Service quality, Consumer Loyalty and Consu mptionDecision-making: A Case of Pangdongl ai in Henan Province, China

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Abstracts：This research aimed to study 1) to examine the differences in consumer decision-making at Pangdonglai Supermarket across various demographic characteristics, including gender, marital status, age, educational attainment, monthly income, and purchase frequency; 2) to investigate the extent to which service quality influences consumers' shopping decisions when choosing Pangdonglai Supermarket; and 3) to validate the impact of consumer loyalty on shopping decisions within the consumption context of Pangdonglai Supermarket. The sample consisted of 409 consumers who had shopped at Pangdonglai within the past year. They were selected using a two-stage sampling method, with data collected from April to July 2025 through both on-site and online surveys. The instrument was a structured questionnaire containing four parts: demographic characteristics (7 items), service quality (21 items based on the SERVQUAL model), consumer loyalty (16 items adapted from Oliver's loyalty framework), and consumer decision-making (4 items from Zeithaml et al., 1996) All items used a five-point Likert scale, and instrument reliability and validity were confirmed through Cronbach's alpha (0.857–0.961) and factor analysis. Data analysis employed descriptive statistics, one-way ANOVA, and multiple regression.The research results revealed that 1) demographic characteristics significantly influenced consumer decision-making, especially age, marital status, income, and shopping frequency; 2) service quality positively impacted decision-making, with tangibility and empathy as the strongest predictors, while complaint handling and safety assurance required improvement; 3) consumer loyalty had a significant effect, with cognitive and conative loyalty exerting stronger influences than affective and behavioral loyalty. The study concludes that Pangdonglai's advantage lies in combining demographic alignment, service quality, and loyalty cultivation, thereby contributing to consumer behavior and service quality theories while offering managerial insights for regional supermarkets in China.
Keywords: Service quality; Consumer loyalty; Consumer decision-making; Demographic characteristics; Pangdonglai Supermarket

1.Introduction

The global retail industry has demonstrated strong growth momentum in recent years, serving as a critical driver of global economic development. According to forecasts by Xu and Niculescu (2025), worldwide retail sales are expected to reach USD 31.27 trillion by 2025. This upward trajectory not only highlights the resilience of the sector but also emphasizes the increasing importance of consumer-centered strategies in shaping competitive advantages. Within this global context, China's retail industry has experienced profound transformation. Guided by consumption upgrading and digitalization, the sector has gradually shifted from an extensive expansion model to one that prioritizes value creation and customer experience as the central pillar of competitiveness (Linde et al., 2023; Nie et al., 2021). The emphasis on consumer satisfaction and loyalty has therefore become essential for the long-term sustainability of supermarket enterprises.

In recent years, China has actively introduced policy measures to stimulate domestic consumption and strengthen retail modernization. Data from the National Bureau of Statistics of China (2023) show that the total retail sales of consumer goods reached 47.1 trillion RMB in 2023, marking a steady recovery despite pandemic disruptions. Moreover, the "14th Five-Year Plan for Circulation and Consumption Modernization" issued by the Ministry of Commerce highlights the importance of improving service quality, promoting digital transformation, and enhancing consumer trust to support the

high-quality development of retail enterprises (Wu et al., 2024). Against this policy backdrop, regional supermarkets such as Pangdonglai have emerged as innovative retail models. Founded in Henan Province, Pangdonglai has grown into a well-recognized regional chain by prioritizing customer experience and embedding distinctive service practices, such as profit-sharing with employees and providing consumers with personalized in-store services. In 2024, Pangdonglai's annual sales exceeded 150 billion RMB, representing approximately a 40% year-on-year increase (China Chain Store & Franchise Association, 2024).

Despite these achievements, significant challenges remain in the supermarket sector. A report by the China Chain Store & Franchise Association (2024) revealed that the average customer attrition rate among Chinese chain supermarkets is 28.6%, far higher than the international average of 18%. This finding underscores persistent difficulties in customer relationship management and loyalty retention. Furthermore, as competition intensifies between domaestic brands and global retail giants, regional supermarkets face pressures arising from supply chain volatility, rising operational costs, and increasingly diverse consumer demands (Shi, 2025). Although service quality and consumer loyalty are widely acknowledged as determinants of consumer behavior, their interaction mechanisms remain underexplored in the specific context of regional retail. In particular, limited attention has been given to how

demographic characteristics—such as age, marital status, and income—moderate decision-making differences among supermarket consumers. These issues highlight the urgent necessity for an empirically grounded study that integrates service quality, consumer loyalty, and demographic factors to explain consumer decision-making in China's supermarket sector.

2.Research Objectives

In response to these gaps, this study takes Pangdonglai Supermarket as a representative case to investigate the determinants of consumer purchasing behavior in a regional retail context. The research seeks to advance theoretical understanding of how service quality and consumer loyalty jointly influence shopping decisions while also offering practical guidance for enhancing customer retention strategies. Accordingly, the specific research objectives of this study are as follows:

1) To examine the differences in consumer decision-making at Pangdonglai Supermarket across various demographic characteristics, including gender, marital status, age, educational attainment, monthly income, and purchase frequency.

2) To investigate the extent to which service quality influences consumers' shopping decisions when choosing Pangdonglai Supermarket.

3) To validate the impact of consumer loyalty on shopping decisions within the consumption context of Pangdonglai Supermarket.

