**Student Satisfaction with Canteen Services at Davao Oriental State University-Cateel Campus**

**ABSTRACT**

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| --- |
| This study aimed to assess the level of customer satisfaction with school canteen services and identify which service attributes most significantly influence satisfaction at Davao Oriental State University-Cateel Campus. A descriptive-comparative, quantitative design was employed, involving stratified random sampling of 828 canteen customers, with data collected through survey questionnaires. The research focused on five key areas: cleanliness, timeliness, pricing, service quality, and staff attitude. Findings revealed that most respondents were young and female. While many found meals affordable, some desired greater variety and better-tasting options. Cleanliness was rated as adequate, although respondents suggested that improved management practices would be beneficial. Staff were positively described as respectful and accommodating. Although the canteen environment was generally satisfactory, enhancements to seating and ventilation were suggested to serve customers better. Overall, results indicated a moderate to high level of satisfaction. Improvements in food variety, cleanliness, and facility design are recommended to enhance customer satisfaction. The findings offer actionable insights for university administrators to improve food service quality and promote student well-being. |

*Keywords: customer satisfaction, school canteen services, food services, customers, service*

*quality*

**1. INTRODUCTION**

School canteens play a crucial role in the daily lives of students, instructors, and staff by providing meals and snacks to keep them energized throughout the day. The level of service and amenities provided by the canteen has a considerable impact on its customers' contentment and well-being (Lugosi, 2019). At Davao Oriental State University-Cateel Campus, the school's food service is the primary source of food, and its operations significantly impact the overall campus experience. However, discontent among customers can arise due to poor service quality, inadequate facilities, or unappetizing food (Aksoy et al., 2023). Customers have raised concerns regarding the quality of food, hygiene standards, pricing, and the attitude of staff serving in the canteen (Aldosky et al., 2016).

Globally, school canteens face numerous challenges in maintaining high levels of customer satisfaction. One primary concern is the availability of healthy and nutritious meals. In many countries, school canteens often fail to provide meals that meet the nutritional standards set by health authorities, resulting in customer dissatisfaction (Pillay et al., 2023). Additionally, issues related to food safety, affordability, and menu variety are common across different regions, further impacting customer satisfaction levels (World Health Organization, 2021). Moreover, research suggests that poorly managed school canteens can contribute to unhealthy eating habits among students, which is a global public health concern (Devine et al., 2023).

In the Philippines, customer satisfaction in school canteens remains a pressing issue. The quality of service in school canteens is also a common concern. Studies show that long queues, insufficient seating, and poor customer service often detract from students' overall dining experience, leading to dissatisfaction (Stewart, 2021). Evaluating university food services has become essential (Mensah & Mensah, 2018) because students will opt for off-campus food services if the on-campus facilities do not meet their needs (Nanu et al., 2024).

Chang and Suki (2018) found that college students reported limited menu options offered by on-campus dining facilities during their time in college, which led to a decline in their eating habits and dissatisfaction with both the atmosphere and the food quality. Their analysis suggested that introducing fresh food, greater variety, and healthier, more exciting menu options to the cafeteria on a monthly basis would be a more cost-effective approach. Furthermore, Rajput and Gahfoor (2020) state that service quality leads to positive word of mouth, customer satisfaction, a better corporate image, attraction for new customers, increased revisits, and amplified business performance.

Meanwhile, Lee et al. (2018) noted the need to investigate other important quality requirements, such as food quality and reasonable prices, to better satisfy customers. However, there is no previously published research examining the quality of university food services at DOrSU-CC and its effect on consumer satisfaction, leaving a gap in the body of knowledge regarding customers' opinions and behaviors at the on-campus canteen in DOrSU-CC. This study aims to understand this issue by examining the perceptions of different service attributes that comprise the total dining experience, the impact of these attributes on satisfaction, and the significant influence of various attributes on satisfaction. The goal is to identify the most important factor that influences customers' perceptions of a food service operation.

**2. OBJECTIVES**

This study determined the level of customer satisfaction with the school canteen at DOrSU-CC. The objectives of this study are the following:

Specifically, it aims:

1. To determine the profile of the respondent in terms of:

a. sex;

b. age;

c. program/course; and

d. type of customer.

1. To identify the level of satisfaction among customers with the school canteen of DOrSU-CC in terms of:

a. cleanliness;

b. time;

c. price;

d. quality of service; and

e. staff attitude.

