

The Impact of Emotion on Consumer Behavior

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Abstract. This study investigates the impact of different advertising appeals on consumer behavior by comparing emotional, functional, and neutral advertisements. Utilizing an experimental design, 475 participants were randomly assigned to view one of three types of advertisements for a fictional smartphone, with their purchase intention and decision time measured through questionnaires. The results indicate that emotional advertisements significantly enhance purchase intention ($\beta = 1.871$, $p < 0.01$) compared to functional and neutral advertisements, supporting behavioral theories that position emotion as a critical driver of consumer choice. In contrast, functional advertisements reduce decision time ($\beta = -0.210$, $p < 0.05$), likely due to their clear, feature-focused information facilitating quicker evaluation. These findings align with the dual-process model of decision-making, where emotional appeals evoke affective responses, and functional appeals satisfy cognitive efficiency. The study provides actionable insights for marketers, suggesting that emotional strategies are more effective in boosting purchase intention, while functional approaches optimize decision processes. Limitations include sample imbalance and cultural specificity (data collected in China), which may affect the generalizability of the results. Future research should explore cross-cultural differences and diverse product categories to further validate these findings. Overall, this study underscores the importance of tailoring advertising strategies based on consumer psychology and product types.

Keywords: Emotional, Functional, Purchasing intention, Decision time, Consumer behavior

1. Introduction

What drives consumer preferences and purchase behavior - rational or emotional factors - and how can brands cultivate affinity? Traditional economic theory considers consumers as purely rational actors, yet behavioral economics and neuroscience have demonstrated that emotions significantly influence decision-making processes[1]. Emotional states alter value perceptions, modulate risk tolerance, and determine whether consumers prioritize hedonic (pleasure-oriented) or utilitarian (practical) benefits [2].

The growing integration of neuromarketing and psychological research has yielded critical insights into emotional influences on consumer choice. Positive affective states (e.g., happiness,

excitement) enhance product appeal, while negative emotions (e.g., fear, sadness) may trigger compensatory purchasing behaviors[1]. By comprehending these psychological mechanisms, businesses can develop more effective marketing strategies that align with consumers' underlying needs [3].

This research examines three key dimensions of emotional influence on consumer behavior. Firstly, the interplay between affective and cognitive processing in decision-making. Secondly, how emotional appeals shape preferences for hedonic versus utilitarian products [2]. Thirdly, the role of emotional engagement in fostering brand loyalty and customer satisfaction. The findings will provide actionable insights for developing sophisticated marketing approaches that simultaneously address consumers' functional requirements and emotional desires [3].

2. Literature review

The dual-process theory shows that consumer decision-making fundamentally involves the interaction between emotional and rational processes. The rapid emotional pathway, mediated by the limbic system and amygdala, drives instinctive motivation and reward-seeking behaviors, while the slower rational pathway engages the prefrontal cortex (PFC) to systematically assess product utility and functionality [4]. This neurobiological distinction explains why consumers often make emotional choices despite having access to rational product information.

Empirical research consistently demonstrates how emotional states modulate purchasing behavior. Positive affective experiences (e.g., joy, excitement) correlate with enhanced brand equity and greater willingness to pay premium prices, whereas negative emotions typically induce either avoidance behaviors or compensatory consumption [1]. Marketing strategies that successfully evoke emotional responses through storytelling or sensory branding elements achieve significantly higher engagement and recall rates [3]. Neuromarketing studies corroborate these findings by demonstrating how emotionally charged stimuli activate the brain's reward centers, thereby enhancing the persuasive power of emotional appeals.

The effectiveness of marketing appeals varies substantially between emotional and functional approaches. Emotional appeals generate stronger, immediate affective responses, particularly for hedonic goods, thereby enhancing brand memorability. Conversely, functional appeals better serve utilitarian products by facilitating consumers' need for practical evaluation and risk reduction [2]. This dichotomy reflects fundamental differences in processing speed and cognitive engagement - emotional responses occur automatically, while functional evaluations require deliberate consideration. Understanding these dynamics enables marketers to tailor strategies according to product type and consumer objectives, whether aiming for immediate emotional connection or building long-term value-based confidence.

Insights from behavioral economics and neuroscience collectively demonstrate that consumer choices rarely result from purely rational deliberation but rather emerge from complex interactions between affective impulses and cognitive assessments. The relative influence of these factors varies according to both consumption context and individual differences. It suggests that optimal marketing approaches should address both emotional and functional dimensions while recognizing their distinct psychological mechanisms and behavioral outcomes.