3.Literature Review

Consumer behavior theory and market segmentation theory provide an important foundation for this study. Consumer behavior theory emphasizes that demographic characteristics such as gender, age, income, and educational attainment exert significant influence on consumption preferences and decision-making patterns (Bakewell & Mitchell, 2003). Building on this perspective, market segmentation theory further suggests that enterprises can classify consumer groups to better explain and predict behavioral differences across demographic categories (Tohidi et al., 2023). In the retailing context, these theories have been widely applied to examine how variations in life stage, income level, and household structure shape consumers' shopping decisions. For example, prior studies in the fast-moving consumer goods and supermarket sectors have frequently employed demographic factors to explain differences in purchase frequency, brand-switching behavior, and responses to promotional activities (Shukla, 2009). However, existing research tends to focus on macro-level consumption trends or nationwide retail chains (LeBaron & Lister, 2021; Scholdra et al., 2022), with relatively limited attention to regional retail brands and their distinct consumer bases. Therefore, applying consumer behavior and market segmentation theories to a regional case such as Pangdonglai enables a more nuanced understanding of how local cultural and demographic contexts shape consumer decision-making, thus addressing a

significant gap in the literature on regional retail enterprises.

This study also draws upon service quality theory and consumer loyalty theory to explain the influence of service-related factors on consumer decision-making. The SERVQUAL model proposed by Parasuraman et al. (1988) has become a seminal framework in service research, emphasizing dimensions such as tangibility, responsiveness, assurance, and reliability as critical determinants of perceived service quality and customer satisfaction. This model has been extensively applied in hospitality, food service, banking, and healthcare industries, confirming that higher service quality not only enhances immediate satisfaction but also fosters repeat purchasing behavior. Complementarily, Oliver (1999)'s four-stage loyalty framework—comprising cognitive, affective, conative, and behavioral dimensions—conceptualizes loyalty as more than repetitive purchasing, highlighting its emotional and attitudinal underpinnings. This framework has been widely employed in retail, aviation, and e-commerce studies to explain customer retention, word-of-mouth advocacy, and resistance to competitive pressure. Existing research consistently demonstrates a positive relationship between service quality and loyalty, with loyalty amplifying the marginal effects of service quality on consumer decisions (Auh & Johnson, 2005). Nonetheless, empirical studies have predominantly concentrated on highly standardized industries (Guan et al., 2022; Tu et al., 2023), leaving limited exploration of how these theories apply to non-standardized retail contexts such as regional supermarkets. Thus, incorporating service quality and loyalty theories into the Pangdonglai case not only validates their applicability in localized retail environments but also extends the theoretical boundaries of consumer behavior research in non-traditional retail settings.

Demographic characteristics have long been recognized as essential predictors of consumer purchase behavior. According to consumer behavior theory (Bakewell & Mitchell, 2003) and market segmentation theory (Claycamp & Massy, 1968), demographic factors such as gender, age, education, income, and marital status play a decisive role in shaping preferences and decision-making tendencies. Becker (1965)'s household production framework also suggests that demographic resources condition consumer allocation of time and expenditure. Empirical studies across retail and online contexts provide evidence of these effects: Lugioyo (2022) demonstrated that demographic differences strongly influence purchasing in competitive markets; Fatima and Khan (2024) revealed that demographic traits moderate the impact of online reviews on purchase behavior; and a study on Nigerian retail outlets confirmed that income, education, and marital status significantly predict consumer buying patterns. Despite these findings, the moderating role of demographic characteristics in shaping supermarket decision-making in regional Chinese contexts has not yet been

validated. To address this gap, the study proposes:

H1: Consumers with different demographic characteristics (e.g., gender, age, monthly income) exhibit varying influences on their purchase decision-making.

Service quality is widely regarded as a critical antecedent of consumer decision-making, with Parasuraman et al. (1988)'s SERVQUAL model defining quality as the gap between expectations and perceptions across dimensions such as tangibility, responsiveness, assurance, and reliability. This framework has been validated across diverse industries, including banking, healthcare, and hospitality, where improved service quality consistently enhances satisfaction and repurchase intentions. In retail environments, Vazquez et al. (2001) emphasized that conceptualizations of service quality must account for unique attributes of the retail setting; Meng et al. (2009) identified service dimensions relevant to supermarkets, such as checkout service and store image; and Venter and Dhurup (2005) confirmed that service quality perceptions significantly drive consumer decisions in South African supermarket chains. Despite these established insights, the direct impact of service quality on consumer decision-making has not been empirically tested in regional supermarkets such as Pangdonglai, where service differentiation is a core competitive strategy. Thus, the study advances:

H2: Service quality has a positive impact on consumers' purchase decisions when choosing Pangdonglai Supermarket.

Consumer loyalty has been conceptualized as a multidimensional construct comprising cognitive, affective, conative, and behavioral dimensions (Oliver, 1999), which collectively capture not only repeat purchasing but also psychological commitment and emotional attachment. Loyalty has been shown to amplify the marginal effects of service quality on purchase behavior, a mechanism explained by Auh and Johnson (2005)'s compatibility effect theory. Empirical studies corroborate its central role: Fang et al. (2016) demonstrated that both relational and transactional drivers underpin consumer loyalty in retail contexts; Chinese case studies on hypermarkets highlight the impact of satisfaction and loyalty on repurchase behavior (Shyu et al., 2023); and research on Wumart supermarkets revealed that loyalty management strategies such as club cards significantly enhance retention (Jiang & Prater, 2002). While these findings confirm the importance of loyalty in influencing purchasing in standardized retail and online settings, its role in shaping consumer decision-making within regional supermarket brands like Pangdonglai has yet to be systematically validated. Accordingly, the following hypothesis is proposed:

H3: Consumer loyalty has a positive impact on purchase decisions in the context of Pangdonglai Supermarket.