1. To determine the significant difference when respondents are grouped according to profile.

**3. MATERIALS AND METHODS**

**Research Design**

This study employed a descriptive comparative research design. A descriptive comparative research design was used to compare two or more groups or variables without manipulating them (Maxwell et al., 2017). This design was handy for comparing groups or variables without altering any conditions. In a study comparing customer satisfaction levels between two school canteens or different service quality aspects (e.g., time, price, cleanliness), if the goal was to determine whether there were significant differences in satisfaction levels among students of different age groups using a school canteen, a descriptive comparative study provided insights that informed further research. This method was effective in identifying areas where the canteen met or fell short of customer expectations (Sekaran & Bougie, 2016).

**Research Instrument**

The research instruments used in this study were adapted from Amin et al. (2023) and Nicodemus (2018). Amin et al. studied *student satisfaction with school canteen food and beverage services*, using indicators such as cleanliness, price, time, and quality of service. Meanwhile, Nicodemus examined *school canteen management and customer satisfaction*, with particular emphasis on staff attitudes.

The questionnaire consists of two (2) parts. The first part of the questionnaire covered the demographic profile of respondents. The second part of the survey questionnaire consists of questions categorized into five sections: cleanliness, price, time, and quality of services (each with four items), and staff attitude (with five items). The researchers used a 5-point Likert scale in this study.

**Respondents of the Study**

The respondents of this study are the customers of the school canteen at Davao Oriental State University-Cateel Campus. The study employed stratified random sampling with a total population of 828. According to Nickolas (2019), stratified random sampling involves dividing a population into smaller subgroups, or strata, based on shared characteristics or attributes. The table below illustrates how stratified random sampling is used to determine the sample size.

|  |  |  |
| --- | --- | --- |
| RESPONDENTS | ENROLLMENT DATA AS OF THE FIRST SEM. 2024-2025 | SAMPLE SIZE |
| BSBA students | 705 | 255 |
| BSC students | 276 | 163 |
| BSAM students | 302 | 172 |
| BAT/BSA students | 130 | 98 |
| BEED students | 105 | 83 |
| FACULTY  (part-time/full-time) | 35 | 32 |
| STAFF | 27 | 25 |
| TOTAL POPULATION | **1580** | **828** |

**Table 1**. Distribution of Respondents

**Data Gathering**

The researchers followed the proper procedure for gathering data and collecting necessary information for the study. They first secured ethical clearance from the University Research Ethics Board of Davao Oriental State University by submitting a complete research proposal, informed consent forms, data collection tools, and an explanation of potential risks and benefits. Upon meeting all ethical requirements, formal approval was granted. The researchers then requested that the DOrSU-CC Registrar's Aide provide the list of enrolled students and that the HRMO II supply the list of faculty and staff, which would be used to determine the sample size using Slovin's formula with a 0.05 margin of error. Permission to conduct the study was also sought from the campus administrator to ensure respect for respondents' rights and privacy. Informed consent forms were distributed, clearly explaining the research purpose, procedures, risks, benefits, and confidentiality, while emphasizing voluntary participation and the right to withdraw at any time. Respondents were allowed to ask questions, and signed consent was obtained before proceeding. The questionnaires were then administered at a convenient time and later retrieved personally by the researchers. The gathered data were subjected to tallying and analysis using appropriate statistical tools. These tools included frequency-percentage analysis for customer profiles, mean values for measuring satisfaction levels, and T-tests and ANOVA to assess significant differences based on respondents' profiles.

**4. RESULTS AND DISCUSSION**

**Profile of the Respondents**

This section presents the demographic data on customers, including their sex, age, and customer type. Table 2 presents the demographic profile of respondents by sex. The results indicate that a majority of the respondents who participated in the study on customer satisfaction in the school canteen were female, comprising 60.51% of the total population. In contrast, male respondents accounted for 39.49%.

|  |  |  |
| --- | --- | --- |
| Sex | Frequency | Percent (%) |
| Female | 501 | 60.51 |
| Male | 327 | 39.49 |
| Total | **828** | **100.00** |

**Table 2**. Profile of the respondents in terms of sex

The difference in the number of male and female participants suggests that female customers were more readily available during the data collection process, indicating a higher level of involvement in the study compared to their male counterparts, out of a total of 828 respondents. As a result, female responses have a more substantial influence on the overall findings, which may introduce gender bias, particularly if the perspectives of male respondents differ significantly from those of female respondents. This concern is supported by Zhong and Moon (2020), who state that males and females often have differing expectations, preferences, and evaluative criteria regarding quality service and overall experience.

