emoji combinations when considering valence, face or non-face, and arousal. Following the classification by Rodrigues et al, we selected eight emoji.⁸ Therefore, this study devised advertisements featuring 72 combinations of emoji characteristics for both cola and headphones, and they were then utilized as case studies for FSQCA. Based on the theoretical framework, social presence, interest, and purchasing intention were selected as the outcome variables.

2.3 Questionnaire Design and Data Sources

Each questionnaire comprises three parts. The first part focuses on cola and presents a randomly selected combination of 72 emoji characteristics from cola advertisements. Participants are required to respond to nine questions about social presence, interest, and purchasing intention based on the advertisement, using a seven-point Likert scale. Like the interest measurement includes three questions, adapted from the study by Liu et al, evaluating the overall appeal of the ad.⁹ The second part focuses on headphones and features the identical the structure and content of the cola section. The third section captures common demographic variables, including gender, age, and so on. A total of 1,500 questionnaires were collected through the JIANSHU platform, with 34.34% of respondents identifying as male and 65.66% as female. The reliability of Cronbach's α was found to be 0.931, indicating good internal consistency.

2.4 Characteristic Measure and Anchor Setting

For valence, a value of 0 indicates membership in a negative emoji set, while a value of 1 indicates membership in a positive emoji set. For face or non-face, a value of 0 signifies a non-face emoji collection, whereas a value of 1 signifies a face emoji collection. For arousal, a value of 0 denotes low-intensity arousal emojis, while a

value of 1 denotes high-intensity arousal emojis. Number and position are both three-category variables. Number is divided into three categories: 1, 2, and 4, while position is divided into three categories: upper, middle, and lower. Direct assignment is employed for number and position. Specifically, a value of 0.2 is assigned when number is 1, 0.4 when number is 2, and 0.6 when number is 4. For position, a value of 0.33 is assigned for upper, 0.67 for middle, and 1 for lower.

In this study, the variables of social presence, interest, and purchasing intention in the questionnaire were each accompanied by a set of two products. The KMO values obtained from the KMO and Bartlett spherical tests for social presence, interest, and purchasing intention were 0.691, 0.833, and 0.783, respectively, indicating their suitability for factor analysis. In addition, the significance levels for social presence, interest, and purchasing intention were all 0.000, further confirming their suitability for factor analysis. Therefore, factor analysis was employed to reduce the dimensionality of social presence, interest, and purchasing intention, resulting in a composite of 72 emoji variables. Following the approach employed by Ordanini et al, the maximum, mean, and minimum values were selected as the anchors for social presence, interest, and purchasing intention, taking into account the specific characteristics of the data in this study.¹⁰

2.5 Results

2.5.1 Correlation Analysis.

The findings revealed a significant positive correlation between valence and social presence (Spearman = 0.611), and between social presence and purchasing intention (Pearson = 0.915). Similarly, a significant positive correlation was observed between valence and interest (Spearman = 0.659), a significant negative correlation between face or non-face and interest (Spearman = -0.270), and a significant positive correlation between interest and purchasing intention (Pearson = 0.958). Hence, these findings support that in ads with emoji, emoji can generate social presence and interest for consumers, and the stronger social presence or interest, the higher the purchasing intention of consumers.

2.5.2 Analysis of Necessary Characteristic.

The threshold for full membership in the set was fixed at the rating of 4.855 ("yes") on our scales, the threshold for full non-membership was fixed at the rating of 3.260 ("no"), and the indifference point was fixed at the rating of 4.214 ("maybe"). In order to gain an advantage in the combination of emoji variables, it is necessary to investigate the impact of configuration matching on the outcome of purchasing intention. This is due to the fact that the required conformance for all single variables is less than 0.9, as indicated in the subsequent table 1.

Table 1. Purchasing Intention Analysis of Necessary Characteristic

Characteristic	Purchasing intention		~Purchasing intention	
	Consistency	Coverage	Consistency	Coverage
Valence	0.651	0.715	0.316	0.285
~Valence	0.349	0.383	0.684	0.617
Face or non-face	0.428	0.470	0.588	0.530
~Face or non-face	0.572	0.628	0.412	0.372
Arousal	0.506	0.556	0.493	0.444
~Arousal	0.494	0.543	0.507	0.458
Number	0.590	0.810	0.645	0.727
~Number	0.801	0.733	0.831	0.625
Position	0.840	0.692	0.803	0.543
~Position	0.445	0.733	0.544	0.736

2.5.3 Configuration Analysis.

In this study, the PRI consistency was established at 0.6, and the consistency level was set at 0.8. This study sets a minimum of two cases for each solution, thereby preserving 88% of the original data, as indicated in the subsequent table 2.

