

Effect of Service Quality on Customer Loyalty in the Fast-Food Industry: A Perspective from University Students in Hangzhou City, Zhejiang Province, China[†]

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Abstract

This research “Effect of service quality on customer loyalty in the fast-food Industry: A perspective from university students in Hangzhou City, Zhejiang Province, China” aimed to achieve 2 main objectives: 1) to examine the level of service quality and customer loyalty in the fast-food industry from the viewpoint of university students in Hangzhou City, Zhejiang Province, China; and 2) to analyze the impact of service quality on customer loyalty in the fast-food industry from the perspective of university students in the same area. Quantitative research methods were employed, involving the collection of data from 400 customers of both Western and local fast food, primarily university students who patronized such establishments in Hangzhou. Data analysis encompassed descriptive statistical techniques such as frequency, percentages, mean, and standard deviation, as well as inferential statistics including correlation and linear regression analysis. The research findings unveiled several key insights: Firstly, among the dimensions of service quality, “opening hours convenience” emerged as the highest-rated, indicating significant satisfaction among customers. Additionally, dimensions such as tangibles, reliability, and assurance consistently received high scores, whereas responsiveness and empathy exhibited some variability. Regarding customer loyalty, the dimension of “preference over promotions” garnered the highest rating, suggesting a strong inclination towards particular brands. However, dimensions like “actively recommending” and “ongoing interest” scored lower, indicating areas for potential enhancement, particularly in terms of word-of-mouth marketing and sustained customer engagement. Secondly, the study identified that in both Western and local fast food sectors in Hangzhou City, Zhejiang Province, China, dimensions such as tangibles, assurance, and empathy exerted a positive influence on customer loyalty. However, the dimensions of reliability and responsiveness did not demonstrate significant effects. While students displayed trust in the quality of fast food offerings, opportunities for enhancing word-of-mouth promotion were identified to further bolster loyalty. Despite the availability of promotional offers, students tended to exhibit loyalty to their preferred fast food brands over time, indicative of a high level of stability and continuity within the university student market. However, it is worth noting that external factors such as shifts in students’ life stages and adjustments in their dietary habits may have influenced their attention and support towards fast food establishments.

Keywords: Service quality, Customer loyalty, Fast-food industry

Introduction

Background and significance of the research question

Globally, the fast food industry occupies an important economic position with its huge size and market share. According to Euromonitor (2023), an international market research firm, the global fast food industry reached US\$1.1 trillion in 2019 and is expected to reach US\$1.37 trillion in 2023. Of this, the Asia-Pacific region holds the largest market share at around 40 %. Moreover, data from Germany’s Statista business data platform shows that the total revenue of the global food and beverage industry in 2019 will be around

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USD 3.7 trillion, of which the fast food industry accounts for about 30 % of the market share. In China, according to the “China Fast Food Industry Scale and Market Pattern Analysis Report 2022”, the market size of China’s fast food industry was approximately RMB1.7 trillion in 2019, with a CAGR of 10.4 % between 2016 and 2019, exceeding the average growth rate of China’s catering industry. The market size of China’s fast food industry reached RMB1.1 trillion in 2021, with a year-on-year growth of 17.78 %, and the market size of China’s fast food industry is expected to reach RMB 1.8 trillion in 2025.

The fast food industry has a wide range of consumer groups covering individuals of different age groups, occupations and income levels. Young people and family consumers are the main consumer groups (Rajput & Gahfoor, 2020). There are differences in consumers’ needs and preferences for fast food, including taste, price, service and environment. In particular, middle-class consumers, who usually do not purchase too many luxury goods but have a steady demand for mid-range restaurants, pursue quality of life but lack sufficient time, and therefore prefer high-quality fast food brands and food. Middle class consumers account for 47.1 % of the total revenue of the fast food industry (Singh et al., 2022).

Li (2023) With the deepening of globalization, Western-style fast food, as an important carrier of Western culture, has taken root and developed rapidly in the Chinese market. Since the 1980s and 1990s, when internationally famous western fast food brands such as KFC and McDonald’s entered the Chinese market one after another, western fast food has rapidly won the favor of the majority of consumers with its novel consumption mode, fast service and unique taste. The rise of Western-style fast food has not only changed the eating habits of Chinese people, but also promoted the diversified development of the catering market (Geng, 2020).

In recent years, China’s homegrown fast food brands have also flourished, and although they are unable to reach the level that threatens multinational restaurant chains (Zurayk et al., 2022), they can still be seen in second- and third-tier cities. Two of the biggest local fast food brands are Wallace from mainland China and Dicos from Taiwan, which is part of the Ting Hsin Group. Local fast food not only has a wide variety, but also has a wide range of ingredients, which has a very promising development prospect.

The competitive landscape of the fast food industry is characterized by a large number of brands and intense competition. Brands compete fiercely with each other in terms of product innovation and diversification, brand image and marketing strategies, localization and internationalization strategies. Western fast food brands such as McDonald’s, KFC, Pizza Hut, etc., have been expanding their market share by continuously innovating their products and marketing strategies to improve their brand image and service quality. Meanwhile, local brands such as Wallace and Dicos are also attracting consumers by introducing new flavors and special offers. Zhou (2018) However, in today’s increasingly competitive market, the issue of consumer loyalty to fast food is becoming more and more prominent. Some studies have shown that Chinese consumers are not very loyal to fast food, and they are more willing to try new brands and flavors. Therefore, how to improve consumer loyalty to Western fast food has become an important challenge for the fast food industry.

Service quality is considered to be one of the important factors influencing consumer loyalty (Chun & Nyam-Ochir, 2020). High-quality service can enhance consumers’ satisfaction and increase their loyalty. However, for the Western fast food industry, the connotation and extension of service quality are still vague and need to be further studied and explored (Mejia et al., 2021). This study attempts to explore the impact of fast food service quality on consumer loyalty through empirical research, with a view to providing fast food enterprises with strategic suggestions to improve consumer loyalty.

This study focuses on exploring the service quality that influences Chinese customers’ loyalty to fast food. By drawing on the well-established SERVQUAL service quality model, this study uses a questionnaire survey of European and American Western fast food brands such as McDonald’s, KFC, Pizza Hut, and Burger King, as well as local brands such as Wallace and Dicos, to analyses the relationship between fast food service quality and customer loyalty, and the role of service quality in customer loyalty. The practical exploration of this study helps fast food brands to improve service quality in various aspects, enhance customer stickiness and adhesion, and provide service suggestions to improve customer loyalty.

Research objectives

- 1) To study the level of service quality and customer loyalty in the fast-food industry from the perspective of university students in Hangzhou City, Zhejiang Province, China.
- 2) To analyses the effect of service quality on customer loyalty in the fast-food industry from the perspective of university students in Hangzhou City, Zhejiang Province, China.