3. Methodology

3.1. Survey design

We designed three online questionnaires, each with an ad of a fictitious mobile phone and asking participants to read the ad and answer the same set of questions. As shown in Appendix A, the questions ask participants' age, education level, gender, annual spending power, purchase intention, and decision-making time. There are three groups, including a control group, an emotional experimental group, and a functional experimental group. Each of the groups were shown a unique ad. The ad of the control group only shows basic information of the product without emotional or functional emphasis. On the other hand, the ad of the emotional treatment group is designed to convey emotional value, highlighting emotional connections experienced by people using the product. Also, the functional treatment group is shown an ad focusing on practical features and functional benefits. These distinct advertising strategies allowed us to examine their effects on participants' decision-making time and purchase intentions.

3.2. Sample

The three questionnaires were distributed on a survey platform, Wenjuanxing, and we received a total of 475 valid responses in a week, including 216 in the control group, 147 in the emotional group, and 112 in the functional group.

3.3. Variables

Dependent Variable. The dependent variables in this research are purchasing intention and decision-making time. Purchasing intention is measured on a scale of 0 to 10, which shows how likely participants are to buy the product. Decision-making time is measured by the real time participants took to determine their purchasing intention.

Independent Variable. The independent variables are the emotional treatment and functional treatment, which represent whether participants were exposed to emotional or functional advertising content. Therefore, they are acting as dummy variables.

Control Variable. The control variables include age, gender, education level, and annual spending, which were included to account for individual differences that might influence the behavior.

3.4. Model

After the data is collected, we first conduct a bivariate regression model that includes only the two independent variables.

$$\gamma_i = \beta_0 + \beta_1 \bullet \text{emotionaltreat}_i + \beta_2 \bullet \text{functionaltreat}_i + \varepsilon_i$$

Then, we conducted a multiple regression model, adding the control variables to account for demographic differences. The multiple regression equation is shown below.

$$\gamma_i = \beta_0 + \beta_1 \bullet \text{emotionaltreat}_i + \beta_2 \bullet \text{functionaltreat}_i + \beta_3 \bullet \text{age}_i + \beta_4 \bullet \text{gender}_i + \beta_5 \bullet \text{education}_i + \beta_6 \bullet \text{spending}_i + \varepsilon_i$$

4. Empirical findings

4.1. Descriptive statistics

Table 1: Summary statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Emotional group					
gender	147	0.442	0.498	0	1
age	147	28.014	7.308	0	52
education	147	1.891	0.313	1	2
spending	147	1.762	0.634	1	3
Purchasing intention	147	7.054	2.245	1	10
Decision time	147	1.905	0.666	1	3
Functional group					
gender	112	0.482	0.502	0	1
age	112	24.250	8.151	18	60
education	112	0.741	0.440	0	1
spending	112	1.473	0.629	1	3
Purchasing intention	112	4.982	3.269	0	10
Decision time	112	1.804	0.695	1	3
Control group					
gender	216	0.444	0.498	0	1
age	216	39.722	8.103	15	60
education	216	1.639	0.481	1	2
spending	216	1.898	0.721	1	3
Purchasing intention	216	5.287	2.996	0	10
Decision time	216	2.014	0.792	1	3
Overall					
gender	475	0.453	0.498	0	1
age	475	32.451	10.387	0	60
education	475	1.505	0.611	0	2
spending	475	1.756	0.693	1	3
emotional~t	475	0.309	0.463	0	1
functional~t	475	0.236	0.425	0	1
Purchasing intention	475	5.762	2.982	0	10
Decision time	475	1.931	0.736	1	3

According to the summary statistics table, we can notice some key differences in sample characteristics across the three groups. The overall average age of all participants was about 32.5, with roughly 45% being male. However, average ages differed significantly among groups: the control group had the largest average age (mean = 39.7) compared to the emotional group (mean = 28.0) and the functional group (mean = 24.3). Education and spending levels also varied slightly.

For purchasing intention, the emotional group had the highest average (mean = 7.05). In contrast, the functional group had the lowest purchasing intention (mean = 4.98), and the control group had a moderate level of purchasing intention (mean = 5.29). For decision-making time, the functional group had the lowest average, which means participants in this group made decisions more quickly (mean = 1.80) than both the emotional and control groups.