Consequently, the lower male participation may indicate either a lack of interest or limited accessibility during the data collection period. For example, the data may have been gathered in locations less frequented by males or during times when they were less likely to be available due to class schedules or other commitments. Understanding these patterns is crucial, as previous studies have demonstrated that sex differences provide valuable insights into the diverse perspectives and experiences of customers regarding canteen services (Kim et al., 2019).

|  |  |  |
| --- | --- | --- |
| AGE INTERVAL | FREQUENCY | PERCENT (%) |
| 20 and below | 290 | 35.02 |
| 21 to 30 | 516 | 62.32 |
| 31 and above | 22 | 2.66 |
| Total | **828** | **100.00** |

**Table 3**. Profile of the respondents in terms of age

Table 3 presents the age distribution of respondents to the school canteen satisfaction survey. The largest segment, comprising 62.32% of respondents, falls within the 21–30 age group, suggesting a dominant customer base of upper-year students, young professionals, staff, or young adult patrons. As the most represented group, their responses significantly influence the overall satisfaction results, reflecting priorities such as efficiency, affordable yet substantial meals, and healthier or more trendy food options. Nonetheless, other age groups must also be considered to ensure their specific needs are addressed—for instance, budget-friendly options for those under 20 and healthier choices for respondents aged 31 and above. Notably, only 2.66% of respondents were aged 31 and above, likely including faculty, administrative staff, or other school personnel. Although their smaller number limits their statistical impact, their expectations regarding cleanliness, healthier meals, and high service quality remain important. Overall, given that young adults form the majority, the school canteen should tailor its offerings to this group while still accommodating the diverse preferences across age segments to enhance customer satisfaction (Chakraborty et al., 2024).

|  |  |  |
| --- | --- | --- |
| Type of Customer | Frequency | Percent (%) |
| BSBA | 255 | 30.80 |
| BS Crim | 163 | 19.69 |
| BSA/BAT | 98 | 11.84 |
| BEED | 83 | 10.02 |
| BSAM | 172 | 20.8 |
| Faculty and Staff | 57 | 6.88 |
| Total | 828 | 100.00 |

**Table 4.** Profile of the respondent in terms of the type of customers

Table 4 displays the distribution of respondents, with each customer group proportionally represented in the overall sample. The largest subgroup was BSBA students, accounting for 30.80% of respondents, followed by BSAM at 20.80% and BS Criminology at 19.69%. This distribution mirrors actual enrollment figures, indicating that these programs have the largest student populations and thus exert the most significant influence on overall results. Smaller groups—such as BSA/BAT (11.84%), BEED (10.02%), and Faculty and Staff (6.88%)—were also adequately represented, ensuring a balanced perspective.

This proportional representation helps minimize sampling bias toward larger groups, allowing the study to capture the distinct views of each customer segment fairly. Consequently, the findings offer a comprehensive and balanced assessment of customer satisfaction with the school canteen, reflecting the diversity across academic and institutional sectors. Furthermore, the stratified sampling approach enhances the reliability of subgroup comparisons, allowing for the precise identification of satisfaction trends and supporting targeted service improvements tailored to the unique preferences and needs of each group (Nickolas, 2019).

**Level of Satisfaction among Customers**

**Table 5**. Level of satisfaction in terms of the cleanliness of the school canteen

|  |  |  |  |
| --- | --- | --- | --- |
| Statement | Mean | Std. Deviation | Interpretation |
| The environment of the canteen is clean | 3.86 | 0.77 | High |
| Cutlery sets, including plates, bowls, cups, and spoons, are clean and ready for use. | 3.86 | 0.77 | High |
| The food and drinks served are safe to eat. | 4.17 | 0.75 | High |
| The hygiene practices of the workers are satisfactory. | 3.86 | 0.76 | High |
| Average | **3.94** | **0.59** | **High** |

Table 5 presents the level of cleanliness in the school canteen, showing an average mean score of 3.94, reflecting a generally positive perception. The safety of food and drinks scored higher, with a mean of 4.17, indicating that customers feel confident about hygiene standards. This aligns with the notion that safe, clean environments meet basic safety needs and support social comfort (Meleko et al., 2015; Buheji, 2020).