Research hypotheses

Numerous studies have demonstrated the importance of tangibles, which refer to the physical facilities, equipment, and appearance of personnel, in influencing customer perceptions of service quality and subsequently, their loyalty. For example, a study by Baier et al. (2021) found that customers' perceptions of tangibles significantly impacted their overall satisfaction with service encounters. Similarly, Ponnaiyan et al. (2021) identified tangibles as one of the key dimensions of service quality in the fast food industry, emphasizing the role of cleanliness, ambiance, and the physical presentation of food in shaping customer perceptions and loyalty.

H1: The tangibles of fast food service quality have a positive effect on customer loyalty.

Reliability, which pertains to the ability to perform the promised service dependably and accurately, has been consistently identified as a critical determinant of customer loyalty. Research by Haron et al. (2020) highlighted reliability as a fundamental dimension of service quality, emphasizing its role in building trust and confidence among customers. In the context of fast food, studies by (Sochenda, 2021; Zhong & Moon, 2020) found that customers' perceptions of reliability significantly influenced their satisfaction and loyalty towards fast food outlets.

H2: The reliability of fast food service quality have a positive effect on customer loyalty.

The responsiveness dimension, which reflects the willingness and ability of service providers to assist customers promptly and effectively, has been linked to customer loyalty in various service industries. For instance, research by Bungatang & Reynel (2021) identified responsiveness as a key determinant of service quality, emphasizing its role in meeting customer needs and expectations. In the fast food sector, studies by (Quoquab et al., 2020; Vardhan, 2021) highlighted the importance of responsiveness in shaping customer perceptions of service quality and loyalty.

H3: The responsiveness of fast food service quality have a positive effect on customer loyalty.

Assurance, which relates to the competence, courtesy, credibility, and security of service providers, has been consistently associated with customer loyalty. Studies by Iglesias et al. (2020) highlighted the role of assurance in building customer trust and confidence, which in turn fosters loyalty towards service providers. In the fast food context, research by (Dandis et al., 2023; Su et al., 2022) underscored the importance of assurance in influencing customer perceptions of service quality and loyalty.

H4: The assurance of fast food service quality have a positive effect on customer loyalty.

Empathy, which refers to the provision of caring, individualized attention to customers, has been identified as a critical determinant of customer loyalty. Studies by (Parasuraman et al., 1991; Yeong et al., 2022) emphasized the role of empathy in enhancing customer satisfaction and loyalty by demonstrating a genuine understanding and concern for customers' needs. In the fast food industry, research by Sochenda (2021) highlighted the importance of empathy in shaping customer perceptions of service quality and loyalty.

H5: The empathy of fast food service quality have a positive effect on customer loyalty.

The proposed hypotheses regarding the relationship between various dimensions of fast food service quality and customer loyalty align with existing literature in the field.

Scope of the study

The study "Effect of Service Quality on Customer Loyalty in the Fast-Food Industry" will use a questionnaire to collect data from a prospective sample of 400 respondents during the period of January to February 2024. The sample will consist of university students who have patronized fast food in Hangzhou City, Zhejiang Province, China, in the past 6 months, and who patronize major brands such as McDonald's, KFC, Pizza Hut, Burger King, Wallace and Dicos well-known brands.

Conceptual framework

The figure below shows the conceptual framework of the study.

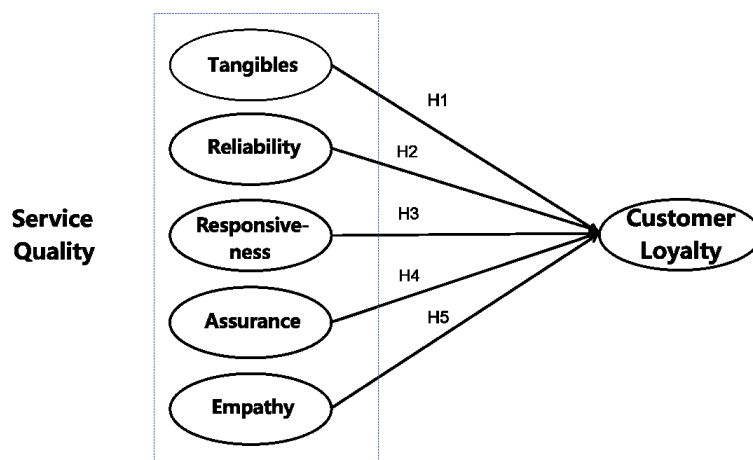


Figure 1 Conceptual framework.

This conceptual framework presented here provides a comprehensive understanding of the relationship between various dimensions of fast food service quality and customer loyalty. Drawing upon existing literature, the framework highlights the significance of tangibles, reliability, responsiveness, assurance, and empathy in shaping customer perceptions and fostering loyalty in the fast food industry. The literature review demonstrates that tangibles, encompassing the physical aspects of service provision, play a crucial role in influencing overall satisfaction and loyalty among customers. Similarly, reliability, responsiveness, assurance, and empathy are identified as key dimensions of service quality that significantly impact customer perceptions and behaviors.

The proposed hypotheses suggest that each dimension of service quality - tangibles, reliability, responsiveness, assurance, and empathy - has a positive effect on customer loyalty. These hypotheses are supported by empirical evidence from various studies, which emphasize the importance of each dimension in driving customer satisfaction and loyalty in the fast food sector. The conceptual framework provides valuable insights for fast food businesses seeking to enhance customer loyalty. By focusing on improving tangibles, ensuring reliability, responsiveness, and assurance, and demonstrating empathy towards customers, fast food establishments can better meet customer needs and expectations, ultimately fostering greater loyalty.

Methodology

Research design

Quantitative research

This study investigates the impact of service quality on customer loyalty in the fast-food industry, employing a cross-sectional, quantitative research design. The primary objective is to examine the relationship between these 2 variables within the fast-food context. Data for the research will be collected through a questionnaire, emphasizing strict quality control measures to uphold the reliability of the findings.

The questionnaire design process comprises 3 main stages. Firstly, the initial version of the questionnaire is developed, aligning with the research objectives regarding the influence of fast-food service quality on customer loyalty. Questions are tailored to meet specific requirements, forming a preliminary questionnaire. During the pilot survey, the study area selection criteria focused on proximity to the target audience, availability of fast food establishments, diversity in socioeconomic backgrounds, feasibility of data collection, and insights from previous research. This ensured a representative sample and relevant insights for understanding the influence of fast-food service quality on customer loyalty.

Subsequently, the questionnaire undergoes revision based on feedback solicited from professionals and experts in the field. This step aims to address any issues identified in the initial version, such as poorly

formulated questions or unclear language. Adjustments are made to ensure the content's accuracy, specificity, and clarity.

Lastly, a pilot survey is conducted to validate the logical consistency of the questionnaire before the formal data collection phase begins. This small-scale trial allows for any potential discrepancies or ambiguities to be identified and rectified, enhancing the questionnaire's overall effectiveness in measuring the intended constructs.

