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Factors Influencing Milk Tea Consumer Behaviour: A Regression Analysis

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Abstract. Milk tea has emerged as a globally popular beverage category. In China, the milk tea market has expanded rapidly in recent years and has gradually tended toward saturation. This increasing market saturation has intensified competition among milk tea brands, highlighting the need to understand factors influencing consumer behaviour, to improve their marketing strategies and increase sales performance. This study analyses the effect of three common factors on milk tea consumer behaviour, which are visual expression, fandom culture and customisation. This study uses a questionnaire to collect data. Based on regression analysis of the collected data, we evaluate the strength of the influence of these factors, and the results indicate that visual expression ($p = 0.03$) and fandom culture ($p < 0.01$) significantly and positively affect milk tea consumer behaviour, while customisation ($p = 0.11$) has no significant effect on milk tea consumer behaviour. This study provides useful insights for milk tea brands to refine their marketing strategies.

Keywords: Milk tea, consumer behaviour, regression analysis

1. Introduction

As an emerging drink category in today's society, milk tea has gained a lot of popularity around the world, especially in China. According to iiMedia Research, the size of the Chinese new tea drink market reached 354.72 billion yuan in 2024 [1]. However, the milk tea market tends to be saturated as more and more milk tea brands have emerged recently, and milk tea brands face fierce competition. Research indicates that the Chinese milk tea market has intense competitive pressure, and some brands have experienced reduced profits because of the pressure from their competitors, which may hinder their future development [2]. This shows that in order to survive in the milk tea market, it is necessary for brands to adjust their marketing strategies to increase the sales of their drinks. However, the fierce competition in the milk tea market brings higher requirements to the marketing strategies of milk tea brands [3]. Therefore, it is important for milk tea brands to understand what factors can affect milk tea consumer behaviour to better improve their marketing strategies.

The rapid socioeconomic development in recent decades has led to an increase in average salary. This has raised consumer expectations, and consumers consider products from different aspects, such as visual expression, fandom culture and customisation. While existing research has examined the effect of these three common marketing strategies on other products, limited research has clearly

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examined their effect on milk tea consumer behaviour. Therefore, this study chooses these three factors, which are visual expression, fandom culture and customisation, to test whether these factors can affect people's milk tea consumer behaviour.

This study analyses questionnaire data to examine the effects of visual expression, fandom culture and customisation on milk tea consumer behaviour, aiming to provide practical insights for improving milk tea market strategies.

2. Literature review

2.1. Visual expression

Visual expression refers to a design approach that transforms information, emotions and values through visual elements, and it plays a crucial role in product packaging design [4]. With the growing emphasis on aesthetics, visual expression has become an increasingly important factor in marketing. Research shows that the Z generation's pursuit of aesthetics goes deep into every aspect of their consumer behaviour [5].

Nowadays, milk tea brands pay greater attention to the visual design of their products. The milk tea brand, HEYTEA, set up a specialised brand and vision centre with more than 60 employees to build the visual image of the logo of the brand and the packaging of their products [6].

An important question, however, is how enhanced visual expression translates into increased sales? A successful milk tea package integrates customer experience with design, conveys brand culture and fosters emotional connections with consumers [7]. Therefore, visual expression may be a useful factor in attracting consumers.

2.2. Fandom culture

Originating from the entertainment circle, fandom culture is defined as the unique cultural phenomenon that a group of fans support or chase after an idol or an idol group [8]. As social media is widespread in today's society, the population of fans keeps growing, and purchasing the products that are endorsed by celebrities is one of the main ways for fans to support their idols. Brands increasingly utilise the emotional attachment between fans and celebrities, converting fans' loyalty into a way of making profits [9]. Moreover, research supports that those brands that are endorsed by celebrities can not only be quickly memorised by fan groups, but also spread to non-fan groups through the promotion from fans [10]. These findings indicate the potential benefits of fandom culture to consumption.

In the milk tea market, many brands have invited celebrities to advertise their drinks. For example, HEYTEA invited a famous actress in China as its brand spokesperson.

Advertising new tea drinks through the celebrity effect will gain tremendous economic benefits [11]. Therefore, fandom culture may positively affect milk tea consumer behaviour.

2.3. Customisation

Customisation means that the individual customer receives individual service, serving as an individual solution to the customer's special needs [12]. Since people have different needs when consuming because of their own habits and preferences, customisation has become a common service in marketing. Identifying and meeting consumers' personal needs is essential for enterprises to remain competitive. Customisation has gradually become a key dimension of competition

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between different companies [13]. Customised products can attract consumers' attention and foster their loyalty [14]. This shows the advantages of customisation in marketing.