However, moderate scores of 3.86 for canteen cleanliness, cutlery, and staff hygiene suggest occasional lapses, such as unclean floors, improperly washed utensils, or inconsistent hygiene practices among staff. These issues can undermine customers' sense of safety, as highlighted in Maslow's hierarchy of needs (Maslow, 1943; Arogundade & Akpa, 2023). Busy periods can strain cleaning processes, leading to utensils with stains or grease and staff skipping proper hygiene steps (Al-Shareef et al., 2023).

Moreover, inconsistent use of gloves, hairnets, or aprons among staff can raise concerns, as visible hygiene practices influence customer trust and willingness to eat in the canteen (Khaing et al., 2019; Rayner & Lewis, 2020). Scores below 4 indicate a need for stricter supervision and adherence to hygiene protocols, as lapses can impact satisfaction and safety perceptions (Chow et al., 2019; Berry et al., 2020; Maslang et al., 2022). Addressing these issues will help maintain a safe, clean, and trusted dining environment.

|  |  |  |  |
| --- | --- | --- | --- |
| Statement | Mean | Std. Deviation | Interpretation |
| Food preparation time is reasonable. | 3.94 | 0.75 | High |
| The time required to deliver the food order is short. | 3.71 | 0.75 | High |
| The period to get a seat is not long. | 3.67 | 0.84 | High |
| The period for workers to restock the food is short. | 3.62 | 0.77 | High |
| Average | **3.74** | **0.58** | **High** |

**Table 6**. Level of satisfaction in terms of the time of the school canteen

Table 6 shows the level of time spent in the school canteen, with an average mean score of 3.74, indicating a generally positive perception. Food preparation time scored slightly higher at 3.94, suggesting that customers are primarily satisfied with the service speed, although it is not viewed as exceptionally fast. Occasional delays may occur during peak hours, especially at lunchtime, due to high order volumes or the preparation of certain items taking longer. Such delays can leave customers with less time to eat and may affect their focus and energy levels (Hamilton et al., 2019). Efficient canteen operations help meet customers' hunger and hydration needs, supporting their well-being (Pham & NguyenDang, 2019).

Meanwhile, restocking time had the lowest mean score at 3.62, indicating room for improvement. Customers sometimes experience delays when popular items run out quickly during busy periods, due to limited preparation, staffing issues, or coordination gaps between kitchen and service areas. Insufficient restocking can cause frustration, particularly for those with short breaks, and negatively impact satisfaction and loyalty (Lahap et al., 2018; Kambli et al., 2020). According to Maslow's hierarchy of needs, timely food service is essential for meeting basic physiological needs (Aschemann-Witzel et al., 2017). Poor time management can lead to decreased overall satisfaction with the canteen (Mohammed, 2020). Therefore, improving restocking efficiency is crucial to enhancing the dining experience.

**Table 7.** Level of satisfaction in terms of the price of the school canteen

|  |  |  |  |
| --- | --- | --- | --- |
| Statement | Mean | Std. Deviation | Interpretation |
| The price to be paid corresponds to the quality of the food. | 3.98 | 0.81 | High |
| Food and drink prices are reasonable for customers. | 3.91 | 0.82 | High |
| Price labels are provided for all food and beverages. | 3.69 | 0.91 | High |
| Food prices in the canteen are cheaper than those in food stalls outside the campus | 3.61 | 0.89 | High |
| Average | **3.80** | **0.67** | **High** |

Table 7 presents the level of price satisfaction in the school canteen, with an average mean score of 3.80, indicating a generally positive perception. The price-to-food-quality ratio scored higher at 3.98, suggesting that most customers feel pricing is fair and reflects the value received, as satisfaction often depends on both affordability and perceived value (Griesbach, 2018).

However, the scores are not exceptionally high, hinting that some customers perceive a mismatch between cost and quality, possibly due to inconsistent food quality, portion sizes, or variety. This highlights an opportunity for the canteen to maintain or improve quality while offering more competitive pricing and promotions to meet customer expectations better (Wills et al., 2016).