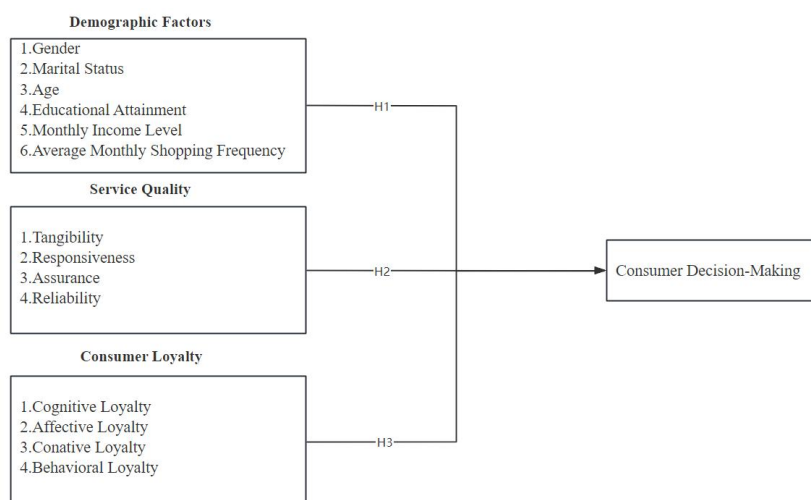The theoretical framework model of this paper is shown as follows:

Figure 1. Theoretical framework model diagram

4.Research Methodology

This study employed a quantitative research design to investigate the relationships among demographic characteristics, service quality, consumer loyalty, and consumer decision-making in the context of Pangdonglai Supermarket. The research object was defined as consumers who had shopped at Pangdonglai within the past year in its main operating cities, thereby ensuring that respondents' perceptions of service quality and loyalty were both recent and relevant. A sample size of 400 was calculated using Yamane (1973)'s formula with a 5% margin of error, and data collection was conducted from April to July 2025. To enhance representativeness, a two-stage sampling approach was adopted. A pilot survey of 60 consumers was first carried out to test the clarity and operability of the questionnaire, after which revisions were made based on feedback. The main survey was then administered through a combination of on-site distribution inside Pangdonglai stores and online distribution via the Wenjuanxing platform (https://www.wjx.cn/), supplemented by WeChat channels. In total, 409 valid responses were obtained after rigorous data verification, exceeding the minimum requirement and ensuring adequate statistical power for subsequent analyses.

The research instrument was a structured questionnaire designed to measure key constructs of the study. It consisted of four sections. The first section collected demographic information, including gender, marital status, age, educational attainment, monthly income, and shopping frequency (7 items). The second section measured service quality using 21 items adapted from Parasuraman et al. (1988) SERVQUAL model, covering five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The third section assessed consumer loyalty with 16 items based on the multidimensional framework of Dick and Basu (1994), incorporating cognitive, affective, conative, and behavioral loyalty. The fourth section measured consumer decision-making

using 4 items adapted from Zeithaml et al. (1996), focusing on consumers' behavioral intentions and purchasing tendencies. All measurement items employed a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), allowing for standardized quantification of respondents' perceptions and intentions. Reliability testing using Cronbach's α indicated excellent internal consistency across all constructs (α values ranging from 0.857 to 0.961, with an overall α of 0.977). Validity was ensured through expert review as well as factor analysis, where the KMO and Bartlett's tests confirmed strong construct validity (KMO values above 0.80, p < 0.001).

Following data collection, all responses were cleaned and verified for completeness, and the final dataset of 409 valid questionnaires was subjected to both descriptive and inferential statistical analyses. Descriptive statistics were used to summarize demographic characteristics and provide an overview of the distribution of the main variables. Inferential analyses were conducted to test the study's hypotheses: one-way ANOVA was employed to examine whether different demographic characteristics significantly influenced consumer decision-making, while post hoc LSD tests were used to identify specific group differences. Furthermore, multiple regression analysis was applied to assess the hypothesized positive effects of service quality and consumer loyalty on consumer decision-making. This systematic process of data handling and analysis ensured the robustness of the empirical findings and provided a reliable basis for drawing theoretical and practical conclusions.

5.Research Results

5.1 Demographic Characteristics of Respondents

The demographic profile of the respondents indicates that Pangdonglai Supermarket's customer base is predominantly female (58.68%) and largely composed of married individuals (56.72%), reflecting the central role of family shoppers in sustaining supermarket consumption. At the same time, younger consumers represent a significant proportion of the sample, with those aged 18–34 years accounting for nearly 68%. This suggests that Pangdonglai appeals strongly to younger and family-oriented segments, both of which are critical drivers of stable and recurring demand. The educational background of respondents is concentrated in mid-level attainment, with almost half holding an associate degree (49.88%) and one-third having vocational or technical qualifications (31.05%). Such a profile reflects Pangdonglai's positioning as a mainstream supermarket that attracts practically oriented, middle-income households rather than highly educated elites or low-education groups at the margins.