Customisation is also a common way of marketing in the milk tea market. Nowadays, many milk tea brands provide customers with different options, and customers can adjust their milk tea drinks according to their own preferences. For example, in the ordering platform of a milk tea brand called A Little Tea, customers can choose the sweetness from 0%, 30%, 50%, 70% and 100%, and they can add toppings such as big bubbles, small pearls and tea jelly.

Research also states that customisation can satisfy consumers' differentiated demands of tea products [15]. Therefore, customisation is expected to positively influence milk tea consumer behaviour.

2.4. Hypotheses

According to the analysis of past research, this study raises the following hypotheses:

H1. Visual expression positively affects milk tea consumer behaviour.

H2. Fandom culture positively affects milk tea consumer behaviour.

H3. Customisation positively affects milk tea consumer behaviour.

3. Method

This study uses a questionnaire to investigate factors influencing consumers' milk tea consumption behaviour. The questionnaire was launched on Credamo, a professional questionnaire platform whose quality meets the standards of academic journals and has multiple data quality guarantees. The questionnaire (See Appendix A) consists of seven questions. Before launching the questionnaire, the author found 30 people to answer it and got feedback from them to ensure clarity and validity. This study collected 301 responses from the data market in Credamo, where users on this platform can complete questionnaires, and researchers obtain data. One response was excluded for failing the screening question, resulting in 300 valid responses for analysis.

3.1. Sample

Participants come from 30 provinces in mainland China (See Figure B1 in Appendix B), enhancing the representativeness of the sample. The gender of the 300 participants is not uniform; 202 (67.33%) of the participants are females, and the rest are males, which suggests that milk tea is more popular among females than males [16].

Regarding age, 17 (5.67%) are aged 20 or below, 240 (80%) are between 21 and 40, 39 (13%) participants are between 41 and 60, and 4 (1.33%) of them are aged more than 60.

In terms of available money per month, 128 (42.67%) report less than 5000 yuan, and 83 (27.67%) participants report between 5000 to less than 10000 yuan. 89 (29.67%) of them have 10000 yuan or more available money per month.

Table 1 demonstrates the distribution of participants by gender, age, and available money per month.

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Table 1. The distribution of participants' gender, age and available money per month

	Option	Number	Percentage
Gender	Male	98	32.67%
	Female	202	67.33%
Age	0-20	17	5.67%
	21-30	132	44.00%
	31-40	108	36.00%
	41-50	23	7.67%
Available money per month	Less than 1,000 yuan	5	1.67%
	1,000-less than 2,000 yuan	37	12.33%
	2,000-less than 3,000 yuan	35	11.67%
	3,000-less than 5,000 yuan	51	17.00%
	5,000-less than 10,000 yuan	83	27.67%
	10,000-less than 20,000 yuan	71	23.67%
	20,000 yuan or more	18	6.00%

3.2. Procedure

The questionnaire contains 7 questions in total, which can be divided into 3 parts. Part 1 contains 3 questions, which are about the personal information of participants. Part 2 contains 2 questions, which are about participants' milk tea consumer behaviour. Following that, there is a screening question. It served as an attention check to exclude invalid responses that may be generated automatically. The last part is a scale question, which contains 6 statements.

The three questions in part 1 are about gender, age and available money per month. These questions about participants' personal background are designed to help the author understand and analyse their answers.

The first question in part 2 is whether you have ever consumed milk tea. This question is designed to reject participants who have not consumed milk tea yet, because this study aims to investigate milk tea consumers. The second question measured participants' frequency of milk tea consumption, which has been treated as the dependent variable.

The screening question requires participants to select a specified option from four options. This question aims to reject questionnaires that are likely to be answered by AI, therefore ensuring the quality of the data.

The scale question in part 3 contains 6 statements, and each of these statements is related to one of the three factors that are analysed in this study. For each factor, one item measures the nature of the factor, and the other item measures milk tea consumption behaviour associated with the factor. The following part will describe the 6 statements in this scale question and give the reasons for setting these statements.

High-quality products will better attract young consumers' attention if they have a good appearance [17]. To investigate the influence of visual expression on milk tea consumer behaviour, the first two statements are about visual expression, which are 'When you purchase products, you always consider their appearance' and 'Milk tea with a pretty appearance will attract you to

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purchase'. The hypothesis that visual expression positively affects milk tea consumer behaviour would be supported if the items are positively correlated with the dependent variable.

