

Assessment and Prioritization of Customer Satisfaction Factors; Mediating Effect of Price and Atmosphere in Cafeteria Services of Private Schools in Malaysia

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ABSTRACT

With tuition fees that tag on top of premium schools, customer satisfaction with dining opportunities has become increasingly critical. While education focuses on the whole student, few studies have investigated factors associated with satisfaction with school dinners in a private school environment. This gap is addressed in the present study by examining five dimensions that include food and beverage quality, service quality, atmosphere, price and product variety at private school cafeterias in the south of Malaysia (Negeri Sembilan, Melaka and Johor). Quantitative research approach was employed, using a self-administered questionnaire which was completed by 168 participants obtained through random sampling of a 300-member population as per Krejcie and Morgan's sample size determination table. Food and beverage quality were the highest-rated factor in descriptive statistics (Mean = 3.66, SD = 0.34), followed by service quality (Mean = 3.51, SD = 0.37) and atmosphere (Mean = 3.44, SD = 0.34). Price (mean = 2.97, SD = 0.34) and product variety (mean = 2.90, SD = 0.38) represented lowest ratings, showing displeasure. Path analysis also indicated that product quality significantly affected the atmosphere ($O = 0.914$, $t = 91.94$, $p < 0.001$), price ($O = 0.926$, $t = 120.19$, $p < 0.001$) and customer satisfaction ($O = 1.080$, $t = 11.96$, $p < 0.001$). Atmosphere was also positively related to satisfaction ($O = 0.336$, $t = 4.18$, $p < 0.001$), whereas price had a weaker (non-significant) relationship ($O = 0.120$, $t = 1.72$, $p = 0.085$). Product variety had a negative correlation with satisfaction ($O = -0.624$, $t = 7.10$, $p < 0.001$). Overall, mediation analysis showed that atmosphere acted as significant mediator in the association between product quality and satisfaction ($O = 0.307$, $t = 4.15$, $p < 0.001$), while price did not ($O = 0.111$, $t = 1.72$, $p = 0.085$). The results demonstrate that product quality is the foremost factor driving satisfaction, with the atmosphere as the essential mediator and price and product variety having a weak or negative impact. In its theoretical dimension, this reinforces service quality and satisfaction models by focusing on product quality and experiential atmosphere as major constructs. Practically, the report says that schools should focus on the quality of their food and quality of their dining environment, implement a menu diversification policy to reduce choice and develop a transparent pricing strategy. These findings offer practical recommendations to school leaders in how to embed dining excellence into student well-being and institutional reputation..

Keywords: Customer satisfaction, cafeteria services, food quality, service quality, private schools, Malaysia

INTRODUCTION

Worldwide food service industry, which is multi-trillion dollars, has long since appreciated that its survival and expansion are dependent on comprehending and meeting customer requirement (Abdullah, Sufi & Kumar, 2022). And whether you are catering to fine dining establishments or quick-service restaurants, the universal paradigm for success is to provide a greater level of service quality that directly triggers or sparks customer satisfaction and loyalty (Pérez-Morón et al., 2022). It is examined from the experiential marketing aspect, through emotional value of the customers' experience in Eastern coastal regions (Li & Tang, 2024), to the critical service interactions including moments of truth that define the customer's experience (Doan, Mooney and Kim, 2023). As competition continues to pose the need for restaurants to pay close attention to a multitude of dimensions of their operations such as tangible aspects such as: quality of food and beverages (Kristiawan, Hartoyo, & Suharjo, 2021) and price (Andriani, Suryatunnisak, & Yurnal, 2024) and also intangible factors like store atmosphere (Munawaroh & Simon, 2023) and service logistics efficiency (Lin, Mamun, Yang, & Masukujjaman, 2023). Focusing on a particular segment of the global market, studies have well documented the factors influencing customer satisfaction across different food service environments. In the hospitality industry, research on five-star hotel restaurants has shown that the quality of food and service are key to customer satisfaction and retention (Talukder & Kumar, 2024; Abdullah, Sufi & Kumar, 2023). Likewise, the booming online food delivery industry is highly dependent on a seamless service ecosystem where the quality directly impacts customer satisfaction and loyalty (Siddiqi et al., 2024). Even niche markets like green restaurants have established that such specifics as sustainability practices are powerful determinants of patron satisfaction (Shahhosseini & Khalili Nasr, 2024). The general view of the same across these heterogeneous contexts is that finding and measuring and prioritizing service quality-related factors is more of a business necessity (Uslu & Eren, 2020). This gap, however, becomes larger when this global and commercial focus is tailored to the local, non-commercial locus: the school cafeteria.

PROBLEM STATEMENT

The problem of this study is in the significant contrast between the well-studied, customer-oriented paradigms of the private food service industry and that which has often underappreciated operational concerns that the cafeteria has operating in private schools. Global studies highlight that employee satisfaction mediates service quality (Mahafzah et al., 2020) and that customer experience fosters loyalty in B2B food industries (Sudiyono, Utomo & Severesia, 2022), however the school cafeteria carries out a unique form of constraint. It is one such captive-market setting with a certain subtype of clientele, that of students for whom their nutritional needs, taste preferences, and satisfaction are essential not only for commercial viability but also for their well-being and academic day (Cousins & Weekes, 2020). Yet, despite this important role, quantitative research that focuses specifically on solving the satisfaction factor that concerns this student population is notably lacking.

This gap highlights the urgent requirement of the current research. Although the existing body of knowledge establishes a solid theoretical basis of service quality and customer satisfaction, the application of that framework to the private school cafeteria setting has been under-explored and poorly measured. It is evident that we must no longer assume anything generic, and must empirically find the determinants of student customers, whether it be food quality, speed of service, price, facility cleanliness, or staff courtesy, that matter more to them. Thus, this research serves to evaluate and prioritize the satisfaction factors of the customers in the cafeteria services of private schools. Using the international food service industry's principles that already exist at a global level, this research will make a set of insights that can be used for an accurate and structured operation. Ultimately, it is hoped to establish a structure within which administrators can better monitor improvement within service levels that directly impact student satisfaction, foster healthy dining practices, and enable operational efficiency of the cafeteria service, bringing global service standards closer to local school operation practices.

LITERATURE REVIEW

Factors of Customer Satisfaction

While product and service quality are crucial, factors beyond this affect customer satisfaction. (Nuryana & Ryan, 2022). One such factor is brand awareness and perception. Brand awareness can raise perceived value and thereby satisfaction. (Nuryana & Ryan, 2022). Customer satisfaction is influenced significantly by the physical environment such as the ambiance and cleanliness experienced by a party at a dining establishment. (Jeaheng et al., 2020). Employee satisfaction plays a vital role too: happy employees provide better services; in turn, it can positively influence customer experience. (Mahafzah et al., 2020). Customer satisfaction comprises many facets involving the level of service, the quality of products, the image of the brand or company, and the prevailing environmental conditions. (Siddiqi et al., 2024). This is a key enabler of sustainable success by connecting organizational performance with customer loyalty. (Abdullah et al., 2022). This is a top-down approach that requires organisations to develop a holistic approach with service and product standards, as well as customer relationships, to reach this goal. (Ashari et al., 2023). Subsequent research may explore in the fast and competitive food and beverage industry how new technologies and personalized experiences influence satisfaction. (Li & Tang, 2024).

Hospitality studies emphasize how service quality, food standards, and the dining environment shape customer satisfaction, which directly applies to the management of school cafeterias. Singh et al. (2024). By viewing cafeterias through the lens of hospitality, schools can treat them not only as food outlets but as service-driven spaces where atmosphere and staff interaction matter as much as the meals themselves. Pathak (2025). This approach highlights the importance of aligning cafeteria operations with professional hospitality practices to enhance student well-being and institutional reputation. Española et al. (2024).