Design of the official version of the questionnaire

The formal version of the questionnaire for this study consisted of 3 parts:

- 1) Demographic information, includes information on age, gender, and level of education.
- 2) Fast food service quality measurement programme, Factors of fast food service quality include tangibility, reliability, responsiveness, assurance and empathy using a 5-point Likert scale ranging from "strongly agree" = 5, "agree" = 4, "indifferent" = 3, "disagree" = 2 to "strongly disagree" = 1. A total of 22 questions were asked.
- 3) Fast food customer loyalty measurement programme, Fast food customer loyalty using a 5-point Likert scale ranging from "Strongly Agree" = 5, "Agree" = 4, "Don't Care" = 3, "Disagree" = 2 to "Strongly Disagree" = 1. A total of 4 questions were used.

Variables

In this study, 6 variables have been meticulously designed to explore various aspects of fast food service quality and their association with customer loyalty. Each variable encapsulates a distinct dimension or characteristic crucial for comprehending service quality and customer behavior within the fast food industry.

Firstly, Variable 1, "Tangibles of fast food service quality", scrutinizes the tangible elements comprising the physical environment of fast food establishments. Variable 2, "Reliability of fast food service quality", evaluates the consistency and dependability of service delivery in meeting customers' expectations. Variable 3, "Responsiveness of fast food service quality" examines the ability of fast food service providers to promptly address customers' needs and concerns.

Variable 4, "Assurance of fast food service quality" focuses on the competence, credibility, and courtesy demonstrated by service providers. This variable assesses the extent to which customers feel assured in the capabilities of the fast food staff and the integrity of the service rendered, factors instrumental in shaping customers' trust and confidence in the brand. Variable 5, "Empathy of fast food service quality", centers on the ability of service providers to understand and address customers' individual needs and emotions with empathy and compassion.

Lastly, Variable 6, "Customer Loyalty of Fast Foods", measures the degree of loyalty and commitment exhibited by customers towards a particular fast food brand or establishment. By examining each of these 6 variables individually and exploring their interrelationships, this study aims to provide valuable insights into the factors driving customer satisfaction and loyalty within the fast food industry.

Population and sample size

Demographic characteristics

Hangzhou, Zhejiang Province, as the most economically developed city in China, has a large number of players in the western and local fast food industry, mainly including well-known brands such as McDonald's, KFC, Pizza Hut, Burger King, and local fast food Wallace and Dicos. With an area of 10.91 square kilometers, Hangzhou Xiasha Higher Education Park is now home to 15 colleges and universities with about 200,000 students and teachers, making it the largest higher education park in Zhejiang Province. The sampling object of this article is customers of Western and local fast food in Hangzhou, with university students who patronize Western and local fast food in Hangzhou as the research object.

Sample size

The sampling object of this research is customers of Western and local fast food in Hangzhou, with university students who patronize Western and local fast food in Hangzhou as the research object. The sample size of this study is 400 people.

Sample size is strongly and positively correlated with sample representativeness, provided that the sampling method is reasonable. However, a sample size that is too large is not cost-effective economically, and the effect on the quality of the questionnaire will be diminished. However, if the sample size is too small, the probability of error in the survey results will be greatly increased, which is unacceptable, and the probability of error should be controlled within a reasonable range. Reasonably determining the sample size is a critical step in sampling design. The size of the sample size is limited by many factors, which are summarized to include the limitation of economic conditions, the limitation of survey precision, the degree of variability of the research object, the credibility of the required inference, the size of the overall population and the sampling method.

For larger populations, Cochran (1963) proposed equations to derive representative samples for proportions.

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where n_0 is the sample size, Z is the ventral line of the normal curve, which intercepts a region α at the tail ($1 - \alpha$ equals the desired confidence level, e.g., 95%), e is the desired precision, p is the estimated proportion of the population that is a given attribute, and q is $1 - p$. The value of Z can be found in a statistical table containing the area under the normal curve.

$$n_0 = \frac{Z^2 pq}{e^2} = \frac{(1.96)^2 (.5)(.5)}{(.05)^2} = 385$$

The population was assumed to be large, but the variability of the proportions for which the method was used was unknown; hence, a value of $p = .5$ (maximum variability) was assumed. Furthermore, it was assumed that a confidence level of 95% and a precision of $\pm 5\%$ were desired. The resulting sample size was determined using the equation (Israel, 1992). The sample size collected in this paper was 400, which fulfilled the theoretical requirements.

Sampling technology

This study uses purposive sampling method to select the research object according to the specific characteristics of the research object, with the college students' customers of western and local fast food in Hangzhou, including undergraduate, master's and doctoral students, who have had consumption of fast food in Hangzhou.

Research Instrumentation

This study will conduct a questionnaire survey on college student customers of fast food in Hangzhou. Participants will receive a questionnaire survey after visiting and consuming Western and local style fast food in Hangzhou. The results of the survey will be studied in detail to analyze the research questions. A formal research questionnaire suitable for this study was created by adapting a previous questionnaire to ensure its validity and reliability. The questionnaire was created in the "Wenjuanxing" application, and the researcher surveyed 400 university students who were customers of western fast food in Hangzhou, informing them that the questionnaire was anonymous, that the data would be used only for academic research, and that the questionnaire was completed under the researcher's guidance and supervision.

Questionnaires

The research instrument was a questionnaire item using a 5-point Likert scale ranging from “Strongly Agree” = 5, “Agree” = 4, “Don’t Care” = 3, “Disagree” = 2 to “Strongly Disagree” = 1. The questionnaire items were adapted from a previously validated questionnaire. The questionnaire has 6 dimensions with differences in the total number of questions in each dimension. Western and local fast food service quality has 22 questions on tangibles, reliability, responsiveness, assurance and empathy, adapted from (Parasuraman et al., 1988; Parasuraman et al., 1991; Llosa et al., 1998) Western fast food customer loyalty with 4 questions, adapted from (Zeithaml et al., 1996). Together, they add up to a total of 26 questions.

The questionnaire was divided into 3 parts, the first part was demographic information, including age, gender, and education level; the second part was fast food service quality measurement items; and the third part was fast food customer loyalty measurement items.

Table 1 Fast food service quality and customer loyalty scale items.

Variant	Dimensions	Measurement items	Source
Service quality	Tangibles (X1 - X6)	1) How modern do you think the restaurant equipment of fast food is?	(Parasuraman et al., 1988; Parasuraman et al., 1991; Llosa et al., 1998).
		2) What is your opinion of the attractiveness of the dining environment and in-store facilities of fast food?	
		3) Do you think the service staff of fast food are neatly and appropriately dressed?	
		4) Do you think that the hardware facilities of fast food match the service provided by the wait staff?	
		5) Are you satisfied that fast food can fulfil its service commitments in a timely manner?	
		6) How helpful were the staff when you had trouble with fast food?	
	Reliability (X7 - X10)	7) Do you trust the food and service of fast food?	
		8) Are you satisfied with the fast food service and do you think it is once and for all?	
		9) Do you think that the ordering and delivery service of fast food is accurate?	
		10) Are you satisfied with the waiting time you were informed of by fast food?	
	Responsiveness (X11 - X13)	11) How satisfied are you with the speed of service provided by fast food staff?	
		12) Do you think that fast-food employees serve consciously and proactively?	
		13) How satisfied are you with the eagerness of fast food employees to answer questions?	
	Assurance (X14 - X17)	14) Do you trust fast food employees?	
		15) Do you feel reassured and safe in your dealings with fast food?	
		16) How satisfied are you with the courtesy of the fast food staff?	