Brands that are endorsed by celebrities can stimulate fans' consumption desires in a short period of time [10]. To investigate the effect of fandom culture on milk tea consumer behaviour, the two statements related to this factor are 'You will buy the products that are endorsed by idols' and 'If your idols endorse a milk tea brand, you will buy the milk tea drinks of this brand'. The hypothesis that fandom culture positively affects milk tea consumer behaviour will be true if the two statements are positively correlated with the dependent variable.

Past research supports that customisation can provide products and services that better satisfy consumers' needs, thus it can increase their loyalty to the brand [13]. According to this, the last two statements that are related to this factor are 'You will use customisation service when you purchase products' and 'Milk tea with customisation service can better attract consumers. The hypothesis that customisation positively affects milk tea consumer behaviour would be supported if the two statements are positively correlated with the dependent variable.

4. Results

4.1. Descriptive data

For the question which asks about participants' frequency of drinking milk tea (See Figure C1 in Appendix C), 146 (48.67%) participants drink milk tea once or twice a week, which occupies the largest proportion. Following that, 79 (26.33%) participants drink milk tea 3 to 5 times a week. Only 6 (2%) participants drink milk tea less than once a month, which is the lowest percentage.

For the scale question, there are six statements. There are five options in each statement, which are strongly disagree, relatively disagree, neutral, relatively agree, and strongly agree, and they are correlated with scores from 1 to 5, respectively. The first two statements are related to visual expression; their average values are 3.95 and 4.20. The second two statements are related to the fandom culture; their average values are 3.87 and 4.05. The last two statements are related to the customisation; their average values are 3.65 and 4.02.

4.2. Hypothesis testing

This study uses reliability analysis and regression analysis to analyse the data and test the three hypotheses. In the reliability analysis, the Cronbach's α coefficient assesses the internal consistency, with values above 0.7 indicating acceptable reliability. Multicollinearity is assessed using the variance inflation factor (VIF, acceptable if < 5). Regression coefficients indicate the direction and strength of relationships, and p-values below 0.05 are considered statistically significant.

For each hypothesis, the study first uses reliability analysis to test the internal consistency between the two statements of each factor. If they have high internal consistency, the two statements are averaged by the equation '(statement 1 + statement 2) / 2', and the average is considered the independent variable for that hypothesis. Thus, each hypothesis has one independent variable. As this study has three hypotheses, there are three independent variables in total. These three independent variables are then included in a multiple regression analysis with the dependent variable (Y). The independent variable of visual expression is denoted as X1, fandom culture as X2, and customisation as X3.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \quad (1)$$

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For the first hypothesis (H1), the reliability analysis of the two items related to visual expression yields a Cronbach's α coefficient of 0.71, indicating acceptable internal consistency. In the regression analysis, the VIF value is 1.35, indicating no collinearity. The regression coefficient is 0.18 ($p = 0.03$), showing the visual expression has a positive and significant effect on milk tea consumer behaviour. Therefore, H1 is supported.

For the second hypothesis (H2), the corresponding two items show high reliability because the Cronbach's α coefficient is 0.86. In the regression analysis, the corresponding VIF value of X2 is 1.38, which shows that there is no collinearity. The coefficient is 0.20, and the p-value < 0.01. Thus, fandom culture has a significant positive influence on consumer behaviour, supporting H2.

For the third hypothesis (H3), the two items related to customisation also demonstrate high reliability; the Cronbach's α coefficient is 0.83. X3's corresponding VIF value is 1.16, which shows that there is no collinearity. The coefficient is 0.09, and the p-value is 0.11. This indicates that customisation has no significant effect on milk tea consumer behaviour. As a result, H3 is not supported.

5. Conclusion

This study examines the effects of visual expression, fandom culture and customisation on milk tea consumer behaviour. The results of the questionnaire show that visual expression and fandom culture positively affect milk tea consumer behaviour, and customisation has no significant effect.

Conclusions from this study provide several implications for milk tea brands. Firstly, milk tea brands can make more efforts to improve the packaging of their drinks. For example, they can express their brand concepts in the package to reach emotional interaction with consumers. Secondly, milk tea brands can invite famous celebrities, such as actors and athletes, to endorse their drinks. Then, their drinks can attract fan groups, and these fan groups will promote them to non-fan groups. Therefore, their sales will be improved efficiently. Lastly, milk tea brands can pay less attention to the customisation service. If this service is not burdensome for some brands, they can reserve it to ensure that customers can choose their favourite flavour. However, they do not need to make too many improvements.