The integration of hospitality principles also underscores the need for systematic evaluation tools, innovation, and customer feedback in school dining services. Yang & Rojniruttikul (2025). Parents and students, especially in high-fee institutions, expect cafeteria services to reflect the same standards found in commercial hospitality settings, making satisfaction a critical benchmark. Manhas et al. (2024). By embedding hospitality-driven strategies such as product innovation, service etiquette training, and continuous quality improvement, school cafeterias can strengthen loyalty and trust while elevating their role within the educational ecosystem. Singh et al. (2024)

Customer Satisfaction in Private School Restaurants

Satisfaction among patrons of private school cafeterias is shaped by multiple aspects such as the efficiency of service, the standard of meals provided, and the overall dining environment (Nuryana & Ryan, 2022). In contexts where schools impose substantial tuition fees, both parents and students usually anticipate superior food-related provisions (Yas et al., 2024). Consequently, ensuring a consistently high level of satisfaction becomes essential for these institutions to align with those heightened expectations (Yas et al., 2024). Satisfaction is greatly influenced both by quality of service and food, according to multiple studies, while in turn affects a school's reputation, and consequently, student retention. (Carneiro et al., 2024). Customer contentment within private school cafeterias is shaped by diverse dimensions such as the caliber of service, the standard of meals, and the overall dining atmosphere (Rahman 2024).). In schools where tuition charges are substantial, both parents and students generally anticipate superior food-related provisions (Baguio, & Naelga, 2024).). Therefore, achieving exceptional satisfaction in these environments becomes indispensable to fulfilling those heightened expectations (Baguio, & Naelga, 2024b.). According to research, both service quality and food quality are determinants of satisfaction, and that satisfaction itself is reflected in the school's reputation and student retention. (Carneiro et al., 2024). Recent research highlights that private schools' cafeteria services are essential to the overall educational experience and are not merely auxiliary. (Cano & Hijada II, 2024). Seating comfort, cleanliness and ambiance in the dining environment can greatly affect

perceptions of quality by students, and by the parents of children attending the institution. (Singh et al., 2024). A well-managed cafeteria can foster a sense of community and belonging among students, and make them even more satisfied with their educational experience. (Cano & Hijada II, 2024). Furthermore, the nutritional value and consistency of food selections are also becoming more and more the concern for health-conscious parents, with the quality of the food being a major determinant of satisfaction. (Singh et al., 2024).

The customer satisfaction in this context is also affected by operational factors like menu variety, pricing fairness, and staff professionalism. (Abdullah et al., 2022). Whenever students receive tasty and nutritious meals, they can have better feelings about the school which helps to create loyalty and word-of-mouth. (Naini et al., 2022). Dissatisfaction on the other hand related to poor food quality or inadequate service would result in complaints, diminished interest in enrollment, and reputational damage. (Kristiawan et al., 2021). Hence, private schools need to consider their food service operations as strategic assets rather than logistical necessities. (Mahafzah et al., 2020). Moreover, customization of food services for dietary restrictions or culturally diverse menu options could increase the level of satisfaction even more. (Li & Tang, 2024). Moreover, technology integration, including digital ordering systems or feedback platforms, becomes an important aspect of the dining experience. (Siddiqi et al., 2024). These are the sorts of changes that not only make the process more efficient but also let students and their parents have a stake in decisions, and a voice for themselves that can build an inclusive community of consumers. (Pérez-Morón et al., 2022). Indeed, customer satisfaction in private school restaurants is nothing less than a multi-faceted and multidimensional construct that mirrors the institution's overall values and priorities. (Ashari et al., 2023). As a primary focus of schools with dedicated investment in high-quality food services, it can indicate their investment in a more holistic approach to student well-being, which can be an important aspect for parents seeking educational offerings. (Edgar & Ellitan 2024). With more and more private schools competing with one another, cafeteria excellence could prove to be the key differentiator in both students' attraction and retention. (Sudiyono et al., 2022)

Service Quality as a Determinant of Satisfaction

Service quality plays an important role in customer satisfaction in private school dining settings. (Abdullah et al., 2022). Research shows that prompt, polite, and attentive service makes a difference to the eating experience. (Abdullah et al., 2022). Staff responsiveness, cleanliness, precision on orders, and their matching to customer needs are critical for attaining high levels of satisfaction. (Pérez-Morón et al., 2022). In private schools, parents often see cafeteria service standards as an extension of the whole education system; hence providing them with the overall education system, the requirement for great service is always paramount. (Mahafzah et al., 2020)

Quality service is one of the primary elements in increasing customer satisfaction in private school dining experiences. (Abdullah et al., 2022). Service quality includes multiple dimensions, such as reliability, responsiveness, assurance, empathy, and tangibles, impacting the total dining experience. (Uslu & Eren, 2020). Research has found that speedy, courteous, and attentive service enhances the dining experience. (Abdullah et al., 2022). Staff behavior and professionalism are the first signs of the service quality students and their parents experience in school cafeterias. (Pérez-Morón et al., 2022). Staff responsiveness, cleanliness, and accuracy in meeting orders are significant components of achieving high satisfaction levels. (Pérez-Morón et al., 2022). Cleanliness is not just about cleanliness; it is also a mark of institutional standards and what the institution deems important and of its mission. (Jeaheng et al., 2020). Order fulfillment accuracy helps students get what they expect, minimize frustration, and increase trust in the cafeteria system. (Mahafzah et al., 2020). When it comes to private schools, parents tend to associate cafeteria service standards with overall education quality, which means that making service levels very high goes a long way. (Mahafzah et al., 2020). That's because their whole school, including food supplies, should measure up to the amount of premium fees paid and their commitment to quality that is in keeping with the general attitude they share as an institution. (Abdullah et al., 2023). When the quality and standard of services are high for the service, it adds to the reputation

of the school, a plus for the positive word-of-mouth from their parents and the community. (Ashari et al., 2023). Bad service, on the other hand, may result in discontent, complaints, or even influence school enrollment choices. (Kristiawan et al., 2021).

Furthermore, the service quality in the cafeteria is increasingly raised with technology applications such as digital ordering systems in a school cafeteria and real-time feedback platforms. (Siddiqi et al., 2024). In addition, these innovations streamline operations and allow for quicker response to customer needs, further improving satisfaction. (Li & Tang, 2024). Training of cafeteria staff on communication, cultural sensitivity, and customer service skills is also essential in-service level in the cafeteria. (Talukder & Kumar, 2024). Service quality is not simply about serving food; it is about a positive, respectful, and efficient atmosphere congruent with the institute's ethos of education. (Doan et al., 2023). Private schools that put superior service in their eating environment will be in the position to engender loyalty, satisfaction, and long-term engagement among both students and parents. (Leoparjo et al., 2023).

Food Quality and Its Impact on Satisfaction

While service quality plays a significant role, the primary influence in enhancing satisfaction in school dining is the quality of food. (Hidayat et al., 2020). Research indicates that children and parents use taste, freshness, nutritional quality, and visual appeal as key criteria in evaluating foods. (Naini et al., 2022). Satisfaction levels rise significantly when these food attributes meet expectations. (Naini et al., 2022). Even excellent service cannot compensate for poor food quality, which can lead to dissatisfaction. (Kristiawan et al., 2021). Delivering good-quality meals is very much needed at premium private schools in order to justify their high costs and to keep the customers as satisfied as possible. (Abdullah et al., 2023). While service quality is paramount, the degree of food quality is oftentimes the primary driver of satisfaction in school dining. (Hidayat et al., 2020). Food quality can include taste, freshness, nutritional value, portion size, presentation, and so on. (Naini et al., 2022). Results indicate that students and parents assess food by its taste, freshness, nutritional content, and visual appeal. (Naini et al., 2022). Higher satisfaction levels are experienced as food attributes meet expectations. (Naini et al., 2022). Taste remains the most immediate, and often the most emotionally resonant, determinant of initial impression of the cafeteria experience. (Kristiawan et al., 2021). Freshness and nutrition are especially critical in school settings, in which, as parents, we expect foods to be supportive of children's health and cognitive outcomes. (Naini et al., 2022). Especially among young students, the visual appeal can also affect appetite and perception of quality. (Ashari et al., 2023). However, exceptional service does not make up for poor food quality, which will ultimately lead to dissatisfaction. (Kristiawan et al., 2021). Bad experiences with food: bland taste, stale ingredients, poor hygiene, etc., could cloud an otherwise great service and tarnish the school's reputation. (Mahafzah et al., 2020). Inconsistent food quality can also lead to decreased cafeteria usage, more complaints, and less faith in the institution's dedication to serving students. (Sudiyono et al., 2022). High quality meals are critical in private premium schools to justify the high cost and keep visitors happy with their experience at premium private schools. (Abdullah et al., 2023). Higher fee-paying parents typically expect food offerings that they can feel match the school's overall standards of excellence. (Edgar & Ellitan 2024). Those schools that fall below the standard risk losing competitive advantage and reputational damage. (Pérez-Morón et al., 2022).