Affordability compared to off-campus food stalls received the lowest mean score of 3.61, indicating that some customers see better value outside the campus. While some students find canteen prices competitive, others believe that external vendors offer similar or better prices, greater variety, or larger portions, suggesting that the canteen lacks a clear pricing advantage and faces concerns about price sensitivity among students (Tam et al., 2017).

Moreover, high or inconsistent pricing can discourage students from purchasing meals, reducing overall satisfaction (Haque et al., 2024). Maslow’s hierarchy of physiological needs underscores that unaffordable prices can prevent customers from meeting basic needs. Price fairness and transparency are crucial for satisfaction, as customers expect consistency and value in canteen offerings (Almanwari et al., 2024).

Table 8 presents the level of service quality in the school canteen, with an average mean score of 4.10, indicating a positive perception. The highest-rated item was employee friendliness, scoring 4.27, showing that customers strongly agree that staff are courteous, approachable, and create a welcoming atmosphere. Positive interactions contribute to customer comfort and loyalty, as friendly staff can help offset minor service delays or limitations (Alhelalat et al., 2017; Jerger & Wirtz, 2017). However, some customers have experienced less satisfactory interactions, as friendliness alone cannot compensate for issues such as long wait times or errors, underscoring that service quality remains a critical factor in overall satisfaction (Kusumawati & Sri Rahayu, 2020).

**Table 8**. Level of satisfaction in terms of the quality of service of the school canteen

|  |  |  |  |
| --- | --- | --- | --- |
| Statement | Mean | Std. Deviation | Interpretation |
| The food and drinks provided are fresh and not stale. | 3.98 | 0.80 | High |
| The employee is customer-friendly. | 4.27 | 0.79 | Very High |
| The method of taking orders is orderly and easier for customers. | 4.13 | 0.77 | High |
| The payment method is systematic and accurate. | 4.04 | 0.80 | High |
| Average | **4.10** | **0.62** | **High** |

Meanwhile, the freshness of food and drinks received the lowest mean score of 3.98. Although still positive, this suggests occasional concerns about items being reheated or lacking freshness. Maslow's hierarchy emphasizes that physiological needs include fresh, quality food and drink, which are vital for customer satisfaction in a canteen setting (Hunter et al., 2017). Overall, while the canteen performs well in terms of service quality, maintaining consistent freshness in its food offerings could further enhance the customer experience.

**Table 9**. Level of satisfaction in terms of the staff attitude of the school canteen

|  |  |  |  |
| --- | --- | --- | --- |
| Statement | Mean | Std. Deviation | Interpretation |
| Canteen staff are responsive to customers' requests. | 4.18 | 0.78 | High |
| Providing prompt service. | 4.02 | 0.78 | High |
| Having the heart to serve and help the customers willingly. | 4.20 | 0.78 | Very High |
| Providing good quality service. | 4.16 | 0.79 | High |
| Satisfying customers' needs. | 4.14 | 0.82 | High |
| Average | **4.14** | **0.65** | **High** |

Table 9 presents the level of staff attitude in the school canteen, with a high average mean score of 4.14, indicating a generally positive perception. The highest-rated item, "having the heart to serve and assist customers willingly," scored 4.20, reflecting customers' strong appreciation for staff sincerity and helpfulness. Respondents believe that employees go beyond their basic duties, fostering a respectful and welcoming environment that enhances employee satisfaction and loyalty (Ngo et al., 2020). Such service makes customers feel valued and contributes to their confidence and sense of agency, aligning with self-actualization needs (Hansen, 2020). However, the score is not perfect, suggesting occasional inconsistencies in staff interactions.

Prompt service received the lowest mean score of 4.02, indicating general agreement that service is timely but hinting at occasional delays, especially during peak hours or when staffing is limited. Customers value speed, and any decline in efficiency can significantly affect satisfaction. Fast service helps prevent overcrowding, reduces waiting times, and fosters a safe and orderly environment (Moralia & Namoco, 2024; Richards, 2021). Prompt service also reduces customer anxiety and ensures a smoother dining experience (Dana, 2018). Overall, while staff attitude is viewed positively, maintaining consistency and improving service speed remain important for sustaining high satisfaction levels.