The analysis of income and shopping frequency further illustrates Pangdonglai's market positioning. Over half of the respondents (53.55%) reported a monthly income between 3,001 and 6,000 CNY, while only a small minority (9.05%) earned more than 10,000 CNY, confirming that the supermarket primarily serves the

middle-income segment. Shopping habits also reveal a high degree of consumer stickiness: nearly half of the customers visit Pangdonglai four to five times per month (48.41%), and another 21.27% shop six times or more, indicating a substantial share of loyal, high-frequency consumers. By contrast, only 11% reported shopping once or less per month. Taken together, the findings demonstrate that Pangdonglai has cultivated a core customer base characterized by stable income levels and frequent purchasing behavior, which underpins its strong consumer loyalty and reinforces its reputation as a high-service regional retailer.

Table 1. Descriptive Statistics of Pangdonglai Consumers' Demographic Characteristics

Category	Classification	Frequency	Percentage (%)
Gender	Male	169	41.32
	Female	240	58.68
	Total	**409**	**100**
Marital Status	Single	159	38.88
	Married	232	56.72
	Divorced	7	1.71
	Widowed	11	2.69
	Total	**409**	**100**
Age	18–24 years	132	32.27
	25–34 years	146	35.7
	35–44 years	77	18.83
	45–54 years	35	8.56
	55 years and above	19	4.65
	Total	**409**	**100**
Educational Attainment	High school and below	38	9.29
	Vocational/Technical school	127	31.05
	Associate degree	204	49.88
	Bachelor's degree and above	40	9.78
	Total	**409**	**100**
Monthly Income	≤ 3,000 CNY	82	20.05
	3,001–6,000 CNY	219	53.55
	6,001–10,000 CNY	71	17.36
	> 10,000 CNY	37	9.05
	Total	**409**	**100**
Average Monthly Shopping Frequency	≤ 1 time	45	11
	2–3 times	79	19.32
	4–5 times	198	48.41
	≥ 6 times	87	21.27

Total	**409**	**100**

5.2 Analysis of Interval Scale Variables

5.2.1 Service Quality Analysis

The analysis of service quality dimensions reveals that respondents generally expressed favorable evaluations of Pangdonglai's performance, with all mean values exceeding the midpoint of 3 on the five-point scale. Among the five dimensions, tangibility achieved the highest mean score (M = 3.809, SD = 0.844), suggesting that consumers particularly appreciated the physical environment, facilities, and visual aspects of the supermarket. Empathy (M = 3.759, SD = 0.864) also scored highly, indicating recognition of personalized services and attention to customer needs. The remaining dimensions—assurance (M = 3.721, SD = 0.851), responsiveness (M = 3.716, SD = 0.879), and reliability (M = 3.701, SD = 0.852)—displayed relatively balanced results, reflecting consistent but moderately varied perceptions across service interactions. The overall mean score of 3.741 (SD = 0.759) demonstrates that Pangdonglai maintains a generally high level of service quality, though there remains room for further enhancement in aspects such as efficiency and reliability.

Table 2. Mean and Standard Deviation Analysis of Service Quality Dimensions

Dimension	N	Minimum	Maximum	Mean	Standard Deviation
Tangibility	409	1.25	5	3.809	0.844
Reliability	409	1	5	3.701	0.852
Responsiveness	409	1	5	3.716	0.879
Empathy	409	1.2	5	3.759	0.864
Assurance	409	1	5	3.721	0.851
Overall	409	1.717	4.547	3.741	0.759

The results for the tangibility dimension indicate that consumers generally perceive Pangdonglai's physical environment positively, with the overall mean reaching 3.809 (SD = 0.844). Among the individual items, the cleanliness and modernity of the shopping environment (TAN1) received the highest evaluation (M = 4.005, SD = 1.178), reflecting strong consumer satisfaction with store atmosphere and layout. Merchandise display and labeling (TAN2, M = 3.809, SD = 1.119) and the maintenance of basic facilities (TAN4, M = 3.763, SD = 1.120) were also rated favorably, suggesting effective management of product accessibility and customer convenience. Employee appearance (TAN3, M = 3.660, SD = 1.202) scored relatively lower, implying that professional presentation is somewhat less emphasized compared to environmental and facility factors. Overall, the findings confirm that tangible elements remain a core strength of Pangdonglai's service quality, though improvements in employee presentation could further

enhance the supermarket's professional image.

Table 3. Mean and Standard Deviation Analysis of Tangibility Factors

Code	Item Description	N	Minimum	Maximum	Mean	Standard Deviation
TAN1	The shopping environment of Pangdonglai is clean, modern, and pleasant.	409	1	5	4.005	1.178
TAN2	Merchandise is clearly displayed and well-labeled, making it easy for consumers to find products.	409	1	5	3.809	1.119
TAN3	Employees wear standardized and tidy uniforms, giving a professional impression.	409	1	5	3.66	1.202
TAN4	Basic facilities such as shopping carts, restrooms, and rest areas are well-maintained.	409	1	5	3.763	1.12
Overall	—	409	1.25	5	3.809	0.844

The analysis of reliability factors shows that consumers perceive Pangdonglai's performance in this dimension as moderately favorable, with an overall mean score of 3.701 (SD = 0.852). Among the individual items, timely fulfillment of promised services (REL4) achieved the highest rating (M = 3.741, SD = 1.145), highlighting consumer recognition of the supermarket's efficiency in delivery and after-sales processes. The checkout process (REL2, M = 3.704, SD = 1.088) was also positively evaluated, suggesting operational accuracy and convenience at the point of sale. Product quality assurance (REL3, M = 3.672, SD = 1.182) and fulfillment of commitments (REL1, M = 3.687, SD = 1.165) scored slightly lower but remained above the neutral midpoint, indicating consumer confidence in authenticity and consistency, albeit with room for further improvement. Overall, while reliability is a relative strength of Pangdonglai's service delivery, enhancing product consistency and promotional credibility could further consolidate consumer trust in this dimension.