Furthermore, the quality of food is also becoming more in line with the broader educational achievements, there are studies indicating how eating well-balanced foods contribute to high concentration and educational achievement. (Bandara & Dahanayake, 2020). This also proves the need to invest more in the quality of items and cooking techniques in all school cafeterias. (Dandotiya et al., 2020). Satisfaction may be further improved through customization and dietary adjustments such as vegetarian options, allergen-free meals, and culturally inclusive menus. (Jeaheng et al., 2020). Technology is part of the equation, too digital menus and feedback systems enable schools to track preferences and enhance offerings. (Siddiqi et al., 2024). Ultimately, food quality is not merely a question of taste, it is tied to the institution's values, priorities and commitment to student well-being.

(Abdullah et al., 2022). Private schools that have made food-focused service excellence a virtue is more likely to ensure that they acquire loyalty from students, parents and the long-term positive impact on their child. (Leoparjo et al., 2023).

School Cafeterias in a Hospitality Context

School cafeterias can be robustly framed within the established paradigm of hospitality management, operating as a distinct service environment where core hospitality principles are directly applicable (Singh et al., 2024). The servicescape the physical environment and ambiance is a foundational concept in hospitality, known to significantly influence customer perceptions and satisfaction in casual dining restaurants (Singh et al., 2024). This principle translates directly to the school cafeteria, where factors such as seating comfort, lighting, noise levels, and cleanliness form the dining atmosphere that impacts the user experience (Rahman, 2024). Similarly, the central tenet of service quality, a critical driver of customer satisfaction in restaurant settings, is equally vital in a cafeteria context (Pathak, 2025). The efficiency and courtesy of serving staff, the speed of service, and the accuracy of orders are all measurable aspects of service quality that shape the daily satisfaction of students, parents, and staff, mirroring the dynamics found in commercial food service studies (Española et al., 2024).

The core objective of maximizing customer satisfaction and loyalty, which is the ultimate focus of hospitality studies, is directly relevant to the operational goals of a school cafeteria. Research consistently demonstrates that customer satisfaction in restaurants is a function of multiple attributes, including food quality, value, and the overall experience (Yang & Rojniruttikul, 2025). In the specific context of educational institutions, studies confirm that the quality of cafeteria services encompassing food variety, taste, and nutritional value is a decisive factor in achieving student satisfaction (Baguio & Naelga, 2024a). This satisfaction is not an end in itself; it acts as a catalyst for positive behavioral outcomes, such as repeat patronage and loyalty, which in a school setting translates to consistent utilization of the cafeteria services and a more positive perception of the institution's ancillary offerings (Manhas et al., 2024; Cousins, & Weekes, 2020).

Therefore, applying a hospitality lens to school cafeterias is not merely an academic exercise but a practical framework for analysis and improvement. Through viewing the cafeteria through the same theoretical models used for commercial restaurants, administrators can systematically identify key levers for enhancement. Empirical work in university settings has already validated this approach, demonstrating that improvements in tangible service attributes directly lead to higher levels of customer satisfaction (Baguio & Naelga, 2024b).

METHODOLOGY

The study employed quantitative research design as quantitative research design that allows systematic examination of the determinants of customer satisfaction in private school restaurants via smart pls and spss. Quantitative methods are especially appropriate for exploring trends, confirming hypotheses, and deriving overall results from the numerical data. The study utilized a cross-sectional survey study design, which means data can be collected only once in a defined population. A self-administered questionnaire was constructed as the main data collection tool that allowed participants to share structured responses in service quality, food quality, and general satisfaction.

The development of the questionnaire was a multi-stage process designed to ensure its accuracy and effectiveness. The initial construction involved adapting and integrating existing items and instruments from previous, similar research studies to ensure the questionnaire accurately measured the core variables of the study, such as cafeteria attributes and customer satisfaction. This approach of using established sources helps in replicating and comparing findings with other studies. The questionnaire utilized a 5-point Likert scale, a scientifically validated psychometric tool, to measure respondents' attitudes by having them indicate their level of satisfaction with various statements.

To ensure the questionnaire's quality, it underwent rigorous validation and testing. Content validity was established by having the questionnaire reviewed and validated by four subject-matter experts in management and the food and beverage industry, ensuring the items adequately covered the concepts being studied. Following this, a pilot study was conducted with 30 respondents who shared the same characteristics as the target population. This pilot test served to refine the questionnaire by identifying and rectifying any issues with clarity, presentation, or procedure. Finally, the reliability of the questionnaire was statistically confirmed using Cronbach's Alpha analysis on the pilot study data, which yielded high internal consistency scores (between $\alpha = .821$ and $\alpha = .925$), as shown in table 1; confirming that the items reliably measured their intended constructs.

As closed-ended questionnaire, of Likert scale, was developed to facilitate the consistent data analysis, Simple random sampling was used as its sampling technique to guarantee representativeness. This approach was selected to avoid selection bias and ensure the individual was equally likely to be chosen. The sample frame included 300 individuals affiliated with private institutions of learning in the southern region of Malaysia. According to the table of sample size determination (Krejcie & Morgan, 1970), 168 individuals constituted a suitable sample size for this population. The sample size is adequate to reveal an impactful relationship between the factors under examination. Respondents were students, parents, and staff members frequenting cafeteria food service provision at their schools. This study combines students, parents, and staff into a single sample because they collectively represent the primary user base, or "patrons," of the school cafeteria. The research aims to assess the overall performance and service quality of the cafeteria from the perspective of its entire clientele, rather than to conduct a comparative analysis between these distinct groups. By treating them as a unified sample, the study captures a holistic view of customer satisfaction across the entire community that directly interacts with the service. The southern region of Malaysia comprising Negeri Sembilan, Melaka, and Johor was chosen as the geographical focus of this study due to its diverse educational landscape and growing number of private institutions. These states cover some urban and semi-urban environments, lending themselves to the exploration of customer satisfaction for the setting, particularly school dining. Also, a rise in private education investment in the area has resulted in a relevant and timely area in the research interest area. The results from this study will provide important information to school administrators and policymakers of food service quality, as well as to policymakers who would strive for improving the service quality and student experience while providing a venue for the experience of private schools.

Table 1: pilot test Cronbach's Alpha and reliability of research constructs

Construct	No. of Items	Cronbach's Alpha	Reliability
1. Atmosphere	5	0.821	Good
2. Price	5	0.887	Good
3. Service Quality	5	0.901	Very Good
4. Product Variety	6	0.802	Good
5. F&B Quality	5	0.925	Very Good
6. Customer's Satisfaction	5	0.867	Good

FINDINGS AND DISCUSSIONS

Normality

The results demonstrate that the data have met the normality distribution criteria, as all skewness and excess kurtosis values fall within the acceptable ± 3 threshold. The means and medians are closely aligned, indicating relatively symmetrical distributions, while the standard deviations show moderate variability across items. Although the Cramér-von Mises test yielded p-values of 0.000, suggesting statistical deviations from strict normality, the descriptive measures of skewness and kurtosis confirm that the data are approximately normally distributed and therefore satisfy the normality assumption for further analysis. Write your content here (single spacing, 11pt Times New Roman, justify).