Variant	Dimensions	Measurement items	Source
	Empathy (X18 - X22)	17) Are you satisfied that fast food employees have sufficient knowledge to answer questions?	(Zeithaml et al., 1996)
		18) Do you think that fast food has some humane service system or measures?	
		19) Are you satisfied with the care given to special customers by fast food staff?	
		20) Are you satisfied with the ability of fast food staff to understand customers' needs through observation in a timely manner?	
		21) Do you think fast food can meet your needs?	
		22) Are you satisfied with the opening hours of fast food and do you think they are convenient for most customers?	
Customer Loyalty (Y23 - Y26)		23) Do you often choose fast food as a dining location and show a high level of reliance and trust in our food and service?	(Zeithaml et al., 1996)
		24) Do you frequent fast food and actively recommend our food or services to your friends and family?	
		25) Do you still prefer fast food even if other fast food brands are running promotions?	
		26) Has your interest in and support for fast food been ongoing for some time?	

Translation of the questionnaire

An English-Chinese linguist with a Ph.D was invited to translate the questionnaire into Chinese, reviewed the questionnaire, and was responsible for translating the results back into English to ensure consistency between English and Chinese.

Data collection procedures

Descriptive statistics are used to analyses demographic information and the mean of the sample's perceptions of variables. In this study, 400 college students' customers of fast food in Hangzhou were surveyed to describe the relationship between fast food service quality on customer loyalty and to infer the factors that influence fast food service quality on customer loyalty. The questionnaire was created in the "Wenjuanxing" application, the questionnaire was distributed to the students through WeChat by means of QR codes, the data was collected through QR codes, and the questionnaire was completed under the guidance and supervision of the researcher.

Data analysis

The data analysis tools used in this study consisted mainly of Questionnaire Star and the basic analytical functions of software. The analyses included demographic characteristics of the respondents, reliability and validity analyses, and descriptive statistical analyses. Data analysis will be carried out in this study using data processing software, including descriptive statistical analysis, reliability analysis, validity analysis, correlation analysis, and regression analysis.

1) Descriptive statistical analyses

Descriptive statistical analysis focuses on sifting, analyzing and summarizing the large amount of data obtained as a result of the survey. It summarizes the concentration trends and the degree of dispersion of

these data. Descriptive analysis using statistical software generates relevant descriptive statistics. Concentrated trends in the analyzed data include the plurality and median. Descriptive data deviations include maximum, minimum, extreme, interquartile, variance, and standard deviation. These descriptive statistics combine to analyses the characteristics of the variables.

This study describes the basic characteristics and proportions of the sample based on the frequency distribution of attributes such as gender, age, and education level of the subjects.

2) Reliability and validity analyses

This research conducted reliability and validity analyses to assess the robustness of the questionnaire used to measure service quality and customer loyalty in both Western and local fast food sectors. For Western fast food customers, the Cronbach's alphas for service quality dimensions ranged from 0.939 to 0.945, indicating high internal consistency. Similarly, for local fast food customers, Cronbach's alphas ranged from 0.864 to 0.970, surpassing the threshold for good internal consistency. Corrected Item Total Correlation (CITC) values indicated strong correlations between individual items and the overall scale, supporting the reliability of the questionnaire. Additionally, the KMO tests for both Western and local fast food datasets demonstrated adequacy for factor analysis, with Bartlett's tests indicating significant relationships between variables, further validating the questionnaire's structural validity.

3) Correlation analysis

Correlation analyses were conducted to examine the relationship between service quality dimensions and customer loyalty. In both Western and local fast food sectors, Pearson correlation coefficients indicated moderate positive correlations between service quality and customer loyalty dimensions, with most coefficients close to 0.5. However, one correlation in the Western fast food sector showed a very weak negative correlation, which was deemed statistically insignificant. Overall, the findings suggest a significant and positive association between service quality and customer loyalty in both fast food sectors, underscoring the importance of maintaining high service standards to enhance customer loyalty.

4) Regression analysis

Regression analysis is a widely used statistical method to study the quantitative relationship between two or more variables. It mainly discusses whether the phenomena are correlated, the direction of the correlation, and the degree of closeness. It usually does not distinguish between dependent and independent variables. Regression analysis analyses the specific forms of correlation between phenomena, determines the causal relationship between them and expresses the relationship using a mathematical model.

Results and discussion

The level of service quality and customer loyalty in the fast-food industry from the perspective of university students in Hangzhou City, Zhejiang Province, China.

In the Western fast food sector, the service quality dimension with the highest rating was X22 (opening hours convenience), scoring a mean of 4.12, indicating significant satisfaction with operating hours. Conversely, the lowest-rated dimension was X20 (understanding customer needs through observation), with a mean of 3.5, suggesting an area for improvement. Tangibles (X1 - X6), reliability (X7 - X10), and assurance (X14 - X17) dimensions consistently scored high means around 3.8 - 4.1, showcasing strengths in these aspects. However, responsiveness (X11 - X13) and empathy (X18 - X22) had slightly wider ranges of means, from 3.5 to 3.92, indicating some variability in these factors.

In the local fast food industry, similar to its Western counterpart, X22 (opening hours) received the highest rating with a mean of 3.88. The lowest-rated dimensions were X7 (trust in food/service), X8 (consistent service), and X20 (understanding needs), all scoring around 3.42 - 3.48 means, signifying areas that could be enhanced. Tangibles (X1 - X6) had means clustered around 3.5 - 3.72, indicating average satisfaction with physical facilities. Meanwhile, reliability (X7 - X10), responsiveness (X11 - X13), assurance (X14 - X17), and empathy (X18 - X21) dimensions ranged from 3.42 to 3.78 means, suggesting room for improvement across these factors.

For customer loyalty, in the Western fast food segment, Y25 (prefer over promotions) had the highest loyalty rating with a mean of 3.9, indicating preference stickiness. Conversely, Y24 (actively recommend) received the lowest rating at 3.4 mean, suggesting an area for improvement through enhanced word-of-

mouth marketing. Y23 (high reliance/trust) and Y26 (ongoing interest/support) scored means of 3.76 and 3.82, respectively, indicating moderately high loyalty levels.

In the local fast food industry, Y25 (prefer over promotions) also had the highest loyalty rating with a mean of 3.56, slightly lower than in Western fast food. However, both Y24 (actively recommend) and Y26 (ongoing interest) received low ratings around 3.36-3.38 means, indicating areas needing improvement. Y23 (reliance/trust) scored a mean of 3.52, suggesting moderate levels of loyalty currently.

The effect of service quality on customer loyalty of Western fast food

From the analysis of the data, it can be seen that the linear regression model fit is relatively good, $R^2 = 0.587$, which is close to 0.6, which means that the results of this operation can truly reflect the effect of Tangibles, Assurance and Empathy aspects of service quality on customer loyalty. There is no multi collinearity between the 5 variables, and the VIFs are all less than 10. The regression equation is significant, $F = 111.872$ and $p = 0.000$.