**Customers' Level Of Satisfaction In School Canteen**

Customer satisfaction is partly influenced by how customers perceive the quality of their interactions within the school canteen. Table 11 presents the overall levels of customer satisfaction in the school canteen based on five key factors: cleanliness, time, price, quality of service, and staff attitude.

|  |  |  |  |
| --- | --- | --- | --- |
| Factors | Mean | Std. Deviation | Interpretation |
| A. Cleanliness | 3.94 | 0.59 | High |
| B. Time | 3.74 | 0.58 | High |
| C. Price | 3.80 | 0.67 | High |
| D. Quality of Service | 4.10 | 0.62 | High |
| E. Staff Attitude | 4.14 | 0.65 | High |
| Overall Satisfaction | **3.94** | **0.49** | **High** |

**Table 10**. Level of customer satisfaction

Table 10 shows that overall customer satisfaction in the DOrSU-Cateel Campus school canteen achieved a mean score of 3.94, reflecting a high level of satisfaction and a positive dining experience. Staff attitude was the highest-rated factor, with a score of 4.14, indicating a strong appreciation for politeness, friendliness, and helpfulness. However, some inconsistencies remain, suggesting opportunities to improve active listening, empathy, and communication, which are crucial in school settings where staff demeanor significantly affects student satisfaction (Amissah-Arthur, 2020; Kang et al., 2015).

The quality of service received a high mean score of 4.10, highlighting solid operational standards and a significant contribution to customer experience. Nevertheless, maintaining consistency is essential, as minor lapses can still impact perceptions (Oh & Kim, 2017; Abror et al., 2020).

Time was the lowest-rated factor, with a mean of 3.74, suggesting some concerns about wait times or service speed. Efficient service is crucial in canteens, as delays significantly impact customer perceptions and satisfaction (Okolo, 2024; Samsa, 2023).

Overall, the high satisfaction ratings for cleanliness, price, and service quality confirm that the canteen effectively meets customers' basic physiological needs, such as access to clean, safe, and affordable food (Maslow, 1943). Additionally, positive staff interactions and reliable service fulfill safety and belongingness needs, fostering a welcoming environment that encourages continued patronage. Satisfying these foundational needs aligns with Maslow's hierarchy of needs, enabling individuals to pursue higher levels of satisfaction and motivation.

**Difference in the Level of Customer Satisfaction group according to profile**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent Variable | t-test for Equality of Means | | | | | | |
| t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| Lower | Upper |
| Overall Satisfaction | -1.707 | 826 | 0.088 | -0.060 | 0.035 | -0.129 | 0.009 |

**Table 11**. A significant difference in the level of satisfaction in terms of sex

Table 11 shows that there is no significant difference in overall customer satisfaction between male and female respondents (p = 0.088), indicating that the canteen’s services cater equally to both genders. This suggests that male and female customers perceive aspects like cleanliness, time, pricing, service quality, and staff attitude similarly (Czarniecka-Skubina, 2019). Such findings align with Maslow’s Hierarchy of Needs, which emphasizes equal fulfillment of basic human needs for everyone (Abbas, 2020).

The absence of significant gender differences suggests that the canteen has effectively implemented standardized services that resonate with all customer groups. Consequently, management can allocate resources efficiently without requiring gender-specific changes, focusing instead on broader improvements, such as menu variety, seating arrangements, and customer feedback systems (Lusa et al., 2024).

**Table 12**. Significant difference in the level of satisfaction in terms of age

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Factors | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 0.884 | 2 | 0.442 | 1.821 | 0.163 |
| Within Groups | 200.336 | 825 | 0.243 |  |  |
| Total | 201.220 | 827 |  |  |  |

Table 12 presents the ANOVA test categorized by age, revealing no significant difference (p = 0.163) in overall satisfaction levels among different age groups. This suggests that individuals across different age groups report similar levels of satisfaction, indicating that age is not a distinguishing factor in this context. This implies that regardless of age, customers perceive the canteen's service, pricing, and overall experience in a similar manner.