Table 2: Normality assessments

Name	Mean	Median	Standard deviation	Excess kurtosis	Skewness	Cramér-von Mises p value
PRDQ1	4.277	4.000	0.643	-0.411	-0.393	0.000
PRDQ2	3.693	4.000	1.110	0.832	-1.077	0.000
PRDQ3	3.277	3.000	1.223	-0.900	0.186	0.000
PRDQ4	3.952	4.000	0.923	1.677	-1.132	0.000
PRDQ5	4.275	4.000	0.638	-0.688	-0.315	0.000
PRDVR1	4.568	5.000	0.677	0.633	-1.334	0.000
PRDVR2	4.275	4.000	0.638	-0.688	-0.315	0.000
PRDVR3	4.240	5.000	1.007	2.011	-1.518	0.000
PRDVR4	4.275	4.000	0.638	-0.688	-0.315	0.000
PRDVR5	4.275	4.000	0.638	-0.688	-0.315	0.000
PRICE1	4.280	4.000	0.644	-0.415	-0.400	0.000
PRICE2	4.307	4.000	0.823	1.496	-1.314	0.000
PRICE3	4.275	4.000	0.638	-0.688	-0.315	0.000
PRICE4	4.448	5.000	0.724	2.366	-1.466	0.000
PRICE5	4.312	4.000	0.701	1.964	-1.126	0.000
ATMS1	4.485	5.000	0.623	-0.356	-0.807	0.000
ATMS2	3.893	4.000	1.050	0.445	-0.991	0.000
ATMS3	4.379	5.000	0.964	3.847	-1.987	0.000
ATMS4	4.275	4.000	0.638	-0.688	-0.315	0.000
ATMS5	3.653	4.000	1.125	0.697	-1.045	0.000
CUSTS1	4.437	5.000	0.674	3.027	-1.424	0.000
CUSTS2	4.277	4.000	0.656	-0.200	-0.476	0.000
CUSTS3	3.701	4.000	1.108	0.874	-1.089	0.000
CUSTS4	3.715	4.000	1.120	0.800	-1.078	0.000
CUSTS5	3.736	4.000	1.106	-0.470	-0.615	0.000

Note: source authors analysis

Quality criteria

R-square

The R-square results indicate strong explanatory power of the model, with Atmosphere ($R^2 = 0.835$), Price ($R^2 = 0.857$), and Customer Satisfaction ($R^2 = 0.899$) all showing high levels of variance explained. The adjusted R-square values are nearly identical, confirming the robustness of the model without

overfitting. These findings suggest that the constructs are well represented and that the predictors contribute meaningfully to the explained variance in the dependent variables

Table 3: R-square

	R-square	R-square adjusted
Atmosphere	0.835	0.835
Customers Satisfaction	0.899	0.898
Price	0.857	0.857

f-square

The f-square effect sizes further highlight the strength of relationships among constructs. Product Quality demonstrates substantial effects on Atmosphere (5.065), Price (5.991), and Customer Satisfaction (0.939), underscoring its central role in driving perceptions. Price also shows a large effect on Customer Satisfaction (0.555), while Atmosphere has a smaller but notable effect (0.173). Product Variety contributes moderately to Customer Satisfaction (0.356). Overall, the results confirm that Product Quality is the most influential factor, with Price and Atmosphere also playing significant roles in shaping Customer Satisfaction

Table 4: R-square

	Atmosphere	Customers Satisfaction	Price
Atmosphere		0.173	
Customers Satisfaction			
Price		0.921	
Product Quality	5.065	0.939	5.991
Product Variety		0.356	

Table 5: f-square

	f-square
Atmosphere -> Customers Satisfaction	0.173
Price -> Customers Satisfaction	0.555
Product Quality -> Atmosphere	5.065
Product Quality -> Customers Satisfaction	0.939
Product Quality -> Price	5.991
Product Variety -> Customers Satisfaction	0.356

Construct reliability and validity

The construct reliability and validity results demonstrate that all measures meet recommended thresholds, confirming internal consistency and convergent validity. Cronbach’s alpha values range from 0.734 to 0.817, exceeding the minimum acceptable level of 0.70, while composite reliability (rho_c) values fall between 0.828 and 0.881, further supporting the reliability of the constructs. Similarly, rho_a values are consistently high, ranging from 0.855 to 0.981, indicating strong internal consistency across items.

The Average Variance Extracted (AVE) values also meet the recommended threshold of 0.50, with scores between 0.504 and 0.639, confirming adequate convergent validity. Among the constructs, Product Variety shows the strongest reliability and validity ($\alpha = 0.817$, $\rho_a = 0.981$,

$\rho_c = 0.881$, $AVE = 0.639$), while Customer Satisfaction, Atmosphere, Price, and Product Quality also demonstrate satisfactory levels. Overall, these results confirm that the measurement model is both reliable and valid, providing a solid foundation for further structural analysis.

Table 6: Construct reliability and validity

	Cronbach's alpha	Composite reliability (ρ_a)	Composite reliability (ρ_c)	Average variance extracted (AVE)
Atmosphere	0.765	0.859	0.828	0.504
Customers Satisfaction	0.734	0.895	0.832	0.539
Price	0.769	0.855	0.839	0.524
Product Quality	0.750	0.880	0.841	0.560
Product Variety	0.817	0.981	0.881	0.639

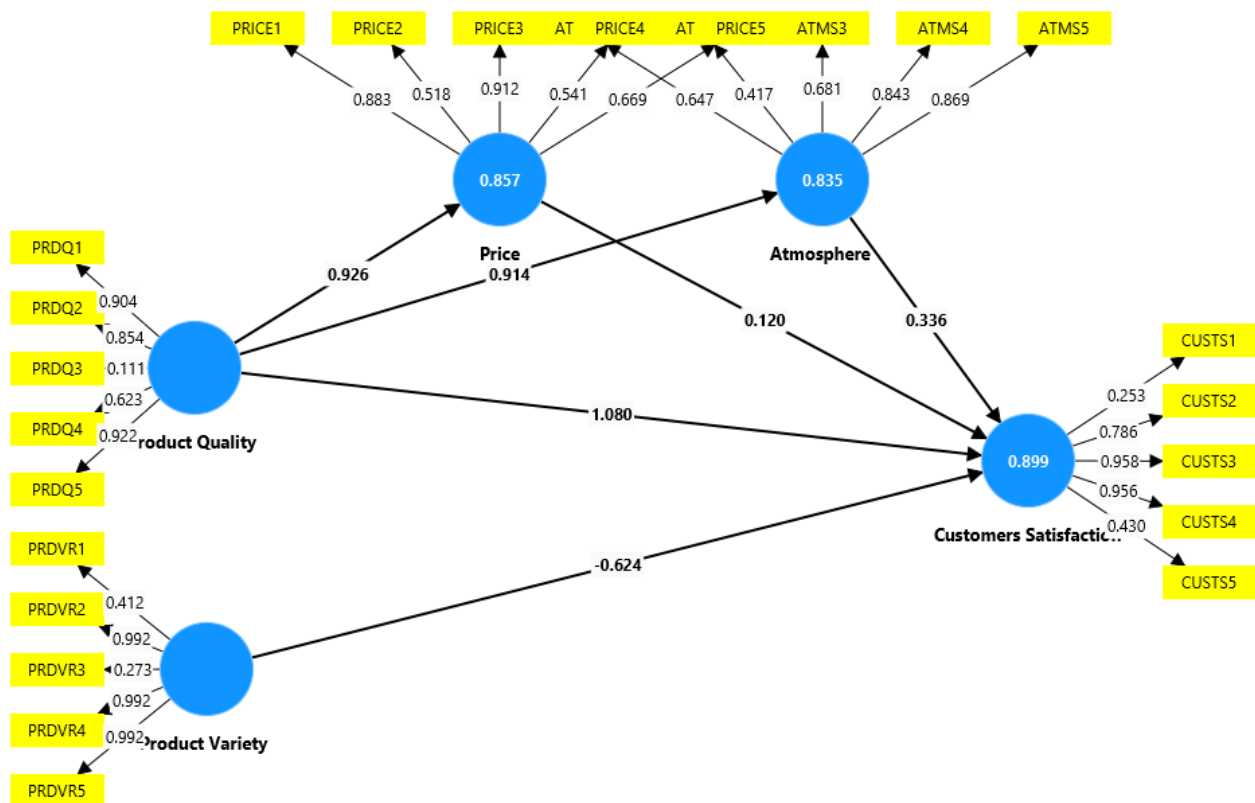
Discriminant validity

The Fornell-Larcker criterion results confirm discriminant validity, as the square roots of the AVE for each construct (Atmosphere = 0.710, Customer Satisfaction = 0.734, Price = 0.724, Product Quality = 0.748, Product Variety = 0.799) are all greater than their corresponding inter-construct correlations. This indicates that each construct shares more variance with its own indicators than with other constructs, thereby establishing adequate discriminant validity within the measurement model.