Tangibles has a significant positive effect on customer satisfaction ($B = 0.415$, $p = 0.000$), reliability does not have an effect on customer satisfaction ($B = -0.64$, $p = 0.000$), responsiveness does not have an effect on customer satisfaction ($B = -0.891$, $p = 0.000$), assurance has a significant positive effect on customer satisfaction ($B = 1.702$, $p = 0.000$), and empathy has a significant positive effect on customer satisfaction ($B = 0.164$, $p = 0.000$).

Finally, the regression equation between the variables is as follows: Customer satisfaction = $0.856 + \text{tangibles}^{**} 0.415 + \text{assurance}^{**} 1.702 + \text{empathy}^{**} 0.164$.

Table 2 The effect of service quality on customer loyalty of Western fast food (n = 400).

	Unstandardized coefficient		Standardization ratio	t	p	Collinearity diagnostics	
	B	Standard error	$Beta$			VIF	Tolerance
Constant	0.856	0.157	-	5.46	0.000**	-	-
Tangibles	0.415	0.054	0.371	7.707	0.000**	2.21	0.453
Reliability	-0.64	0.091	-0.58	-7.061	0.000**	6.442	0.155
Responsiveness	-0.891	0.08	-0.863	-11.182	0.000**	5.678	0.176
Assurance	1.702	0.13	1.54	13.053	0.000**	8.278	0.175
Empathy	0.164	0.045	0.168	3.666	0.000**	2.013	0.497
R ²				0.587			
F				F (5,394) = 111.872, $p = 0.000$			
D - W				1.876			
* $p < 0.05$ ** $p < 0.01$							

The effect of service quality on customer loyalty of local fast food

From the analysis of the data, it can be seen that the linear regression model fits well with $R^2 = 0.663 > 0.6$, which means that the results of this operation can truly reflect the effect of Tangibles, Assurance and Empathy aspects of service quality on customer loyalty. There is no multi collinearity among the 5 variables and the VIF is less than 10. The regression equation is significant with $F = 111.872$ and $p = 0.000$. Tangibles has a significant positive effect on customer loyalty ($B = 0.189$, $p = 0.008$), reliability does not have an effect on customer loyalty ($B = -0.028$, $p = 0.724$), responsiveness does not have an effect on customer loyalty ($B = -0.09$, $p = 0.181$), assurance has a significant positive effect on customer loyalty ($B = 0.6$, $p = 0.000$), and empathy has a significant positive effect on customer loyalty ($B = 0.254$, $p = 0.004$).

Table 3 The effect of service quality on customer loyalty of local fast food (n = 400).

	Unstandardized coefficient	Standard error	Standardization ratio	<i>t</i>	<i>p</i>	Collinearity diagnostics	
	<i>B</i>		<i>Beta</i>			VIF	Tolerance
Constant	0.075	0.135	-	0.557	0.578	-	-
Tangibles	0.189	0.071	0.16	2.662	0.008**	4.205	0.238
Reliability	-0.028	0.08	-0.024	-0.353	0.724	5.342	0.187
Responsiveness	-0.09	0.067	-0.087	-1.341	0.181	4.89	0.205
Assurance	0.6	0.078	0.573	7.742	0.000**	6.395	0.156
Empathy	0.254	0.087	0.223	2.899	0.004**	6.917	0.145
R ²	0.663						
F	F (5,394) = 154.782, <i>p</i> = 0.000						
D - W	1.901						
* <i>p</i> < 0.05 ** <i>p</i> < 0.01							

Finally, the regression equation between the variables is as follows: Customer loyalty = 0.075 + tangibles** 0.189 + assurance** 0.6 + empathy** 0.254.

Conclusions

Service quality and customer loyalty in fast food industry

Summary of service quality and customer loyalty level in the Western and Local Fast Food Industry is presented in **Table 4**.

Table 4 Service quality and customer loyalty in fast food industry.

	Western fast food	Local fast food
Service quality	The highest rated service quality dimension was X22 (opening hours convenience) with a mean of 4.12, indicating very high satisfaction with operating hours.	The highest rated dimension was X22 (opening hours) with a mean of 3.88, similar to Western fast food.
	The lowest rated was X20 (understanding customer needs through observation) with a mean of 3.5, an area that could be improved.	The lowest rated were X7 (trust in food/service), X8 (consistent service), and X20 (understanding needs) all around 3.42 - 3.48 mean, areas that could be improved.
	Dimensions like tangibles (X1 - X4), reliability (X7 - X10), and assurance (X14 - X17) had consistently high means around 3.8 - 4.1, showing strengths in these areas.	Tangibles (X1 - X6) had means clustered around 3.5 - 3.72, indicating average satisfaction with physical facilities.
	Responsiveness (X11 - X13) and empathy (X18 - X22) had a slightly wider range of 3.5 - 3.92 means, indicating more variability in those factors.	Reliability (X7 - X10), responsiveness (X11 - X13), assurance (X14 - X17) and empathy (X18 - X21) dimensions ranged from 3.42 - 3.78 means, showing room for improvement across all these factors.

	Western fast food	Local fast food
Customer loyalty	The highest rated loyalty dimension was Y25 (prefer over promotions) with a 3.9 mean, indicating preference stickiness.	The highest rated was Y25 (prefer over promotions) at 3.56 mean, lower than Western fast food.
	The lowest was Y24 (actively recommend) at 3.4 mean, an area that could be improved through better word-of-mouth marketing.	The lowest were Y24 (actively recommend) and Y26 (ongoing interest) around 3.36 - 3.38 means, areas needing improvement.
	The means for Y23 (high reliance/trust) and Y26 (ongoing interest/support) were 3.76 and 3.82 respectively, showing moderately high loyalty.	Y23 (reliance/trust) had a mean of 3.52, indicating just moderate loyalty levels currently.

This conclusion delves beyond overall means to identify specific service dimension strengths and weaknesses. It compares performance between Western and local fast food sectors to pinpoint differential areas. Moreover, it provides insights into customer loyalty factors that could be prioritized to enhance retention and recommendations. Additionally, it identifies service quality areas that may influence lower loyalty in certain segments, proposing changes focused on improving factors like observation, consistency, trust, and recommendations. In conclusion, this comprehensive analysis underscores the importance for Western and local fast food providers to address specific service quality dimensions and customer loyalty factors to optimize satisfaction and loyalty within their respective markets.

The effect of service quality on customer loyalty in the fast food industry

Based on the regression analysis results presented, the following conclusions can be drawn regarding the effect of service quality on customer loyalty in the fast-food industry from the perspective of university students in Hangzhou City, Zhejiang Province, China according to research hypotheses as show in **Table 5**.

Table 5 The effect of service quality on customer loyalty in the fast-food industry.