These findings are crucial in understanding that age is not a determining factor in customer satisfaction at the school canteen (Azni et al., 2019). The relatively high within-group variability compared to the between-group variability suggests that individual preferences and expectations play a more significant role than age demographics. This could indicate that the canteen's services cater effectively to a diverse age range, ensuring a generally consistent experience across different customer groups.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Factors | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 11.32 | 5 | 2.26 | 9.80 | 0.00 |
| Within Groups | 189.90 | 822 | 0.23 |  |  |
| Total | 201.22 | 827 |  |  |  |

**Table 13.** Significant difference in the level of satisfaction in terms of the type of customer

Table 13 presents the results, indicating a significant difference (p = 0.00) in satisfaction levels among different customer types. This means that the differences between customer groups are not due to chance but are statistically significant. This indicates that between groups of customers, there is a noticeably different level of satisfaction compared to the others. Since a significant difference was found, a post hoc test is necessary to determine which specific customer groups differ from one another. This implies that customers may have different experiences with the school canteen, possibly due to factors such as the quality of service, pricing, staff attitude, or cleanliness. Understanding these differences can help the school canteen identify areas for improvement to better cater to all types of customers.

Table 14 presents the results of the post hoc test, revealing significant differences in satisfaction among student groups. BSBA students reported lower satisfaction than BS Criminology students (mean difference = -0.17, p = 0.00), possibly due to stricter schedules or higher expectations for service and food variety. Conversely, BSBA students were more satisfied than BSA/BAT students (mean difference = 0.20, p = 0.01), likely because agricultural students face challenges like distant classes and time constraints from fieldwork (Serhan & Serhan, 2019). Customizing menus and extending service hours help address these gaps (Sajedi, 2023).

BS Criminology students showed significantly higher satisfaction than BSA/BAT, BSAM, and BEED students, with mean differences of 0.37, 0.28, and 0.19, respectively (all p < 0.05). The proximity of criminology classrooms to the canteen may explain the higher satisfaction. In comparison, the remote classes of agriculture students and the peak-hour visits of BEED students contribute to lower satisfaction due to crowding and fewer choices (Su & Teng, 2018; Rahman, 2024).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| (I) Type of Customers | | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | | Interpretation |
| Lower Bound | Upper Bound |
| BSBA | **BS Crim** | -0.17 | 0.05 | 0.00 | -0.31 | -0.04 | Has Sig. Difference |
| **BSA/BAT** | 0.20 | 0.06 | 0.01 | 0.03 | 0.36 | Has Sig. Difference |
| BSAM | 0.10 | 0.05 | 0.27 | -0.03 | 0.24 | No Sig. Difference |
| BEED | 0.02 | 0.06 | 1.00 | -0.16 | 0.19 | No Sig. Difference |
| Faculty and Staff | -0.12 | 0.07 | 0.57 | -0.32 | 0.09 | No Sig. Difference |
| BS Crim | **BSA/BAT** | 0.37 | 0.06 | 0.00 | 0.20 | 0.55 | Has Sig. Difference |
| **BSAM** | 0.28 | 0.05 | 0.00 | 0.13 | 0.43 | Has Sig. Difference |
| **BEED** | 0.19 | 0.06 | 0.04 | 0.01 | 0.38 | Has Sig. Difference |
| Faculty and Staff | 0.06 | 0.07 | 0.97 | -0.15 | 0.27 | No Sig. Difference |
| BSA/BAT | BSAM | -0.10 | 0.06 | 0.61 | -0.27 | 0.08 | No Sig. Difference |
| BEED | -0.18 | 0.07 | 0.13 | -0.38 | 0.03 | No Sig. Difference |
| **Faculty and Staff** | -0.31 | 0.08 | 0.00 | -0.54 | -0.08 | Has Sig. Difference |
| BSAM | BEED | -0.08 | 0.06 | 0.79 | -0.27 | 0.10 | No Sig. Difference |
| **Faculty and Staff** | -0.22 | 0.07 | 0.04 | -0.43 | -0.01 | Has Sig. Difference |
| BEED | Faculty and Staff | -0.13 | 0.08 | 0.59 | -0.37 | 0.10 | No Sig. Difference |

**Table 14**. Post Hoc Test

BSA/BAT students were significantly less satisfied than faculty and staff (mean difference = -0.31, p < 0.001), suggesting that faculty and staff benefit from flexible schedules, higher incomes, and off-peak visits, which enhance their overall experience. Students may be more price-sensitive and face limited access to canteens due to remote classes, which can influence lower satisfaction (Daniel, 2020; Shields, 2024).

Similarly, BSAM showed lower satisfaction than faculty and staff (mean difference = -0.22, p = 0.04). Faculty members may experience more stress due to the demands of teaching and research, whereas staff members typically have more stable roles, resulting in differences in perceptions and satisfaction (Price, 2016).