Table 7: Fornell-Larcker criterion

	Atmosphere	Customers Satisfaction	Price	Product Quality	Product Variety
Atmosphere	0.710				
Customers Satisfaction	0.889	0.734			
Price	0.881	0.830	0.724		
Product Quality	0.914	0.917	0.926	0.748	
Product Variety	0.863	0.783	0.938	0.931	0.799

Figure 1: Structural model



Path coefficients

The path coefficient results highlight the significant relationships among the constructs. Atmosphere has a positive and significant effect on Customer Satisfaction ($O = 0.336$, $t = 4.184$, $p < 0.001$), confirming its role in shaping customer perceptions. Price shows a weaker effect on Customer Satisfaction ($O = 0.120$, $t = 1.720$, $p = 0.085$), which is not statistically significant, suggesting that price alone may not strongly drive satisfaction in this context.

Product Quality emerges as the most influential construct, exerting very strong and highly significant effects on Atmosphere ($O = 0.914$, $t = 91.937$, $p < 0.001$), Price ($O = 0.926$, $t = 120.191$, $p < 0.001$), and Customer Satisfaction ($O = 1.080$, $t = 11.959$, $p < 0.001$). Interestingly, Product Variety shows a significant negative effect on Customer Satisfaction ($O = -0.624$, $t = 7.096$, $p < 0.001$), indicating that greater variety may reduce satisfaction, possibly due to choice overload or inconsistency in perceived quality. Overall, the findings emphasize Product Quality as the strongest driver of outcomes, while Atmosphere contributes positively, Price has limited influence, and Product Variety exerts an unexpected negative impact. The direct path findings of this study highlight the strong and significant influence of product quality on atmosphere, price, and customer satisfaction, which aligns with prior research emphasizing the centrality of product and service quality in hospitality contexts. Abdullah, Sufi, and Kumar (2022, 2023) demonstrated that food and beverage quality, alongside service quality, significantly enhances customer satisfaction and loyalty in five-star hotel restaurants. Similarly, Kristiawan, Hartoyo, and Suharjo (2021) found that product quality plays a decisive role in shaping satisfaction in fast-food settings, while Munawaroh and Simon (2023) confirmed that atmosphere, service quality, and price also contribute meaningfully to satisfaction. These findings are reinforced by Bandara and Dahanayake (2020), who showed that food and beverage service quality directly impacts satisfaction in star-graded hotels, and by Dandotiya et al. (2020), who highlighted the importance of product quality in passenger satisfaction

in the railway sector. Collectively, these studies support the direct effects observed, underscoring product quality as the strongest driver of customer satisfaction, with atmosphere and price acting as complementary factors.

Table 8: path coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Atmosphere -> Customers Satisfaction	0.336	0.342	0.080	4.184	0.000
Price -> Customers Satisfaction	0.120	0.125	0.070	1.720	0.085
Product Quality -> Atmosphere	0.914	0.914	0.010	91.937	0.000
Product Quality -> Customers Satisfaction	1.080	1.074	0.090	11.959	0.000
Product Quality -> Price	0.926	0.926	0.008	120.191	0.000
Product Variety -> Customers Satisfaction	-0.624	-0.630	0.088	7.096	0.000

Mediation analysis

The mediation analysis shows that Price mediates the relationship between Product Quality and Customer Satisfaction, with an indirect effect of 0.111 ($t = 1.721$, $p = 0.085$). However, this path is not statistically significant, indicating that Price does not serve as a meaningful mediator in this relationship. In contrast, Atmosphere mediates the relationship between Product Quality and Customer Satisfaction, with a significant indirect effect of 0.307 ($t = 4.151$, $p < 0.001$). This confirms that Atmosphere plays a crucial mediating role, strengthening the impact of Product Quality on Customer Satisfaction.

The mediation analysis further reveals that atmosphere significantly mediates the relationship between product quality and customer satisfaction, while price does not play a meaningful mediating role. This is consistent with Andriani et al. (2024), who found that service quality and price directly affect satisfaction but that atmosphere and experiential elements often strengthen the customer experience. Ashari, Siregar, and Halim (2023) also emphasized that perceived price influences loyalty only when mediated by satisfaction, suggesting that price alone may not be sufficient to drive positive outcomes. In contrast, atmosphere has been shown to enhance the emotional and experiential value of service encounters, as highlighted by Syaifudin and Suriyok (2022) and Sriyanti et al. (2023), who demonstrated that store atmosphere mediates the effect of product and service quality on satisfaction and loyalty. These findings collectively support the current study's results, confirming that atmosphere acts as a crucial mediator in translating product quality into customer satisfaction, while price plays a weaker role in this indirect relationship.

The results signify that product quality is the most dominant driver of customer satisfaction, exerting strong direct effects on atmosphere, price, and satisfaction, while atmosphere also plays a significant mediating role. Price, however, shows only a weak and statistically insignificant effect, suggesting that while customers value fair pricing, their satisfaction is more strongly shaped by the perceived quality of products and the experiential environment. Interestingly, product variety negatively influences satisfaction, which may indicate issues such as choice overload or inconsistency in maintaining quality across a wide range of offerings.

From a theoretical perspective, these findings reinforce service quality and customer satisfaction models (e.g., SERVQUAL, expectancy-disconfirmation theory) by highlighting product quality and atmosphere as critical constructs that extend beyond functional service delivery. They support prior studies that emphasize the experiential and emotional dimensions of satisfaction,

showing that atmosphere mediates the quality–satisfaction link. From a practical standpoint, managers in hospitality and food service industries should prioritize maintaining high product quality and enhancing atmosphere to strengthen customer satisfaction. Efforts to expand product variety should be carefully managed to avoid overwhelming customers or diluting quality. Pricing strategies should remain competitive but not be relied upon as the primary satisfaction driver, as customers appear more willing to pay when quality and atmosphere are consistently strong. This provides actionable guidance for resource allocation, staff training, and strategic focus in service operations

Table 9: Mediation Analysis

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Product Quality -> Price -> Customers Satisfaction	0.111	0.115	0.064	1.721	0.085
Product Quality -> Atmosphere -> Customers Satisfaction	0.307	0.313	0.074	4.151	0.000

Exploring factors of satisfaction

Atmosphere

The first factor being investigated was in terms of atmosphere, which includes the furnishing, cleanliness and ambience of the cafeteria. Table 9 demonstrates the mean and standard deviation of customer's satisfaction on the atmosphere factor at the cafeteria.

Table 10: Atmosphere Factor

No.	Item	Mean	SD	Level
1.	Cleanliness and hygiene	4.08	0.71	High
2.	Comfort and Seating Availability (Number of Table and Chairs is Sufficient)	2.94	0.98	Low
3.	Ambience	3.76	0.83	Moderate
4.	Lighting	3.95	0.72	High
5.	Organization of Delivery Process	2.48	1.07	Low
	Overall Mean	3.44	0.34	

The atmosphere of the cafeteria was judged from the above factors, including cleanliness and hygiene of the eating space, comfort and seating availability, ambience, lighting, and organization of the delivery process. As shown in Table 10, cleanliness and hygiene was rated highest in satisfaction with mean (4.08) and standard deviation (0.71), demonstrating customer favor. Lighting also received a favorable score with a mean of 3.95 and a standard deviation of 0.72, consistent with the favorable evaluation of the cafeteria lighting. Ambience was rated moderate (average of 3.76, SD=0.83) with room for improvement to create an inviting atmosphere. However, comfort and seating availability, as well as the organization of the delivery process, were rated low with means of 2.94 and 2.48, respectively, which pointed to a lack of satisfaction from respondents. The average atmosphere score was 3.44 (mean and standard deviation is 0.34), showing a level of satisfaction among participants that is moderate.

According to Table 10, the atmosphere for the cafeteria was assessed with respect to the study population in general (M = 3.44, SD = 0.34). Cleanliness and hygiene had the highest score of satisfaction (M = 4.08, SD = 0.71), followed closely by lighting, with a similarly moderate rating (M = 3.95, SD = 0.72). These results indicate that customers value their clean and well-lit environment, consistent with previous literature on the importance of hygiene and the physical environment in influencing customer satisfaction. For example, Abdullah, Sufi and Kumar (2022) established that cleanliness and ambience have important impacts on the customer loyalty in five-star hotel establishments, illustrating that hygiene is often considered as one of the most indispensable qualities of service. Ambience was moderate rated, (M = 3.76, SD = 0.83), meaning the cafeteria environment

was acceptable for the customers; however, the atmosphere could still be improved to make it a more stimulating and welcoming. This is consistent with Munawaroh and Simon (2023) in terms of store atmosphere (featuring decor, music, and the way the space is designed), that is, how the store experiences positively affect customer satisfaction. In a related sense as well, Jeaheng, Al-Ansi, and Han (2020) point out that ambience also influences service quality and trust perceptions in hospitality environments that respond to varied cultural needs. On the other hand, comfort and seating facilities ($M = 2.94$, $SD = 0.98$) and structure in the delivery process ($M = 2.48$, $SD = 1.07$) were rated at the same level as low, indicating low satisfaction among the respondents. Restaurant design and provision of service have limited seating space and have to be improved as well, as the convenience of comfortable and convenient service is usually the thing that will make us satisfied with the experience, even if we don't eat.