Hypotheses	Western fast food		Local fast food	
H1: Tangibles had a significant positive effect on customer loyalty	$B = 0.415, p < 0.01$	Supported	$B = 0.189, < 0.01$	Supported
H2: Reliability had a significant positive effect on customer loyalty	$B = -0.64, p < 0.01$	Rejected	$B = -0.028, < 0.01$	Rejected
H3: Responsiveness had a significant positive effect on customer loyalty	$B = -0.891, p < 0.01$	Rejected	$B = -0.09, < 0.01$	Rejected
H4: Assurance had a significant positive effect on customer loyalty	$B = 1.702, p < 0.01$	Supported	$B = 0.6, < 0.01$	Supported
H5: Empathy had a significant positive effect on customer loyalty	$B = 0.164, p < 0.01$	Supported	$B = 0.254, < 0.01$	Supported

The effect of service quality on customer loyalty in the Western fast food industry

Firstly, on the question of whether students often choose fast food as a dining option and show reliance and trust in fast food and service, the findings show a relatively high level of trust and reliance amongst respondents. It was further shown that the majority of students were more inclined to agree with this

statement, highlighting a strong base of customer loyalty. This finding suggests that the Western fast food industry has a high market share in meeting the dining needs of university students and its service quality is recognized by them. However, this result may be influenced by factors such as the fast pace of students' lives and the pressure of coursework, making them more inclined to choose convenient and fast food as a dining option.

Secondly, on the question of whether students frequent fast food restaurants and recommend their food or services to friends and family, the findings show a slightly lower degree of consistency compared to the first item, indicating differences in the degree of students' positive involvement in word-of-mouth promotion, and the results also indicate a moderate tendency to recommend fast food restaurants to others. This finding suggests that although the Western fast food industry has a high market share among university students, its word-of-mouth communication could be improved. This may be due to the fact that college students have some concerns about the healthiness and nutritional value of fast food, which affects their willingness to recommend it to others.

Thirdly, on the question of whether students still tend to choose their favorite fast food brand even if other fast food is running promotions, the findings show that the mean is the highest of the 4 themes, indicating a high level of brand loyalty and the ability to withstand the temptation of promotions from other brands. This reinforces the view that a large proportion of the student population is committed to their favorite fast food brand. This finding suggests that Western fast food brands have a high level of loyalty among college students and are able to withstand competitors' promotions. This may be due to the fact that college students have some emotional identification with their favorite brands, for which they are more willing to pay higher prices.

Finally, on the question of the duration of students' attention and support for fast food, the findings show that loyalty persists over time and the findings support that the majority of respondents' loyalty is not fleeting. This finding suggests that the Western fast food industry has a high degree of stability and continuity in the college student market. However, this result may be influenced by factors such as changes in students' life stages and adjustments in their eating habits, which make their level of interest and support for fast food change.

The effect of service quality on customer loyalty in the local fast food industry

Firstly, in relation to the question of whether students often choose fast food as a dining option and show reliance and trust in its food and service, the survey results show that students often choose fast food and have considerable trust in the quality of its food and service. However, there was some variation in the survey results page responses, and while a large proportion were loyal, there were still some who may not feel as strongly. This finding suggests that the local fast food industry has a high market share in meeting the dining needs of university students and that its service quality is recognized by them. However, this result may be influenced by factors such as the fast pace of students' lives and the pressure of coursework, which make them more inclined to choose convenient and fast food as a dining option.

Secondly, in relation to the question on whether students frequent fast food restaurants and recommend their food or services to friends and family, the findings show that students frequent fast food at slightly lower levels of positive loyalty and are less likely to actively recommend them. Compared to the first question, the higher standard deviation here indicates a wider range of responses, suggesting that students' willingness to recommend homegrown fast food is greater than the difference in their levels of trust and reliance. This finding suggests that although the local fast food industry has a high market share among university students, its word-of-mouth communication could be improved. This may be due to the fact that university students have some concerns about the healthiness and nutritional value of fast food, which in turn affects their willingness to recommend it to others.

Thirdly, on the question of whether students still tend to choose their favorite fast food brand even when other fast food is running promotions, the findings show that there is a strong brand attachment among students. They tend to stick to their favorite brand even when faced with competitors' promotions. The results of the survey also showed that most of the respondents preferred to be loyal to their favorite brand. The standard deviation was the highest among the 4 questions, suggesting that attitudes towards brand

loyalty are varied and may be influenced by the strength of personal preferences and the effectiveness of competitors' marketing strategies. This finding suggests that local fast food brands have high loyalty among college students and are able to withstand competitors' promotional activities. This may be due to the fact that university students have some emotional identification with their favorite brands for which they are more willing to pay higher prices.

Finally, on the question regarding the duration of students' interest in and support for fast food, the findings show that the overall trend is towards continued interest and support for fast food among university students, for which views are highly divergent. This finding suggests that the local fast food industry has a high degree of stability and persistence in the college student market. However, this result may be influenced by factors such as changes in students' life stages and adjustments in their eating habits, which make their interest in and support for fast food change.

The key findings from the analysis of service quality and customer loyalty in the fast food industry, particularly focusing on the comparison between Western and local fast food sectors, are as follows in **Table 6**.

Table 6 Service quality and customer loyalty in the Western and local fast food sectors.

	Western fast food	Local fast food
Service quality	Tangibles, reliability, and assurance emerged as strengths, with consistently high means indicating high satisfaction with physical facilities, reliability of service, and the competence of service providers. However, areas for improvement were identified in understanding customer needs through observation.	Tangibles had slightly lower means, indicating average satisfaction with physical facilities. Similar to Western fast food, reliability, responsiveness, assurance, and empathy dimensions showed room for improvement, suggesting the need for enhancing consistency, trust, and understanding customer needs.
Customer loyalty	Students demonstrated a high level of loyalty, particularly in preferring their favorite brand over promotions, indicating strong brand attachment. However, the willingness to actively recommend fast food brands to others was relatively lower.	Similar to Western fast food, students exhibited high loyalty levels, preferring their favorite brand despite promotional activities from competitors. However, there was room for improvement in actively recommending local fast food brands to others.

The analysis goes beyond simple averages to uncover specific strengths and weaknesses within service quality dimensions and customer loyalty factors. Although both Western and local fast food sectors exhibit strengths in certain areas, noticeable disparities suggest differing levels of customer satisfaction and loyalty between the 2 sectors. These findings underscore the importance of addressing particular service quality dimensions and customer loyalty factors to enhance satisfaction and loyalty within their respective markets.

Discussion

Descriptive statistics of local fast food customer loyalty

The survey results show that there are 4 dimensions in the descriptive statistics of local fast food customer loyalty, which are: "Do you frequently choose fast food as a dining place and show a high degree of reliance and trust in our food and services? Do you frequently patronize fast food and actively recommend the food or services to your friends and family? Do you still prefer your fast food brand even when other fast food restaurants are running promotions? Has your interest in and support for fast food continued over time?"

The data shows the minimum, maximum, mean, standard deviation and median of the customer loyalty assessment. The mean values ranged from 3.36 to 3.56, indicating an overall high level of customer loyalty. The minimum values ranged from 1 to 2, and the maximum values were all 5, indicating a wide range of evaluators' perceptions. Standard deviations ranged from 0.701 to 0.867, indicating that although the

overall ratings tended to be positive, the degree of consistency varied across the dimensions. The median is mostly 3, further indicating that most customer loyalty is rated as average.