Several comparisons revealed no significant differences, indicating consistent service across many groups. Maslow’s theory emphasizes social needs, and the canteen’s role as a community space highlights the importance of fostering positive social interactions to enhance satisfaction (Lugosi, 2019). Ongoing evaluation and tailored improvements remain essential to ensure all groups feel equally supported.

**5. CONCLUSIONS AND RECOMMENDATIONS**

**Conclusion**

Based on the findings and statistical results of the study, the following conclusions were drawn:

1. The study's results showed that female customers significantly outnumbered male customers, accounting for 60.51% of the respondents. Additionally, the majority belong to the 21–30 age group (62.32%), indicating that young adults form the dominant demographic. Students comprise the largest customer group, led by BBSA students (30.80%), while faculty and staff make up only 6.88% of respondents. This suggests that canteen services should primarily cater to students' needs while also considering the needs of underrepresented groups.
2. Overall satisfaction with the DOrSU–CC school canteen was found to be generally positive, with an overall mean score of 3.94. Among the evaluated aspects, staff attitude received the highest mean score (4.14), followed by quality of service and cleanliness. However, price and service speed received slightly lower scores, indicating areas where further improvements are needed to enhance customer satisfaction.
3. Analysis revealed no significant differences in overall satisfaction when the data were grouped by sex or age. However, significant differences were noted among respondents from different academic programs, with some groups reporting lower satisfaction levels. This implies that satisfaction is not uniformly experienced across all customer segments, and specific academic groups may have unique needs or expectations.
4. The study concludes that targeted improvements addressing weaker areas, such as pricing and service speed, as well as tailoring services to different academic groups, are necessary. These strategies can help the canteen better serve its diverse clientele and further enhance the dining experience for all patrons.

**Recommendation**

Based on the findings of the study, the following may be recommended:

* + 1. Most customers are female, suggesting that the canteen should tailor its services to their needs through targeted surveys and offerings such as healthy food, comfortable seating, and improved safety. As young adults are the largest group, quick, affordable, and nutritious meals, student discounts, and vibrant spaces with popular items like snacks and smoothies can boost engagement. Although fewer in number, customers aged 31 and above deserve relaxing areas and health-focused options. While students are the primary focus, faculty and staff also play important roles and should be considered in planning and implementation. Canteen managers can use data to identify priorities and enhance services for all.
    2. Overall satisfaction is positive, but further improvements are still possible. Staff attitude can be enhanced by focusing on friendliness, professionalism, and responsiveness. Service quality and cleanliness should be maintained through regular cleaning, inspections, strict hygiene protocols, and ongoing customer feedback. Pricing strategies should be reviewed through market analysis, including the offering of bundles, student discounts, and clear communication to ensure fairness and transparency. Service speed can be improved by streamlining processes, adding pre-prepared meals or extra staff during busy periods, and adjusting staffing levels. School administrators can support policy development and include canteen improvements in the school plan for better facilities at DOrSU-CC.
    3. Findings show that sex and age do not significantly affect overall satisfaction, but differences exist among academic groups, with some reporting lower satisfaction. It is recommended to tailor menu variety, portions, and service hours to fit each group's preferences and schedules—for example, offering quicker meals for some programs and healthier or more affordable options for others. Communication should be improved through channels like newsletters or bulletin boards to keep all students informed about services and updates. Ongoing monitoring by the academic segment will help adjust services and measure improvements. These targeted strategies can boost satisfaction across programs. Future researchers may further explore canteen service quality and customer satisfaction.

**Consent and ethical approval**

* + They first secured ethical clearance from the University Research Ethics Board of Davao Oriental State University by submitting a complete research proposal, informed consent forms, data collection tools, and an explanation of potential risks and benefits

Disclaimer (Artificial intelligence)

The authors hereby declare that generative AI technologies, specifically Large Language Models, were used during the writing and editing of this manuscript. Details of the AI usage are as follows:

* + 1. Name of the AI Tool: ChatGPT

Version/Model: GPT-4

Source/Provider: OpenAI (<https://chat.openai.com>)

Purpose of Use: Generative AI was primarily employed to enhance the clarity and coherence of the discussion, improve the overall language and grammar, and refine the abstract for better readability and adherence to academic standards.

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