The results were in agreement with the results of Andriani et al. (2024), and the authors also found that seating and services efficiency had great impact on the comfort or dissatisfaction of consumers in restaurant spaces (2024). In a similar vein, Bandara and Dahanayake (2020) pointed out that poor service organization can also influence perceived quality of service, even when food and hygiene conditions are being observed. On the whole the findings provide that if cleanliness and lighting is a good thing in cafeteria, there is room to enhance seating, ambience improvement in order to improve the overall customer interaction and the layout of the logistics process in customer service room management, in order to increase that. These implications complement the wider literature that sees atmosphere as a multidimensional construct affecting satisfaction and loyalty (Ashari, Siregar & Halim, 2023; Kristiawan, Hartoyo & Suharjo, 2021). Focusing on the weak parts of the above dimensions can also lead to higher customer retention and the creation of more positive word of mouth based on the findings of Edgar and Ellitan (2024) that service quality improvement led to positively significant improvement in repurchase intentions.

Price

The second factor of customer's satisfaction in cafeteria services being investigated in this study was price factor. Table 11 displays the mean and standard deviation of customer's satisfaction on price factor at the cafeteria.

Table 11: Price Factor

No.	Item	Mean	SD	Level
1.	Quality of Foods and Beverages Product Provided vs the Price Paid.	4.53	0.64	V.high
2.	Quantity of Foods and Beverages Product Provided vs the Price Paid	2.15	0.81	Low
3.	Price Charged are fairly acceptance based on the menu provided by the cafeteria	2.14	0.86	Low
4.	Price-quality ratio (ratio or trade-off between quality of the service and monetary costs)	3.98	0.70	High
5.	Price transparency (clear, comprehensive, current and effortless overview about as companies quoted prices.	2.04	0.80	Low
Overall Mean:		2.97	0.34	

Price factor in cafeteria services (price - perceived value, fairness, and transparency) customer satisfactions was analyzed. As shown in Table 10, respondents viewed the quality of food and beverages received, in relation to the price paid, highly, with mean levels of 4.53 ($SD = 0.64$), indicating a high satisfaction factor with the price of the food and beverages. On the other hand, the quantity of food and beverages provided for the price scored low, evidenced by a mean of 2.15, with a standard deviation of 0.81, indicating dissatisfaction for portion sizes. Likewise, the fairness of prices as determined by the menu items was low (mean = 2.14, $SD = 0.86$), and price transparency was low (mean = 2.04, $SD =$

0.80), indicative of problems in determining and justifying pricing. The price-quality ratio was also good (mean = 3.98, SD = 0.70), indicating that the quality was reasonable in the general view among consumers even if other pricing elements were perceived as unfavorable. In particular, the mean score for price factor was 2.97 and had a standard deviation of 0.34, demonstrating a moderate level of satisfaction from the respondents.

The study findings from Table 10 show a mixed impression on price satisfaction among cafeteria customers. According to respondents, customers value the food and drink quality at 4.53 for the price paid (M = 4.53, SD = 0.64) - so the customers expect that their cost will be matched by a good quality. It appears the cafeteria has been more successful in placing its food as having great taste and quality. These results are consistent with Ashari, Siregar and Halim (2023), where the study found that both price fairness and food quality are strong determinants of customer loyalty via satisfaction. In reality, this means that keeping food quality is a significant factor when it comes to retaining customers despite less favorable pricing dimensions. But the dissatisfaction was reflected on portion sizes (M = 2.15, SD = 0.81), fairness of menu prices (M = 2.14, SD = 0.86), and price transparency (M = 2.04, SD = 0.80). These low scores point to practical hurdles: customers believe that the amount of food they receive does not justify their purchase price, that menu pricing is unjust, and that transparency in price is insufficient. Such dissatisfaction can undermine trust and reduce repeat purchasing behavior. Previous research supports this concern. For instance, Munawaroh and Simon (2023) pointed out that perceived fairness and transparency in pricing are important for continuous customer satisfaction throughout food and beverage sales. Also, Jeaheng, Al-Ansi and Han (2020) find that perceived price fairness directly impacts trust and loyalty of Muslim travelers, indicating a crucial role of transparent and fair pricing. The price-quality ratio (M = 3.98, SD = 0.70) was also high, which suggests that customers in most cases trust that service and food is worth the money. Such a conclusion demonstrates that although customers will pay for good quality, they are still sensitive to notions of fairness and transparency. In reality, this means cafeterias should find a good balance between quality and quantity with regard to portion sizes, or should communicate the pricing structure in a precise way. Bandara and Dahanayake (2020) also showed the same situation regarding hotel restaurants, that high quality mitigates cost, while absence of fair pricing can reduce overall satisfaction. The average price score is moderate satisfaction (M = 2.97, SD = 0.34), indicating that although quality is a strong indicator in terms of the service/quality, pricing can always be improved. In real terms, this suggests cafeteria managers need to pay attention to portion control, menu pricing strategies and communicating costs honestly, in order to build customer trust or satisfaction. Edgar & Ellitan (2024) found that customer loyalty is influenced by satisfaction with both quality and fairness of pricing; therefore, the mitigation of these shortcomings will affect repurchase intention.

Service Quality

The next factor of customer's satisfaction in cafeteria services being investigated was service quality. Table 11 presents the mean and standard deviation of customer's satisfaction on the service quality factor at the cafeteria.

Table 12: Service Quality Factor

No.	Item	Mean	SD	Level
1.	Speed of Service	3.41	0.98	High
2.	Staff Knowledge of Item Sold.	2.11	0.77	Low
3.	Friendly Treatment by the Cafeteria Staff	4.15	0.75	High
4.	Cooperation of the Cafeteria Staff.	3.93	0.83	Moderate
5.	Empathy (Individualized Attention Provides to Customers)	3.96	0.77	Moderate
Overall Mean:		3.51	0.37	

Service quality was measured as one of the important factors for satisfied customers for the cafeteria services with five main standards: speed of service, knowledge of staff, friendliness, cooperation, and empathy. As indicated in Table 12 the highest-rated item was friendly treatment by the cafeteria staff with mean 4.15 and standard deviation 0.75, which means that the customers approve. Average scores on empathy (3.96) and cooperation (3.93) are obtained, indicating that the staff usually give personalized attention and work in collaboration. According to the report, speed of service received a high score (mean = 3.41, SD = 0.98), indicating the efficiency in delivery of food. Staff knowledge of items sold was rated low (mean = 2.11, SD = 0.77) indicating a lack of product familiarity which could impact customer confidence of purchase. Overall, the mean score for service quality (3.51 with a standard deviation of 0.37) means that most of the respondents had favourable service perception, however in terms of staff training could increase satisfaction.