Table 4. Mean and Standard Deviation Analysis of Reliability Factors

Code	Item Description	N	Minimum	Maximum	Mean	Standard Deviation
REL1	Pangdonglai accurately fulfills its commitments to customers (e.g., convenient and efficient returns/exchanges, authenticity of promotional activities).	409	1	5	3.687	1.165
REL2	The checkout process is fast and accurate, with minimal errors.	409	1	5	3.704	1.088
REL3	Products meet quality standards, with no counterfeit, expired, or substandard items, and are consistent with promotional claims.	409	1	5	3.672	1.182
REL4	Pangdonglai completes services within the promised time (e.g., delivery, after-sales service).	409	1	5	3.741	1.145
Overall	—	409	1	5	3.701	0.852

The responsiveness dimension reflects generally positive consumer perceptions, with an overall mean of 3.716 (SD = 0.879). The highest-rated item was the ability to maintain service efficiency during peak periods (RES4, M = 4.032, SD = 1.191), indicating that consumers value Pangdonglai's capacity to deliver consistent service even under high demand. Staff responsiveness to customer requests (RES2, M = 3.763, SD = 1.064) and proactive assistance (RES1, M = 3.711, SD = 1.142) were also evaluated favorably, underscoring the importance of timely and attentive service interactions. The complaint handling mechanism (RES3, M = 3.675, SD = 1.159) received the lowest score within this dimension, suggesting that while procedures exist, there may be opportunities to improve perceived efficiency and accessibility of complaint resolution. Taken together, the results highlight that responsiveness is a relative strength of Pangdonglai, particularly in managing service flow during busy periods, though enhancements in formal complaint

management could further strengthen consumer confidence.

Table 5. Mean and Standard Deviation Analysis of Responsiveness Factors

Code	Item Description	N	Minimum	Maximum	Mean	Standard Deviation
RES1	Staff are willing to proactively assist customers in resolving problems.	409	1	5	3.711	1.142
RES2	When customers make requests, staff respond promptly.	409	1	5	3.763	1.064
RES3	Pangdonglai has an efficient and convenient complaint handling mechanism.	409	1	5	3.675	1.159
RES4	Even during peak periods, services are not significantly delayed.	409	1	5	4.032	1.191
Overall	—	409	1	5	3.716	0.879

The assurance dimension demonstrates a generally positive consumer evaluation, with an overall mean of 3.721 (SD = 0.851). The highest-rated item was employees' product knowledge and ability to answer inquiries accurately (ASS1, M = 3.790, SD = 1.091), suggesting that staff expertise is a key contributor to consumer confidence. Courteous and enthusiastic service (ASS3, M = 3.746, SD = 1.177) also scored well, reflecting favorable perceptions of staff attitude and professionalism. Transparent policies that enhance trust (ASS4, M = 3.699, SD = 1.122) were evaluated moderately, while the sense of safety and reassurance during shopping (ASS2, M = 3.648, SD = 1.113) received the lowest rating, indicating that improvements in perceived security or consumer protection mechanisms may be needed. Overall, assurance remains a strength for Pangdonglai, though reinforcing transparency and safety measures could further consolidate customer trust and satisfaction.

Table 6. Mean and Standard Deviation Analysis of Assurance Factors

Code	Item Description	N	Minimum	Maximum	Mean	Standard Deviation
ASS1	Employees are familiar with the performance, characteristics, and	409	1	5	3.79	1.091

Code		N			Mean	SD
	usage of products sold, and can accurately answer customer inquiries.					
ASS2	I feel safe and assured when shopping at Pangdonglai.	409	1	5	3.648	1.113
ASS3	Staff provide courteous and enthusiastic service without showing impatience or shirking responsibilities.	409	1	5	3.746	1.177
ASS4	Pangdonglai enhances customer trust through transparent policies.	409	1	5	3.699	1.122
Overall	—	409	1	5	3.721	0.851

The empathy dimension is evaluated favorably overall (M = 3.759, SD = 0.864), with the highest score for reasonably arranged business hours (EMP3, M = 3.985, SD = 1.200), indicating that temporal convenience is a salient driver of perceived care. Attention to special groups (EMP2, M = 3.787, SD = 1.112) and relationship-oriented gestures such as membership programs or holiday greetings (EMP5, M = 3.729, SD = 1.158) are also positively appraised, suggesting effective inclusivity and ongoing relational maintenance. Willingness to make extra efforts for special requests (EMP4, M = 3.667, SD = 1.177) and personalized service from an empathic stance (EMP1, M = 3.626, SD = 1.180) receive comparatively lower—but still above-midpoint—ratings, implying room to deepen frontline personalization beyond schedule design and policy-level care. Taken together, these results show that Pangdonglai's empathy strengths are anchored in operational accessibility and inclusive practices, while targeted training to enhance individualized interactions could further elevate perceived empathy.