First, the relatively small sample size may reduce the generalisability of the results. Second, the questionnaire only investigates people in China, which may limit its applicability to overseas markets. Finally, this study focuses on three specific factors, and there may be other factors that also affect milk tea consumer behaviour.

Building on these limitations, future studies should include larger and more diverse samples. Moreover, future research should examine additional factors to test whether they can also affect milk tea consumer behaviour.

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Appendix

Appendix A: questionnaire

Questionnaire about factors that affect milk tea consumer behaviour

Welcome to answer this questionnaire!

I am conducting a questionnaire about 'Factors that affect milk tea consumer behaviour'. Please do not answer this questionnaire if you do not have milk tea consuming experience. This questionnaire is anonymous; all the data will be used for data analysis only. Please answer this questionnaire according to your real experience.

Q1 Your gender: [Single choice]
○male
○female
Q2 Your age group: [Single choice]
○0-20
○21-30
○31-40
○41-50
○51-60
○more than 60
Q3 Your available money per month: [Single choice]
○less than 1,000 yuan
○1,000-less than 2,000 yuan
○2,000-less than 3,000 yuan
○3,000-less than 5,000 yuan
○5000-less than 10,000 yuan
○10,000-less than 20,000 yuan

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○20,000 yuan or more
Q4 Have you ever consumed milk tea before? [Single choice]
○Yes
○No
Q5 Your frequency of drinking milk tea: [Single choice]
○less than once a month
○once or twice a month
○once or twice a week
○3-5 times a week
○once a day or more
Q6 In order to make sure the data is valid, please choose 'strongly dissatisfied' [Single choice]
○strongly dissatisfied
○dissatisfied
○satisfied
○strongly satisfied
Condition: if 'strongly dissatisfied' is not selected, skip to: reject automatically
Q7 Please choose your degree of agreement to these following statements: [Matrix scale]

Statement	Strongly disagree	Relatively disagree	Neutral	Relatively agree	Strongly agree
When you purchase products, you always consider the appearance of them.	○	○	○	○	○
Milk tea with pretty appearance will attract you to purchase.	○	○	○	○	○
You will buy the products that are endorsed by idols.	○	○	○	○	○
If your idols endorse a milk tea brand, you will buy the milk tea drinks of this brand.	○	○	○	○	○
You will use customisation service when you purchase products.	○	○	○	○	○
Milk tea with customisation service can better attract consumers.	○	○	○	○	○

Appendix B

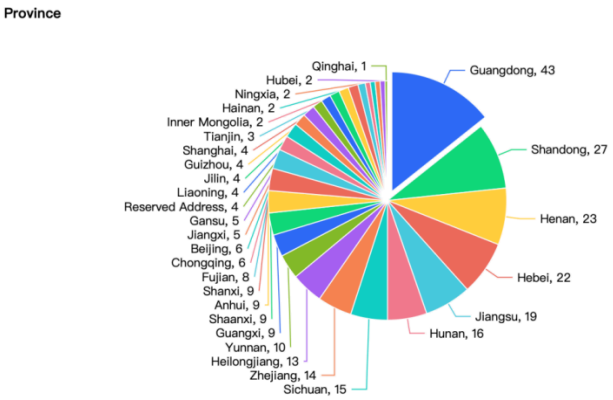


Figure 1. Distribution of participants by province

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Appendix C

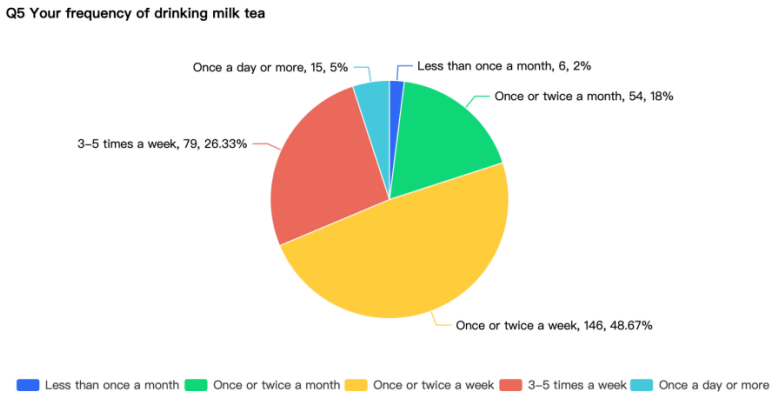


Figure 2. Distribution of participants' milk tea drinking frequency