Results from Table 11 indicate a moderate positive service quality in the cafeteria overall ($M = 3.51$, $SD = 0.37$). Of the five dimensions measured, friendly service from staff was rated as the most satisfactory ($M=4.15$, $SD=0.75$) which shows that customers are willing to consider interpersonal warmth and positive staff attitudes. The implication is that friendliness is a powerful motivator of satisfaction (see also Pérez-Morón et al. (2022) that customer loyalty among Starbucks Malaysians was significantly impacted by the courtesy and personalized service from the staff. Moderate scores for empathy ($M = 3.96$, $SD = 0.77$) and cooperation ($M = 3.93$, $SD = 0.83$) indicated that, though customers value bespoke attention and group activities amongst employees, more work can be done in this area to improve satisfaction. These results are in agreement with that of Jeaheng, Al-Ansi, and Han (2020) that shows how a commitment to empathy and working together builds trust and loyalty in hospitality. According to the findings of Khair, Tirtayasa, and Trisna (2022), empathetic service quality is crucial during the COVID-19 as customers preferred personalized care and cooperation in uncertain times. Service speed was rated high ($M = 3.41$, $SD = 0.98$), demonstrating an efficient food delivery system. This is a really big deal, right? Because speed saves time and convenience, which often are huge factors in your satisfaction and decision makers. Kristiawan, Hartoyo, and Suharjo (2021) noted that satisfaction levels positively correlated to service speed in fast-food restaurants reinforcing the need of operational productivity. The staff knowledge of items sold was found to be low ($M=2.11$, $SD=0.77$), highlighting a lack of familiarity with the products. This vulnerability can undermine customers' confidence, for knowledgeable personnel are vital to guiding decisions and establishing trust. Mahafzah et al. (2020) shown that employee satisfaction and training moderate service quality outcomes by a large degree, indicating that investment in staff training could enhance the product knowledge and general customer satisfaction. strengths for improvement: friendliness, empathy and cooperation are attributes that could be highlighted in the branding and customer strategies too. Emotional value, which Li and Tang (2024) claim is important for success in experiential marketing, is created by these relational traits. Room for improvement: Product knowledge training on staff is desperately required. Customers want staff to be able to articulate menu items, ingredients and options to them in clear terms.

Closing this gap would instil greater customer trust and satisfaction. Operational efficiency While it's important to keep up the speed of service, an integrated, seasoned and compassionate staff is required that brings efficiency to service. Impact on customer loyalty: In a medium satisfaction level, the point here is that customer loyalty may plateau if staff information and empathy gets insufficient, and employees don't develop a fuller understanding of a customer's needs without improving understanding with a deeper sense of empathetic concern. As Panday and Nursal (2021) emphasized, service quality enhancement is associated with healthier loyalty outcomes. The results suggest is that service quality includes more than speed and efficiency, but also interpersonal interaction and staff skill. Friendliness and empathy matter to customers, but so do the workers' knowledge and ability to cooperate. This implies in reality that cafeterias should take a strategic balanced approach towards their service quality being efficient as a store-operated business combined with employee education and emotional bonding. This finding is consistent with Perdomo-Verdecia, Garrido-Vega, and Sacristán-Díaz (2024) who found that service quality dimensions combined define customer satisfaction in hotels.

Product Variety

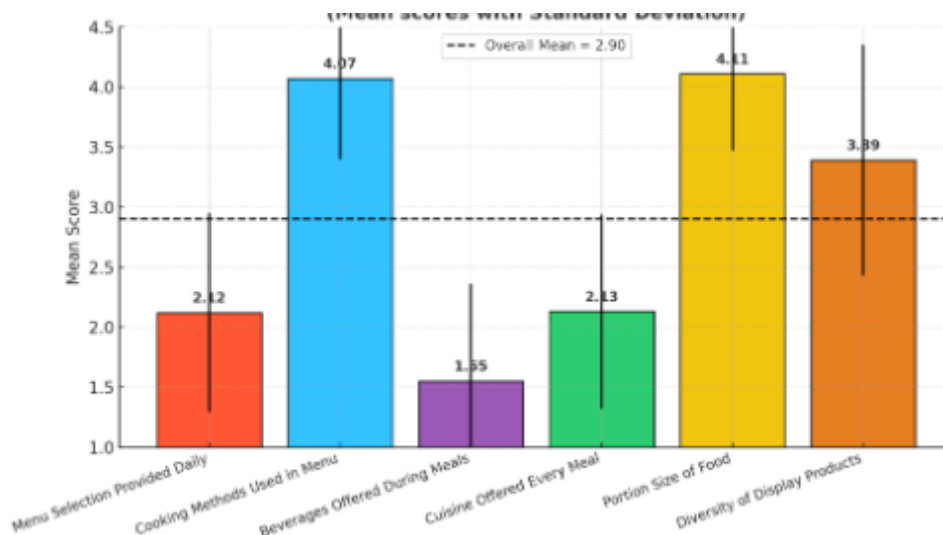
The fourth factor of customer's satisfaction in cafeteria services being investigated in this study was product variety. Table 13 displays the mean and standard deviation of product variety factor at the cafeteria.

Table 13: Product Variety Factor

No.	Item	Mean	SD	level
1.	Different Types of Menus Selection Provided Daily	2.12	0.83	low
2.	Different Types of Cooking Method Used in Menu Provided	4.07	0.67	high
3.	Different Selection of Beverages Offered During Meal Time	1.55	0.81	low
4.	Different Types of Cuisine Offered During Every Meal Time	2.13	0.81	low
5.	Portion Size of the Food Offered	4.11	0.64	high
6.	Diversity of Display Products	3.39	0.96	Moderate
	Overall Mean	2.90	0.38	

Product variety was considered as a main contributor to customer satisfaction in cafeteria services. Table 13 shows that the most highly rated items were portion size and cooking method, with mean scores of 4.11 and 4.07 respectively, indicating positive satisfaction. The diversity of display products had a moderate rating (mean = 3.39, SD = 0.96), indicating that visual presentation plays a positive role, but still needs to be improved. The scores for daily menu selection, beverage variety, and cuisine diversity are also low, with mean scores ranging from 1.55 to 2.13, which may correspond to fewer choices that the respondents are not satisfied with. These findings highlight the need for broader and more dynamic food offerings to meet diverse preferences. Overall mean score of 2.90 and SD of 0.38 indicate a moderate level of satisfaction and potential space for menu innovation and beverage selection.

Figure 2: Product Variety



Food and Beverage Quality

Food and beverage quality was the last factor that influenced customers' satisfaction with cafeteria services that was addressed in this study. Table 14 shows the mean and standard deviation of satisfaction of customer on food and beverage quality element at the cafeteria. According to the results, respondents

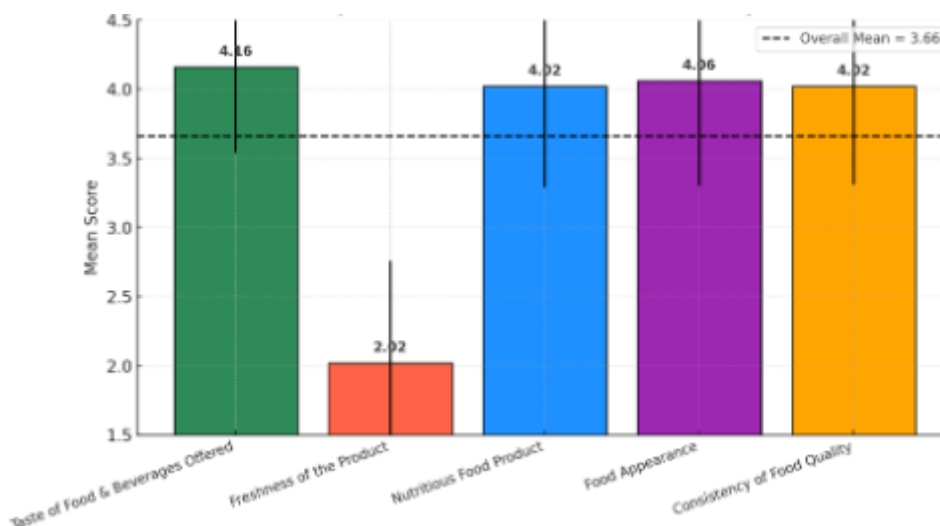
were found to express highest satisfaction to the taste of food and beverage offered ($M = 4.16$, $SD = 0.62$). This means that the people felt that the food and drink tastings of the cafeteria had turned out what they anticipate in terms of good taste, and their palate. The respondents expressed high satisfaction as well about the appearance of food ($M = 4.06$, $SD = 0.76$). This means that the food served by the cafeteria were of good appearance and met the scrutiny of the eyes of the patrons.