Two of the dimensions are framed as follows: “Do you regularly opt for fast food as your dining destination, demonstrating a high level of reliance and trust in our food and service? And do you still prefer our fast food brand even when other fast food restaurants are running promotions?” The mean values for the other 2 dimensions, “Do you frequently visit fast food establishments and actively recommend the food or service to your friends and family? And has your interest in and support for local fast food been ongoing for some time?” The mean value for this question indicates a “Moderate” rating. Customers’ reliance and trust in fast food as a dining option serve as vital indicators of loyalty. The mean value of 3.52 suggests that the majority of customers hold a positive attitude towards local fast food brands, perceiving them to offer consistent and reliable food and service. However, the standard deviation of 0.701 reflects the dispersion of customer opinions, potentially leading to fluctuations in trust towards brands due to individual experiences. This underscores the necessity for fast food brands to continuously refine their products and services to ensure that each customer’s experience aligns with expected standards, thereby bolstering customer trust and reliance.

Recommendation behavior is another key dimension in measuring customer loyalty. The slightly lower mean value of 3.38 suggests that although customers are willing to recommend, they are less enthusiastic than their personal attachment to the brand. This may be related to customers’ consideration of friends’ and family’s taste preferences, or it may reflect a variable in customer satisfaction with the brand. Brands should incentivize more positive recommendations by improving customer satisfaction and enhancing word-of-mouth marketing strategies.

Customers’ responses to promotions show a high level of brand loyalty, with a mean of 3.56 and a median of 4 indicating that customers tend to maintain their support for the preferred brand even in the face of competitors’ promotions. This finding suggests that local fast food brands have succeeded in building a degree of brand loyalty, with customers’ trust and satisfaction with the brand going beyond the price factor. However, it also reminds brands that they should not over-rely on loyalty to the neglect of continuous market competition and changing customer needs.

Duration of brand support is an important dimension in measuring the depth of loyalty. The mean value of 3.36 and standard deviation of 0.867 indicate that while most customers continue to support local fast food brands over time, there is a degree of uncertainty. This may be influenced by new brand intervention, changes in market environment or shifts in customers’ personal preferences. In order to enhance customers’ long-term loyalty, fast food brands need to innovate and adapt their strategies to respond to changes in the market and customers’ needs while maintaining service and product quality.

Based on the above analysis, in order to enhance customer loyalty for local fast food brands, it is important to continue to improve product and service quality, strengthen brand personalization and differentiated marketing, use social media and word-of-mouth marketing and conduct regular customer satisfaction surveys, which can maintain a competitive advantage in a highly competitive market, while deepening customer loyalty and achieving sustained growth. The findings of this research provide valuable insights into the service quality dimensions and customer loyalty factors within the Western and local fast food sectors. In the Western fast food industry, the highest-rated service quality dimension was X22 (opening hours convenience), indicating significant satisfaction with operating hours. This finding aligns with previous research highlighting the importance of convenient operating hours in enhancing customer satisfaction and loyalty (Kaura et al., 2015). However, the lowest-rated dimension, X20 (understanding customer needs through observation), suggests a potential area for improvement in understanding and meeting customer preferences. This finding underscores the importance of actively listening to and observing customer behavior to tailor services accordingly (Min et al., 2021).

Similarly, in the local fast food industry, X22 (opening hours) emerged as the highest-rated dimension, indicating the importance of convenient operating hours for customer satisfaction. This finding is consistent with previous studies emphasizing the role of convenience in customer satisfaction and loyalty in the fast food sector (Ghosh, 2020). However, dimensions such as X7 (trust in food/service), X8 (consistent service), and X20 (understanding needs) received lower ratings, suggesting areas for improvement in trust-building,

consistency, and customer understanding. In terms of customer loyalty, both Western and local fast food sectors showed higher loyalty ratings for factors related to preference and ongoing interest (Y25 and Y26). However, there were lower ratings for factors related to actively recommending the restaurant (Y24), indicating a potential gap in word-of-mouth marketing strategies. This finding underscores the importance of implementing effective marketing strategies to encourage customers to actively recommend the restaurant to others (Kwon et al., 2021). Overall, this research provides valuable insights into specific service quality dimensions and customer loyalty factors that can inform strategies for enhancing customer satisfaction and loyalty in the fast food industry. By addressing areas for improvement identified in this study, Western and local fast food providers can optimize customer experiences and strengthen their competitive positions in their respective markets.

Effect of lower reliability and responsiveness of Western fast food service quality

In this study, the findings show that the linear regression model for Western fast food has a better fit, $R^2 = 0.587$, which is close to 0.6, which means that the results of this operation can truly reflect the impact of tangible, reliability, responsiveness, assurance and empathy of service quality on customer loyalty, but reliability does not have an impact on customer satisfaction ($B = -0.64, p = 0.000$) and responsiveness does not have an effect on customer satisfaction ($B = -0.891, p = 0.000$).

The negative impact of reliability ($B = -0.64, p = 0.000$) and responsiveness ($B = -0.891, p = 0.000$) points to the presence of significant shortcomings in the service delivery process. This could be due to inconsistencies in the service process or delayed responses by employees in dealing with customer requests. For the specific customer group of university students, they usually seek a fast and reliable service experience. Therefore, fast food companies need to address these issues by optimizing service processes, improving the quality of staff training and introducing more efficient service technologies. Improving these areas will help to increase overall customer satisfaction and reduce customer churn.

The negative impact of reliability and responsiveness on customer satisfaction implies that when consistency of service and quick response fails to meet customers' expectations, it may undermine their loyalty to the brand. This may indicate that Western fast food restaurants have challenges in maintaining consistency in service quality and quick response to customer needs, which need to be addressed by improving operational processes and upgrading staff training.

The key findings of this study emphasize the complex impact of the multidimensional aspects of service quality on customer loyalty, particularly in the fast food industry, where the significant positive impacts of tangibility, assurance and empathy reveal key strategies to enhance customer loyalty. On the contrary, the effects of reliability and responsiveness are not significant, but this does not mean that they are not important. Fast food companies should consider all these factors together in order to increase customer satisfaction and loyalty through continuous improvement in all aspects of service quality.

Effect of lower quality reliability and responsiveness of local fast food services

In this study, the findings show that the linear regression model for local fast food is well fitted with $R^2 = 0.663 > 0.6$, which means that the results of this operation can truly reflect the impact of tangible, reliability, responsiveness, assurance and empathy of service quality on customer loyalty. However, reliability does not have an effect on customer satisfaction ($B = -0.028, p = 0.724$) and responsiveness does not have an effect on customer satisfaction ($B = -0.09, p = 0.181$).

Although reliability and responsiveness have been recognized as key factors in many studies of service quality, their impact on increasing customer satisfaction was not significant in this study. This may indicate that for university customers in Hangzhou, they may focus more on other aspects of fast food such as food quality, price and tangible attributes of the brand. In addition, this may also reflect the fact that in the FMCG market, customers expect consistency and responsiveness in service, and therefore these factors are no longer key points in differentiating the quality of service, but have become basic expectations.