4.2. Purchase intention analysis

Table 2: Purchasing intention regression without controls

	(1) Purchasing intention	(2) Purchasing intention	(3) Purchasing intention
emotional_treat		1.871*** (0.283)	1.767*** (0.305)
functional_treat	-1.021*** (0.319)		-0.305 (0.333)
Constant	6.003*** (0.155)	5.183*** (0.158)	5.287*** (0.194)
N	475	475	475
R-sq	0.021	0.084	0.086

***p<0.01, **p<0.05, *p<0.1

First, by examining the regression analysis without control variables (Table 2), the results show that emotional ads significantly increased purchasing intention ($\beta = 1.871$, $p < 0.01$). This finding aligns with previous studies indicating that emotional states could influence product choices [1]. Emotional appeals can effectively activate consumers' automatic responses by engaging emotional processing areas like the amygdala and limbic system, which drive motivation and reward perception [4]. Additionally, emotional marketing strategies have been consistently associated with stronger consumer responses [3]. In contrast, functional ads had a negative or insignificant effect ($\beta = -0.305$, not significant), which does not match our expectation due to several possible reasons, and these limitations will be discussed later.

4.3. Decision time analysis

Table 3: Decision time regression without controls

	(1) Decision time	(2) Decision time	(3) Decision time
emotional	-0.037 (0.073)		-0.109 (0.078)
functional		-0.166** (0.079)	-0.210** (0.085)
Constant	1.942*** (0.041)	1.970*** (0.038)	2.014*** (0.050)
N	475	475	475
R-sq	0.001	0.009	0.013

***p<0.01, **p<0.05, *p<0.1

Second, Table 3 indicates that functional ads significantly reduced participants' decision-making time ($\beta = -0.210$, $p < 0.05$), while emotional ads did not show a significant effect on decision time. A possible explanation for why the participants in the functional group made quicker decisions is that functional ads provide straightforward information. Therefore, such clear, concise messages reduce cognitive load, which enables faster decisions [5]. Furthermore, younger consumers tend to use heuristic-based, intuitive decision strategies rather than deep analytical thinking [6,7]. Also,

according to the summary statistics, the functional group had the youngest average age (24.25) and the lowest average education level, which supports the idea that these participants tend to rely on quicker decision-making strategies. In addition, younger consumers are typically more familiar with smartphone features, allowing them to make rapid evaluations without much consideration [8].

4.4. Regression with control variables

Table 4: Regression with control variables

	(1) Purchasing intention	(2) Purchasing intention	(3) Decision time	(4) Decision time
emotional	1.767*** (0.305)	3.025*** (0.435)	-0.109 (0.078)	-0.178 (0.114)
functional	-0.305 (0.333)	0.298 (0.623)	-0.210** (0.085)	-0.239 (0.164)
age		0.049 (0.077)		-0.025 (0.020)
agesq		-0.000 (0.001)		0.000 (0.000)
gender		0.337 (0.385)		0.066 (0.101)
education		-0.235 (0.309)		0.103 (0.081)
spending		0.716*** (0.195)		0.060 (0.051)
Constant	5.287*** (0.194)	2.559* (1.549)	2.014*** (0.050)	2.259*** (0.408)
N	475	475	475	475
R-sq	0.086	0.144	0.013	0.028

***p<0.01, **p<0.05, *p<0.1

Table 4 shows the regression results while including demographic control variables (age, gender, education, spending). From the table, we can see that even after controlling for these variables, emotional appeals still significantly increased purchase intention ($\beta = 3.025$, $p < 0.01$). In comparison, functional appeals remained insignificant. Thus, Table 3 data further reinforce that emotional ads could effectively influence consumers' intention to purchase, independent of demographic differences.

4.5. Summary

In summary, emotional appeals consistently and strongly enhanced purchase intention across all models. On the other hand, functional appeals had little to no positive effect on purchasing intention but did significantly reduce decision-making time.

5. Limitations

5.1. Smaller sample size in functional group

The functional treatment group ($n = 112$) had fewer participants compared to the emotional ($n = 147$) and control ($n = 216$) groups. This smaller sample size may limit statistical power and make it harder to detect meaningful effects.

5.2. Homogeneous functional ad content

The functional ads used in the study presented product features and performance characteristics similar to many other smartphone ads. Previous studies have found that repetitive or overly familiar ad content would reduce attention and persuasive effectiveness, known as advertising wear-out [9]. Creative ads are typically more effective because they better capture audience attention and interest [10]. Thus, the similarity between our functional ads and standard market ads might have reduced their persuasive power.