Table 14: Food and Beverage Quality

No.	Item	Mean	SD	Level
1.	The Taste of Food and Beverages Offered	4.16	0.62	High
2.	The Freshness of the Product.	2.02	0.74	Low
3.	Nutritious Food Product	4.02	0.73	High
4.	Food Appearance	4.06	0.76	High
5.	Consistency of Food Quality	4.02	0.71	High
Overall Mean:		3.66	0.34	

Food and beverage quality was determined as an integral variable that affects customer satisfaction in cafeteria services based on taste, freshness, nutritional value, appearance, and consistency. As reported in Table 14, the taste of food and beverages, with a mean score of 4.16 and standard deviation of 0.62, was rated high, and was characterized by the strongest levels of satisfaction. Nutritional value was given the highest mean score of 4.02, and the second food quality rating, consistency (4.02), also received high mean score. Food appearance was also found to be extremely satisfying, scoring a mean of 4.06, with a standard deviation of 0.76 which indicates that visual style can determine the degree of satisfaction for the customers. On the other hand, the freshness of the product was scored low, $M = 2.02$, $SD 0.74$ an issue that perhaps does impact the overall dining experience. Food and beverage quality, on average, also scored an average of 3.66 ($SD 0.34$), signifying an overall satisfaction in the cafeteria, which could be strengthened by adding some fresher offerings.

Figure 3: Food and Beverage Quality

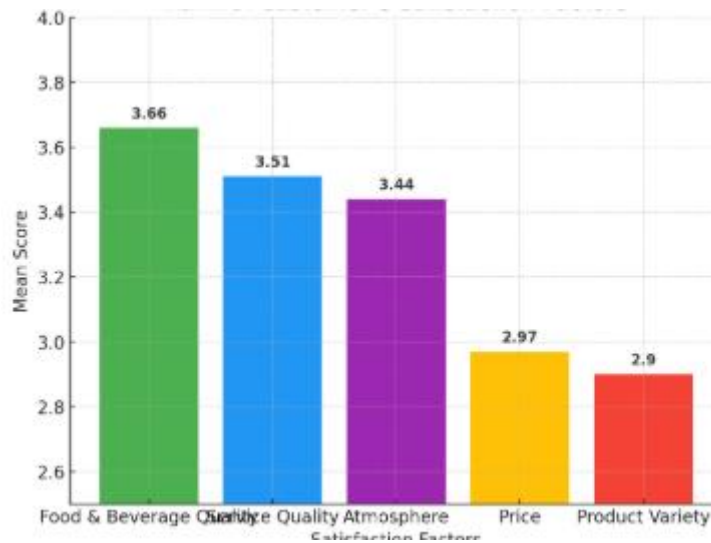


Rank of Customer's Satisfaction Factor

From all the descriptive results obtained for customer's satisfaction factors in cafeteria services, customer's satisfaction to each of the factor can be ranked from highest to lowest based on the overall mean value. Table 15 presents the rank of mean and standard deviation of customer's satisfaction factor.

Table 15: Rank of Customer's Satisfaction Factor

Ranking	Factor	Mean	SD	Level
1.	Food and Beverage Quality	3.66	0.34	High
2.	Service Quality	3.51	0.37	High
3.	Atmosphere	3.44	0.34	High
4.	Price	2.97	0.34	Low
5.	Product Variety	2.90	0.38	Low

Figure 4: customer's satisfaction

Customer satisfaction factors related to cafeteria services were ranked based on the overall mean that was computed from descriptive analysis. Food and beverage quality was ranked most positively in terms of satisfaction measures, with a mean of 3.66 and a standard deviation of 0.34 as indicated by Table 15. This was closely followed by service quality, which scored a mean of 3.51 and a standard deviation of 0.37, indicating excellent perceptions of staff performance and responsiveness. The atmosphere of the cafeteria was 3.44 which was the third highest mean with a standard deviation of 0.34 indicating cleanliness, lighting, and ambience was considered well received. Price and variety of goods were rated lower on average, averaging 2.97 and 2.90, both in the low satisfaction category, respectively. Although core service and environment standards are satisfying, pricing equity and menu variety must be improved in order to improve overall customer satisfaction. According to the results of this research the customer satisfaction in private school cafeteria was highly related to food and beverage quality, which was then followed by service quality and atmosphere while the price and product variety are rated lower.

These findings are consistent with and reinforcing the existing literature in the hospitality and food service industries. Firstly, the high scores attained in the food and beverage quality satisfaction is also supported by the findings of Abdullah et al. (2023) emphasize that tastes, nutrients and regularity drive consumer satisfaction in 5-star hotel restaurants. Similarly, food characteristics like freshness and presentation are among the main contributors to satisfaction in green restaurants according to Shahhosseini and Khalili Nasr (2024) thereby underscoring sensory and health-related aspects in feeding the dining environment. The relatively low freshness score in this study, on the contrary, indicates that the proposed values in the institutional food service domain are contrary to Bandara and Dahanayake's (2020) ideal dimensions, which indicated that freshness is a necessity when looking at achieving high satisfaction in such institutions. The results of the study regarding service quality, namely, friendly treatment and empathy, are confirmed by Doan, Mooney, & Kim, 2023, who discussed the importance

of positive service interactions, particularly among employees with disabilities, to serve increased customer satisfaction. Their subjective analysis supports emotional connection and respectful treatment as the key elements of what makes employees content. Furthermore, Talukder and Kumar (2024) showed that service speed and staff response are significant antecedents of returning customer intention, echoing the high ratings for speed and friendliness in this study. Yet, the low value for staff knowledge contradicts the focus by Pérez-Morón et al. (2022) regarding product familiarity as a hallmark of service quality, indicating a gap to fill when it comes to training and development of staff. Prices and item variety were rated the lowest in the present study, which accords with Andriani, Suryatunnisak, and Yurnal (2024), who found that feelings of fairness on pricing and limited choice of foods in the menu can significantly harm satisfaction in casual dining industry.

Li and Tang (2024) continue to suggest that price considerations can be compensated by emotional value and experiential marketing, suggesting that private school cafeterias should build up their emotional appeal with additional prices to compensate for cost. Additionally, Siddiqi et al. (2024) emphasize the mediating effect of satisfaction on customer loyalty, implying that although price is low, the higher quality of the service and food can sustain their overall satisfaction and retention. Overall, this study's findings are mostly consistent with the existing literature, arguing for the significance of food and service quality as primary drivers of satisfaction. The results show however, some major gaps, especially on freshness, staff knowledge, and pricing transparency, which are in stark contrast to the best practices in practice. Improvements on these areas could be invaluable in raising the level of dining experience and will make private school cafeteria services more in line with the wider hospitality experience.

CONCLUSION

The study has shown that customer satisfaction in private school cafeterias is affected by some multi-dimensional aspects, such as food and beverage quality, service quality, atmosphere, price, and product assortment. Food and beverage quality was found to be the top contributor to satisfaction among these, with second place being service quality and cafeteria atmosphere. Price and product variety scored lower, highlighting areas that need greater strategic attention. Schools' offerings seem to deliver delicious, healthy food and good customer service, but there are also gaps in menu diversity, pricing transparency, and operational efficiency, the study found. Bridging these gaps will also improve the dining experience, ensuring the cafeteria service levels meet the premium expectations of private school stakeholders.

RECOMMENDATIONS

To improve customer satisfaction in private school cafeterias, it is possible to focus on menu variety and food and beverage offers. Low satisfaction (e.g., daily menu preferences, drink selection) suggests a lack of diversity, which could be changed to the expected food offerings. Launching diverse cuisines, rotating meal plans, and accommodating vegetarian, halal, or allergen-free dietary restrictions can be implemented to appeal to a wider number of student preferences. This not only increases satisfaction but also indicates the school's dedication to inclusion and the well-being of students. Some attention needs to be paid to pricing transparency and value perception, as well. While respondents did rate food quality with the price, they were not satisfied with portion sizes and understanding of pricing. Schools can also make sure they are communicating pricing strategies that have been well-supported (e.g., clear menus and portion control). Feedback loops to regularly compare customer perceptions of pricing can, in this respect, be one way of bringing cafeteria offerings in line with expectations in premium schools where parents want high value per fee paid.

Finally, you can provide better service through focused staff training and improvements to operations. Friendliness and empathy scored high, but knowledge and cooperation among staff were still relatively low. Product knowledge/service awareness, customer service etiquette training, and responsiveness training can improve our experience with food. Similarly, providing more seating and having a streamlined food delivery process can decrease wait times and increase comfort. This new

technology, including digital ordering systems and real-time feedback platforms, means that even more advanced levels of service provision can be optimized and customers served efficiently and effectively in the cafeteria more efficiently

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