Table 7. Mean and Standard Deviation Analysis of Empathy Factors

Code	Item Description	N	Minimum	Maximum	Mean	Standard Deviation
EMP1	Employees can put themselves in customers' shoes and provide personalized services.	409	1	5	3.626	1.18

EMP2	Pangdonglai attends to the needs of special groups (e.g., the elderly, pregnant women, children).	409	1	5	3.787	1.112
EMP3	Business hours are reasonably arranged to facilitate customer shopping.	409	1	5	3.985	1.2
EMP4	When I have special requests, employees are willing to make extra efforts to meet them.	409	1	5	3.667	1.177
EMP5	Pangdonglai expresses care for customers through membership programs or holiday greetings.	409	1	5	3.729	1.158
Overall	—	409	1.2	5	3.759	0.864

5.2.2 Consumer Loyalty Analysis

The analysis of consumer loyalty indicates that Pangdonglai has cultivated a generally strong and stable loyal customer base, with an overall mean score of 3.752 (SD = 0.743). Among the four dimensions, cognitive loyalty achieved the highest mean (M = 3.830, SD = 0.855), suggesting that consumers strongly recognize Pangdonglai as a preferred supermarket in terms of awareness and perceived superiority. Conative loyalty (M = 3.782, SD = 0.852) also scored highly, reflecting customers' intention to continue shopping at Pangdonglai in the future. Affective loyalty (M = 3.710, SD =

0.837) demonstrates that emotional attachment to the brand is present but slightly less pronounced, while behavioral loyalty (M = 3.687, SD = 0.802) received the lowest rating, indicating that although customers identify with and plan to support Pangdonglai, their actual repeat purchase behaviors are somewhat less consistent. These findings suggest that while Pangdonglai has succeeded in shaping consumer perceptions and intentions, further strategies are needed to convert cognitive and conative loyalty into stronger behavioral manifestations, thereby reinforcing long-term customer retention.

Table 8. Mean and Standard Deviation Analysis of Consumer Loyalty Dimensions

Dimension	N	Minimum	Maximum	Mean	Standard Deviation
Cognitive Loyalty	409	1.25	5	3.83	0.855
Affective Loyalty	409	1.25	5	3.71	0.837
Conative Loyalty	409	1.25	5	3.782	0.852
Behavioral Loyalty	409	1.25	5	3.687	0.802
Overall	409	1.563	4.75	3.752	0.743

The results for cognitive loyalty demonstrate that Pangdonglai occupies a strong position in consumers' minds, with an overall mean of 3.83 (SD = 0.855). The highest-rated item was brand salience (CL1, M = 4.046, SD = 1.131), indicating that Pangdonglai is the first supermarket consumers recall when considering grocery purchases. Perceived value relative to competitors (CL3, M = 3.765, SD = 1.124) and knowledge of business philosophy and advantages (CL4, M = 3.765, SD = 1.146) also scored favorably, highlighting both consumer confidence in comparative value and familiarity with the brand's identity. Meanwhile, the belief that Pangdonglai outperforms others in product quality, price, and service (CL2, M = 3.743, SD = 1.107) received slightly lower but still positive evaluations, suggesting room for differentiation in competitive positioning. Overall, the findings confirm that Pangdonglai has successfully established strong brand recognition and perceived superiority, forming the cognitive foundation of customer loyalty.

Table 9. Mean and Standard Deviation Analysis of Cognitive Loyalty Factors

Code	Item	N	Min	Max	Mean	SD
CL1	When I need to purchase supermarket goods, Pangdonglai is the first store that comes to mind.	409	1	5	4.046	1.131
CL2	I believe Pangdonglai outperforms other supermarkets in terms of product quality, pricing, and service.	409	1	5	3.743	1.107
CL3	Even if other supermarkets offer lower promotional prices, I still believe Pangdonglai has better value.	409	1	5	3.765	1.124
CL4	I have a thorough understanding of Pangdonglai's business philosophy and	409	1	5	3.765	1.146

	N	Minimum	Maximum	Mean	
competitive advantages.					
Overall	409	1.25	5	3.83	0.855

The affective loyalty dimension reflects consumers' emotional connection with Pangdonglai, with an overall mean of 3.71 (SD = 0.837). The highest-rated item was the sense of warmth and pleasure evoked by the supermarket (AL2, M = 3.746, SD = 1.026), indicating that shopping at Pangdonglai generates positive emotional experiences. Emotional attachment and fondness (AL1, M = 3.719, SD = 1.138) and a sense of personal identification with the brand (AL3, M = 3.694, SD = 1.136) also received favorable ratings, though with slightly higher variability, suggesting that such sentiments are not uniformly shared across all respondents. The lowest score was associated with disappointment in response to negative news (AL4, M = 3.680, SD = 1.132), implying that while consumers generally hold positive feelings, their affective loyalty may not be deeply resilient under reputational challenges. Overall, the findings suggest that Pangdonglai has cultivated meaningful emotional bonds with its customers, though these bonds remain moderate in strength and may require further reinforcement through consistent brand communication and trust-building initiatives.