5.3. Age difference across groups

Moreover, there is a significant age difference between the control and treatment groups. Specifically, the participants in the control group had a much higher average age (mean = 39.7 years) compared to the participants in the emotional (mean = 28.0) and functional (mean = 24.3) groups. As age might influence consumers' response to advertising, this large age gap could bias the control group as a baseline for comparison. Although age was included as a control variable in the regression analysis, the initial differences in samples might still have affected the results.

5.4. Limit of generalizability

The study was conducted in China as the surveys were posted on a Chinese platform, and specifically focused on smartphones. Therefore, our findings might not generalize well across different cultures or product types. Research shows that advertising effectiveness can vary substantially depending on cultural orientation. Ads emphasizing individualistic values (common in Western cultures) perform differently than ads highlighting collectivist values (typical in East Asia) [11]. Moreover, functional versus emotional appeal effectiveness can vary by product type. Emotional appeals tend to be more effective for hedonic or experiential products, while functional appeals may be more suitable for utilitarian products [12]. Thus, results from this smartphone study in China may not directly transfer to other cultural or product contexts.

6. Conclusion

This study investigates how emotional and functional advertising appeals influence consumer decision-making in terms of purchasing intention and decision-making time. By posting three different surveys online, we derived three groups of data: emotional, functional, and control group. According to the result of regression analysis, we found that emotional appeals consistently and significantly increased purchase intention. In contrast, functional appeals did not increase purchasing intention, but they were effective in decreasing decision-making time.

However, there are also several limitations of the study. First, the smaller sample size in the functional group might have weakened the reliability of the comparison. Second, the homogeneous

content of the functional ad could have reduced its persuasive impact. In addition, the significant age difference between the control and treatment groups might have biased baseline comparisons. Lastly, this study was based on surveys conducted in China and focused only on smartphones, which limits the generalizability of the findings to other cultures or product categories.

Despite these limitations, this study provides useful insights into advertising. Emotional ads are a useful way to increase consumer interest, which advertisers should pay attention to.

References

- [1] Rucker, D. D. , & Petty, R. E. (2004). Emotion specificity and consumer behavior: anger, sadness, and preference for activity. *Motivation and Emotion*, 28(1), 3–21. <https://doi.org/10.1023/b:moem.0000027275.95071.82>
- [2] Chitturi, R. , Raghunathan, R. , & Mahajan, V. (2008). Delight by design: The role of hedonic versus utilitarian benefits. *Journal of Marketing*, 72(3), 48–63. <https://doi.org/10.1509/jmkg.72.3.48>
- [3] Chitturi, R. (2009). Emotions by Design: A Consumer perspective. *International Journal of Design*. https://www.researchgate.net/profile/Ravindra_Chitturi/publication/275952326_Emotions_by_Design_A_Consumer_Perspective/links/554a6f360cf29752ee7c19ce.pdf
- [4] Bechara, A. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral Cortex*, 10(3), 295–307. <https://doi.org/10.1093/cercor/10.3.295>
- [5] Kool, W. , McGuire, J. T. , Rosen, Z. B. , & Botvinick, M. M. (2010). Decision making and the avoidance of cognitive demand. *Journal of Experimental Psychology General*, 139(4), 665–682. <https://doi.org/10.1037/a0020198>
- [6] Frederick, S. (2005). Cognitive reflection and decision making. *The Journal of Economic Perspectives*, 19(4), 25–42. <https://doi.org/10.1257/089533005775196732>
- [7] Fiske, S. T. , & Taylor, S. E. (1991). *Social Cognition* (2nd ed.). New York: McGraw-Hill.
- [8] Park, C. W. , & Lessig, V. P. (1981). Familiarity and Its Impact on Consumer Decision Biases and Heuristics. *Journal of Consumer Research*, 8(2), 223. <https://doi.org/10.1086/208859>
- [9] Schmidt, S. , & Eisend, M. (2015). Advertising Repetition: A Meta-Analysis on Effective Frequency in Advertising. *Journal of Advertising*, 44(4), 415–428. <https://doi.org/10.1080/00913367.2015.1018460>
- [10] Rosengren, S. , Dahlén, M. , & Modig, E. (2013). Think outside the ad: Can advertising creativity benefit more than the advertiser? *Journal of Advertising*, 42(4), 320–330. <https://doi.org/10.1080/00913367.2013.795122>
- [11] Han, S. , & Shavitt, S. (1994). Persuasion and Culture: Advertising appeals in individualistic and collectivistic societies. *Journal of Experimental Social Psychology*, 30(4), 326–350. <https://doi.org/10.1006/jesp.1994.1016>
- [12] Holbrook, M. B. , & Hirschman, E. C. (1982). The experiential aspects of consumption: consumer fantasies, feelings, and fun. *Journal of Consumer Research*, 9(2), 132. <https://doi.org/10.1086/208906>

Appendix

Appendix A: survey questionnaire

1. Section 1: Demographic Information

(These questions are used for data analysis; all responses are anonymous.)