Table 2. Emoji Advantageous Characteristic Combination for Purchasing Intention

Characteristic	Combination of advantages					Combination of disadvantages		
	1	2	3	4	5	1	2	3
Valence		●	●	●	◎	◎	◎	◎
Face or non-face	◎		●		◎	●	●	
Arousal				●	◎			●
Number			◎	◎	◎	◎		◎
Position	●	●					●	◎
Raw coverage	0.490	0.527	0.262	0.257	0.113	0.322	0.334	0.159
Unique coverage	0.128	0.043	0.013	0.013	0.009	0.033	0.066	0.077
Consistency	0.808	0.869	0.960	0.940	0.824	0.968	0.904	0.970
Solution coverage	0.817					0.465		
Solution consistency	0.813					0.913		

● The core characteristic exists ◎ The core characteristic is absent ● A causal characteristic exists ◎The causal characteristic is absent

There are five distinct combinations of advantageous emoji characteristics, as well as three combinations of disadvantageous emoji characteristics, and the results of these combinations exhibit a certain degree of variability, thereby indicating the potential for benefits in various scenarios.

3 Conclusions

A consumer's social presence and interest are favorably linked to their desire to engage in purchasing activities in emoji advertisements. The sensory stimulation experienced by consumers is subject to variation based on the specific combinations of emojis employed, subsequently influencing their emotional state, and finally impacting their propensity to make a purchase.

In advertising, valence emerges as the most crucial characteristic employed by emojis to gain an advantage in terms of purchase intention. Valence and ~valence appear as core characteristics in four out of the five advantageous combinations, with valence appeared three times, ~valence appeared once, and ~valence appeared three times in the three disadvantageous combinations. Emotional expressiveness is an essential component of non-verbal expressiveness, and it serves as a significant driver behind the utilization of emoticons in digital media and marketing communications.¹ When the valence of emojis aligns with that of the advertisement, positive emojis have a positive impact when incorporated into commercials, thereby exerting a favorable influence on customers' purchasing intentions. The advantageous combinations of emoji characteristics in advertisements are influenced by both face and non-face elements. And the advantage of face or non-face is closely tied to valence. When valence is positive, both face and non-face have an advantage in terms of purchasing intention. Conversely, when valence is negative, only non-face can generate advantages in purchasing intention. In addition, the combination of face and negative valence can negatively impact consumers' purchasing intention, as evident in the disadvantageous combination. Additionally, face appears twice as a core characteristic in the unfavorable group, both times associated with negative valence. According to Pearson coefficients, non-face emoji elicit greater social presence and interest from consumers compared to face emoji. This study highlights the significance of non-face emoji in capturing customers' attention.

By substituting ~arousal with arousal from ~valence, ~face or non-face, ~arousal, and ~number, we obtain a subset of ~valence, arousal, ~number, and ~position, which represents a disadvantageous combination. Hence, arousal serves as a significant motivator for different combinations of emoji characteristics in advertisements to gain an edge. Number is a unique characteristic that occurs three times as a causal characteristic in five favorable combinations and two times as a causal characteristic in three disadvantageous combinations. It is important to note that more emojis do not necessarily equate to better results. Valence, face or non-face, and ~number should not have an excessive number of emojis, as this may fail to stimulate consumers' interest in advertising and social presence, thereby reducing their advantage in purchasing intention. In this combination, one emoji is preferable to two or four. The fact that position appears twice as a core characteristic among the five advantageous combinations, with the related combinations ranking first and second in raw coverage, serves as another crucial motivator for achieving an edge in the various combinations of emoji characteristics in advertisements. On one hand, the position of emojis plays a vital role in ensuring that emoji-containing ads are noticed by consumers. On the other hand, the position of emojis is closely linked to valence. For instance, in the

disadvantageous characteristic combination of ~valence, face or non-face, and position the lower the negative emoji's position, the lower the social presence, interest, and purchasing intention among consumers.

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