Table 10. Affective Loyalty — Item-Level Mean and Standard Deviation Analysis

Code	Item	N	Minimum	Maximum	Mean	Standard Deviation
AL1	I feel an emotional attachment and fondness toward Pangdonglai.	409	1	5	3.719	1.138
AL2	When thinking of Pangdonglai, I feel warmth and pleasure.	409	1	5	3.746	1.026
AL3	I am willing to regard Pangdonglai as "my own supermarket."	409	1	5	3.694	1.136
AL4	If negative news about Pangdonglai were reported, I would feel disappointed.	409	1	5	3.68	1.132
Overall		409	1.25	5	3.71	0.837

The conative loyalty results indicate that consumers exhibit strong future-oriented commitment to Pangdonglai, with an overall mean of 3.782 (SD = 0.852). The strongest intention was found in prioritizing

Pangdonglai for the next shopping trip (IL2, M = 4.083, SD = 1.130), reflecting high short-term purchase preference and a clear likelihood of repeat patronage. Long-term planning to continue using Pangdonglai as the primary supermarket (IL1, M = 3.721, SD = 1.127) and willingness to increase spending when possible (IL3, M = 3.667, SD = 1.151) also show favorable evaluations, though slightly less pronounced. The lowest-rated item concerned tolerance

for price increases (IL4, M = 3.658, SD = 1.170), suggesting that loyalty may weaken if economic costs rise, indicating some price sensitivity among consumers. Overall, the findings demonstrate that while conative loyalty is robust, particularly in short-term purchasing intentions, maintaining competitiveness in pricing and value remains crucial for sustaining long-term consumer commitment.

Table 11. Intentional Loyalty — Item-Level Mean and Standard Deviation Analysis

Code	Item	N	Minimum	Maximum	Mean	Standard Deviation
IL1	I plan to continue using Pangdonglai as my primary shopping venue in the future.	409	1	5	3.721	1.127
IL2	The next time I need supermarket shopping, I will prioritize Pangdonglai.	409	1	5	4.083	1.13
IL3	Whenever possible, I will increase my spending at Pangdonglai.	409	1	5	3.667	1.151
IL4	Even if Pangdonglai's prices increase slightly, I am still willing to purchase.	409	1	5	3.658	1.17
Overall		409	1.25	5	3.782	0.852

The analysis of behavioral loyalty shows that consumers demonstrate moderately strong loyalty in actual purchasing behavior, with an overall mean of 3.687 (SD = 0.802). The highest-rated item was the share of purchases accounted for by Pangdonglai (BL4, M = 3.753, SD = 1.087),

suggesting that the supermarket commands a significant portion of consumers' grocery spending. Willingness to make extra effort, such as taking a detour to shop at Pangdonglai (BL3, M = 3.687, SD = 1.138), and higher shopping frequency compared with other supermarkets (BL1, M =

3.675, SD = 1.043) also indicate stable patronage patterns. Active recommendations to friends and family (BL2, M = 3.633, SD = 1.168) scored slightly lower, implying that while customers are satisfied, their advocacy behavior is less consistent than their purchase behavior. Overall, the findings suggest that Pangdonglai has successfully translated attitudinal loyalty into regular shopping practices, but further efforts in stimulating word-of-mouth promotion could strengthen behavioral loyalty at the social influence level.

Table 12. Behavioral Loyalty — Item-Level Mean and Standard Deviation Analysis

Code	Item	N	Minimum	Maximum	Mean	Standard Deviation
BL1	Over the past 12 months, my shopping frequency at Pangdonglai has been significantly higher than at other supermarkets.	409	1	5	3.675	1.043
BL2	I actively recommend Pangdonglai to friends and family.	409	1	5	3.633	1.168
BL3	I am willing to take a detour or spend more time to shop at Pangdonglai.	409	1	5	3.687	1.138
BL4	Pangdonglai accounts for the largest proportion of my actual supermarket purchases.	409	1	5	3.753	1.087
Overall		409	1.25	5	3.687	0.802

5.2.3 Consumer Decision-Making Analysis for Pangdonglai

The results for consumer decision-making suggest that Pangdonglai exerts a considerable influence on shoppers' behavioral tendencies, with an overall mean of 3.739 (SD = 0.834). The strongest tendency was observed in unplanned purchases (CD3, M = 3.971, SD = 1.165), indicating that the supermarket's environment and offerings effectively stimulate impulse buying and product trial. Exceeding pre-set budgets (CD2, M = 3.694, SD = 1.112) and willingness to wait for restocked products (CD1, M = 3.658, SD = 1.116) reflect consumers' flexibility and trust in Pangdonglai's

service quality and product availability. The lowest score concerned schedule adjustments to experience unique services (CD4, M = 3.633, SD = 1.145), suggesting that while customers value distinctive offerings, time-related convenience still constrains their willingness to modify shopping routines.

Overall, the findings indicate that Pangdonglai successfully influences decision-making by fostering brand reliance and stimulating unplanned purchases, though further innovation in service differentiation could enhance consumers' willingness to adapt their schedules for the shopping experience.

Table 13. Consumer Decision-Making — Mean and Standard Deviation Analysis

Code	Item	N	Minimum	Maximum	Mean	Standard Deviation
CD1	Even if some products at Pangdonglai are out of stock, I will wait for restocking rather than go to another supermarket.	409	1	5	3.658	1.116
CD2	During this shopping trip, I spent more than the budget I set before entering the store.	409	1	5	3.694	1.112
CD3	During this visit to Pangdonglai, I purchased new products that were not originally on my shopping list.	409	1	5	3.971	1.165
CD4	I am willing to adjust my shopping time or schedule to experience Pangdonglai's unique services.	409	1	5	3.633	1.145
Overall		409	1.25	5	3.739	0.834

6.Discussions

The results of Objective 1 research showed that demographic characteristics significantly affect consumer decision-making at Pangdonglai Supermarket. The analysis of the 409 valid responses demonstrated clear differences across gender, marital status, age, educational attainment, monthly income, and purchase frequency. For example, younger consumers (18–34 years), who made up nearly 68% of the respondents, exhibited higher shopping frequency and stronger tendencies toward unplanned purchases, while married respondents (56.72%)

accounted for a larger share of consistent, budget-exceeding consumption. Income distribution further indicated that the majority of consumers (53.55%) belong to the 3,001–6,000 CNY monthly income group, which reflects the middle-income segment as Pangdonglai's core target market. These findings resonate with consumer behavior theory (Bakewell & Mitchell, 2003) and market segmentation theory (Claycamp & Massy, 1968), both of which emphasize that demographic heterogeneity conditions purchase preferences and decision-making tendencies. The results highlight that consumer decision-making in Pangdonglai is not homogeneous but shaped by life stage, economic resources, and shopping frequency.