2. What is your gender?

☐ Male ☐ Female

3. What is your age? (Open-ended response: ____ years old)

4. What is your highest level of education?

☐ Higher education and above (university degree or higher)

☐ Below higher education (below high school)

5. What is your approximate annual spending?

☐ Low spending (less than ¥50,000)

☐ Medium spending (¥50,000 – ¥150,000)

☐ High spending (more than ¥150,000)

6. Section 2: Purchase Decision Questions

7. General Questions

5. On a scale from 0 to 10, how likely are you to purchase this product?

(0 = Not likely at all, 10 = Extremely likely)

6. How long did you take to decide on the previous question?

☐ Immediately ☐ 5–20 seconds ☐ More than 20 seconds

Appendix B: advertisement scripts

Neutral Advertisement

Scene Setting: The advertisement showcases multiple everyday scenarios, switching between different settings, such as:

- Office: The phone is placed on the desk, and the screen lights up, displaying the interface.
- Café: Someone picks up the phone, and the screen shows content, but no specific function or emotion is highlighted.
- Park: The phone is placed on a bench, focusing solely on the device itself.
- Subway: People hold their phones, but no specific usage or experience is shown.

Visual Style: The ad maintains a clean and minimalistic visual approach, with the phone as the central focus. No exaggerated effects or emotional expressions are used. Natural lighting enhances the phone's presence in different environments without emphasizing any specific feature or function. There is no narration or promotional text—only background music to create a natural atmosphere.

Ending Presentation: The scene transitions to a close-up of the front or back of the phone against a simple background, displaying only the phone's brand or logo, without any promotional language.

Emotional Appeal Advertisement

Scene begins: A young woman sits in an airport waiting lounge, preparing to leave her hometown for a new city where she will start a new chapter of her life. She looks down at her phone, where a message from her parents reads: "Take care of yourself, and don't forget to call us often." She smiles gently, her eyes welling up with tears.

Scene transition: She walks through a bustling city street, capturing a photo of her first day at work and sharing it in the family group chat. Moments later, a voice message from her mother arrives: "Stay strong, we will always support you." As she listens, warmth spreads across her face, and her smile grows brighter.

Close-up shot: Her phone screen displays her family's smiling faces. The ultra-HD camera captures every subtle emotional expression, while the intelligent noise-canceling technology ensures she can hear her parents' comforting voices even in the noisy city environment.

The scene continues: Sitting on a park bench, she starts a video call. The familiar sight of her family's living room appears on the screen—her father playfully handling her childhood toys while her mother busily prepares dinner in the kitchen. She laughs out loud, feeling as if she has never left home.

Narration:

"Distance doesn't change love, and our phone keeps you closely connected to the ones who matter most. With an ultra-HD camera, intelligent noise cancellation, and long battery life, every call is clearer, and every shared moment feels more real. No matter where you are, the warmth of home is always in your hands."

Brand Logo & Slogan Appear:

[Brand Name] – Bringing Love Closer, Making Distance Disappear.

Functional Appeal Advertisement

The screen begins: a group of young people get together and excitedly open the game on their phones, the screen loads quickly, and the game characters come to life.

Narrator: Play and enjoy the excitement.

The screen continues: The game screen runs smoothly, the character skills are cool, and the player is agile and can easily defeat the opponent.

Narrator: [Phone model] It has a Powerful performance and a high refresh rate screen for an immersive gaming experience.

Screen switching: Players use the game mode of their mobile phones to block message notifications, optimize their network connection, and enjoy a more focused gaming experience.

Narrator: Exclusive game mode for you to enjoy the game to the fullest.

Close-up: Players win the game, excitedly high-five their friends in celebration, and smiles of joy are on their faces.

Narrator: [Phone model], your game weapon helps you win every game with ease.

Product close-up: mobile phone brand logo and slogan.

Narrator: [Phone Model], powerful and capable of meeting all your expectations for a mobile phone and starting your wonderful life!

Ending: [Mobile phone model], your game weapon, enjoy the game, enjoy the passion, and win every game easily

The three questionnaires are distributed on a platform called SurveyStar, using a random sample, and collected after about a week.