Non-significant positive relationship of reliability and responsiveness: The results of the study showed that the positive relationship of reliability (consistency and accuracy of service) and responsiveness (promptness of service staff in responding to customers' needs) on customer satisfaction was non-

significant, with $B = -0.028$ ($p = 0.724$) and $B = -0.09$ ($p = 0.181$), respectively. This may imply that although these factors are important in the overall perception of service quality, they are not decisive factors in determining college students' loyalty to local fast food brands.

The key findings of this study emphasize the complex impact of the multidimensional aspects of service quality on customer loyalty, particularly in the fast food industry, where the significant positive impacts of tangibility, assurance and empathy reveal key strategies to enhance customer loyalty. On the contrary, the effects of reliability and responsiveness are not significant, but this does not mean that they are not important. Fast food companies should consider all these factors together in order to increase customer satisfaction and loyalty through continuous improvement in all aspects of service quality.

Recommendations

Practical recommendations

This study delves into the relationship between college students' perceptions of service quality and customer loyalty in the local fast food industry, and proposes some strategic recommendations aimed at increasing the fast food industry's loyalty in the college student market. In order to further enhance the customer loyalty of the fast food industry in the university student market, this study makes the following recommendations:

1) Improvement of service quality: Enterprises should have an in-depth understanding of the consumption needs of university students and provide more personalized and attentive services. By improving service quality, customer satisfaction and loyalty can be enhanced. In addition, enterprises should strengthen staff training to enhance their service awareness and skills to ensure that every customer can enjoy a quality service experience.

2) Strengthening branding: Branding is an important bridge of communication between enterprises and consumers. Enterprises should improve brand awareness and reputation through effective brand communication strategies. At the same time, enterprises can strengthen interaction with consumers and build a positive brand image by organizing various activities. For example, it can co-operate with colleges and universities to organize campus promotion activities to increase brand awareness among college students.

3) Innovative products and services: Enterprises should pay attention to the consumption needs and habits of university students and constantly innovate and improve their products and services. For example, more healthy and nutritious fast food products can be introduced to meet college students' demand for healthy diets. In addition, enterprises can also improve the dining experience through the introduction of new technologies and new formats to attract more college students.

4) Improving the effectiveness of word-of-mouth communication: Word-of-mouth communication is an important factor influencing consumer decision-making. Enterprises should encourage and incentivize college students to participate in word-of-mouth communication to improve the popularity and reputation of fast food restaurants. For example, they can launch a refer-a-friend offer to encourage college students to recommend their favorite fast food restaurants to friends and family. Meanwhile, enterprises can also make use of social media platforms to strengthen interaction with consumers and expand brand influence.

5) Focus on social responsibility: Enterprises should assume social responsibility and pay attention to food safety and environmental protection. For example, they can adopt green packaging to reduce the impact on the environment. In addition, enterprises can also actively participate in public welfare activities to enhance their brand image. College students, as a group of people with high moral values and sense of social responsibility, have a high degree of identification with the social responsibility behaviors of enterprises, which will help increase their loyalty to the fast food industry.

Theoretical contribution

The findings of this research make several theoretical contributions to the understanding of service quality and customer loyalty in the fast food industry. Firstly, the study highlights the importance of specific service quality dimensions, such as tangibility, reliability, responsiveness, assurance, and empathy, in influencing customer satisfaction and loyalty. By examining these dimensions separately, the research

provides a nuanced understanding of how each aspect contributes to overall customer perceptions and behaviors.

Secondly, the study extends existing literature by comparing service quality and customer loyalty between Western and local fast food sectors. By analyzing differences in ratings and identifying areas for improvement in both segments, the research sheds light on the unique challenges and opportunities faced by each sector. This comparative approach adds depth to our understanding of how contextual factors, such as cultural differences and market dynamics, influence customer perceptions and behaviors.

Thirdly, the research contributes to the theoretical framework by examining the impact of service quality dimensions on customer loyalty in the fast food industry. By conducting regression analysis, the study identifies which dimensions have a significant effect on customer satisfaction and loyalty, providing insights into the relative importance of each dimension in driving customer behaviors. This empirical evidence enriches theoretical models of service quality and customer loyalty by validating the relationships proposed in existing literature.

Finally, the study emphasizes the need for fast food companies to adopt a holistic approach to service quality management. By addressing all dimensions of service quality, including tangibility, reliability, responsiveness, assurance, and empathy, companies can enhance overall customer satisfaction and loyalty. This holistic perspective aligns with the service-profit chain theory, which posits that improvements in service quality lead to higher customer satisfaction, which in turn drives profitability and growth (Heskett et al., 1994). Thus, the research provides practical guidance for managers in the fast food industry to develop comprehensive strategies for enhancing service quality and fostering customer loyalty.

Future research recommendation

1) This study found that college students' attitudes and preferences toward the fast food industry are influenced by a variety of factors, including cultural, social, and economic factors. Through random interviews with college students, gender and grade level factors were found to have a significant impact on loyalty to the fast food industry. Female college students generally showed higher loyalty to the fast food industry, which may be related to the fact that women pay more attention to appearance, taste and healthiness in food selection. And with higher grades, college students' loyalty to the fast food industry gradually decreases, which may be due to the fact that higher grades pay more attention to dietary health and rely less on fast food. As health awareness increases, more and more college students are seeking healthy and nutritious dining options. Therefore, fast food business operators need to pay attention to these trends and adjust their products and services to meet these changing needs.

2) To further deepen the understanding of loyalty in the college market, future research could explore the following areas:

The study delves into the attitudes and behaviors of university students from diverse cultural backgrounds towards the fast food industry. It aims to comprehend how cultural differences influence perceptions of service quality and customer loyalty within this sector. An analysis of economic variables, such as students' financial circumstances and purchasing power, is conducted to gauge their influence on loyalty towards the fast food sector. Additionally, the investigation explores how companies can utilize pricing strategies to attract students from various economic backgrounds. The examination extends to the utilization of technological advancements within the fast food industry, encompassing mobile payment systems, online ordering platforms, and social media engagement. The study evaluates how these innovations contribute to enhancing the overall customer experience and fostering increased loyalty among university students. Conducting longitudinal studies allows for continuous monitoring and evaluation of the effectiveness of proposed strategies and recommendations in real-world contexts. Moreover, such studies explore how changes in market dynamics and shifts in consumer demand impact the efficacy of these strategies over time.

This study reveals the relationship and impact of service quality level and customer loyalty of the fast food industry in the college student market, which can provide a more comprehensive understanding of college students' attitudes and behaviors towards the fast food industry, and thus provide the fast food industry with more effective market strategies and service improvement suggestions. The results of the

study have certain theoretical and practical significance for the development of western and local fast food industry. However, there are still some limitations in this study, such as limited sample scope and single survey method. Future research can expand and deepen on this basis, such as expanding the sample scope and introducing more research methods, with a view to providing more valuable references for the development of the local fast food industry.

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