The results of Objective 2 research showed that service quality has a direct and positive influence on consumer decision-making at Pangdonglai. The SERVQUAL-based analysis revealed that tangibility (M = 3.809) and empathy (M = 3.759) achieved the highest mean scores, while reliability, responsiveness, and assurance also contributed positively, albeit at slightly lower levels. Consumers valued the clean and modern environment (TAN1, M = 4.005) and convenience of product displays (TAN2, M = 3.809), while empathy-related factors such as reasonably arranged business hours (EMP3, M = 3.985) reinforced perceptions of care and inclusivity. At the same time, areas such as complaint handling (RES3, M = 3.675) and shopping safety (ASS2, M = 3.648) scored relatively lower, indicating improvement opportunities. Importantly, the positive evaluations of

tangibility and empathy were directly reflected in consumer decision-making outcomes, such as exceeding budgets (CD2, M = 3.694) and purchasing unplanned products (CD3, M = 3.971). This demonstrates that service quality at Pangdonglai not only meets consumer expectations but actively shapes purchasing behaviors, consistent with Parasuraman et al. (1988)'s SERVQUAL model.

The results of Objective 3 research showed that consumer loyalty strongly predicts consumer decision-making in Pangdonglai. The four dimensions of loyalty—cognitive (M = 3.83), affective (M = 3.71), conative (M = 3.782), and behavioral (M = 3.687)—all exceeded the midpoint of the Likert scale, confirming a generally loyal consumer base. Cognitive loyalty was the strongest, with consumers identifying Pangdonglai as their first choice supermarket (CL1, M = 4.046), followed by conative loyalty, where consumers expressed willingness to prioritize Pangdonglai in future shopping (IL2, M = 4.083). However, affective and behavioral loyalty showed relatively weaker results, particularly in word-of-mouth advocacy (BL2, M = 3.633). These findings align with Oliver (1999)'s four-stage loyalty framework, where cognitive and conative loyalty precede behavioral outcomes, but not all attitudinal commitments are fully translated into action. In Pangdonglai's case, loyalty already supports decision-making behaviors such as waiting for restocking (CD1, M = 3.658) and maintaining purchase consistency, but stronger strategies are needed to convert affective

attachment into advocacy and repeated behaviors.

7.Conclusion

This study investigated consumer decision-making at Pangdonglai Supermarket through the integration of demographic characteristics, service quality, and consumer loyalty. The results of RO1 confirmed that demographic factors such as gender, marital status, age, income, and shopping frequency significantly differentiate consumer behaviors, consistent with consumer behavior and segmentation theories. The results of RO2 showed that service quality, particularly tangibility and empathy, plays a decisive role in influencing shopping decisions, including unplanned purchases and willingness to exceed budgets, validating the SERVQUAL model in a regional supermarket context. The results of RO3 revealed that loyalty is a central determinant of decision-making, with cognitive and conative loyalty serving as stronger predictors than affective and behavioral loyalty, thus partially confirming Oliver (1999)'s loyalty framework in this setting. Collectively, these findings underscore that Pangdonglai's competitive advantage derives from its ability to combine demographic alignment, high service quality, and loyalty cultivation to reinforce consumer decision-making.

8.Recommendation

Several managerial recommendations arise from this study. First, Pangdonglai should enhance demographic targeting by tailoring its services to the needs of its primary consumer base: younger, married, and middle-income shoppers, while also exploring strategies to attract higher-income segments. Second, service quality improvements should focus on weaker areas such as complaint handling and consumer safety, while consolidating existing strengths in store environment and personalized services. Third, loyalty strategies need to go beyond cognitive recognition and purchase intentions by fostering deeper affective and behavioral commitment. This could be achieved through loyalty reward systems, community engagement, and consistent brand communication that encourages advocacy behaviors. Finally, maintaining competitive pricing remains crucial, given the sensitivity observed in conative loyalty responses to price increases. By addressing these areas, Pangdonglai can further strengthen consumer decision-making and long-term retention.

9.New Knowledge

This study provides new empirical insights by applying consumer behavior theory, market segmentation theory, SERVQUAL, and Oliver (1999)'s loyalty framework to a regional Chinese supermarket context. The results extend existing knowledge by showing that demographic heterogeneity conditions purchase decisions in distinct ways, service quality directly shapes consumer behaviors such as impulse buying, and loyalty amplifies the effects of service quality on decision-making. Importantly, the study demonstrates that in regional, non-standardized retail settings, cognitive and conative loyalty are more

influential than affective and behavioral loyalty, suggesting a partial translation of attitudes into behaviors. This empirical validation offers a novel contribution by integrating service quality and loyalty mechanisms into a single explanatory framework, showing how demographic, service, and loyalty factors jointly determine consumer decision-making. Thus, the model advances both theoretical understanding and managerial practice in China's evolving retail sector.

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