

Hygiene Compliance in Fast Food Outlets in the University of Calabar, Cross River State, Nigeria: The Role of Operational Challenges and Staff Satisfaction

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Abstract

This study examines the relationship between hygiene compliance and staff satisfaction in fast food outlets within the University of Calabar, Cross River State, Nigeria. Two hypotheses were formulated and tested to establish the significance of relationships between staff-perceived hygiene levels, challenges of hygiene compliance, and staff satisfaction. The study adopted a descriptive research design, the study collected data through structured questionnaires administered to staff and observational checklists from selected fast-food outlets within the university environment. The data were analyzed using Pearson's Product Moment Correlation analysis. Findings revealed that hygiene practices in fast food outlets within the University of Calabar vary significantly, with many outlets demonstrating inconsistent compliance in key areas such as handwashing, food handling, waste disposal, and facility cleanliness. Staff perceptions indicated moderate levels of hygiene adherence, with several respondents reporting concerns about inadequate sanitation practices and poor maintenance of cooking environments. The study further found that staff satisfaction was closely linked to hygiene standards; outlets with visible sanitation protocols and regular monitoring recorded higher employee morale and commitment. Additionally, hygiene factors such as the availability of clean water, proper waste management systems, use of protective clothing, and regular health inspections were identified as major determinants of staff choice and patronage. However, the study also identified significant challenges hindering effective hygiene compliance, including inadequate infrastructure, irregular water supply, insufficient training of food handlers, and weak regulatory enforcement. These challenges not only reduce staff satisfaction but also pose risks to public health and the overall quality of service delivery. The study concludes that improving hygiene compliance in fast food outlets is essential for enhancing staff satisfaction, ensuring food safety, and promoting sustainable operations. It recommends that outlet operators and university authorities strengthen training, institutional support, and regular monitoring systems to ensure consistent hygiene practices, thereby fostering a healthier and more productive campus food environment..

Keywords: Hygiene Compliance, Fast Food Outlets, Operational Challenges, Staff Satisfaction, University of Calabar,

Introduction

A fast-food outlet is a quick-service restaurant that provides affordable meals such as rice, chicken, burgers, snacks, and drinks. It is designed to prioritize speed, convenience, and consistency, making it a popular choice for busy individuals, students, and workers who require ready-to-eat meals within a short time. Beyond just serving food, fast food outlets reflect modern lifestyles by meeting the growing demand for efficiency and accessibility in consumption while maintaining affordability and familiarity. Hygiene compliance has become a critical factor in determining the success, sustainability, and overall performance of fast food outlets globally. The industry caters to millions of consumers daily, with staff constituting a significant portion of this population because of their dependence on affordable and convenient meal options. With the increasing demand for food safety, there is a growing emphasis on the need for outlets to maintain strict adherence to hygiene regulations. Hygiene standards cover food preparation, storage, handling, staff practices, and the overall cleanliness of facilities. These elements are directly linked not only to customer satisfaction but also to staff satisfaction, as employees working in clean, well-maintained environments tend to experience greater motivation, job satisfaction, and productivity. A hygienic work environment enhances staff morale, reduces occupational health risks, and fosters a sense of pride and professionalism among workers (World Health Organization, 2021).

Globally, studies have shown that both customer and staff satisfaction in fast food outlets are significantly influenced by hygiene standards and compliance with safety regulations. Poor hygiene practices can lead to foodborne illnesses, which not only endanger public health but also create stressful and unsafe working conditions for employees. For instance, research in the United States indicates that over 48 million people suffer annually from foodborne diseases, with a significant proportion linked to poor hygiene in restaurants and fast food outlets (Centers for Disease Control and Prevention, 2020). This underscores the importance of compliance with hygiene regulations as both a public health priority and a determinant of employee satisfaction and workplace efficiency. In Europe, the European Food Safety Authority emphasizes that hygiene and sanitation compliance are essential in preventing outbreaks of foodborne pathogens such as *Salmonella* and *E. coli* in public food establishments. A study by Verbeke et al (2020) found that University staff in Belgium rated hygiene and cleanliness as the most important factors influencing their decision to patronize fast food outlets, ranking them even above price and convenience. Similarly, research in the United Kingdom reveals that hygiene ratings displayed in outlets significantly affect not only

customer confidence but also staff morale and job satisfaction, as workers in highly rated outlets feel more valued and motivated (Jin, Line, & Merkebu, 2016).

In Asia, the significance of hygiene compliance is equally evident. In China, the rapid expansion of international and local fast food outlets has heightened consumer and employee concerns about safety and sanitation. Wu et al. (2018) observed that hygiene practices such as the use of gloves, staff uniforms, and visible cleaning routines greatly influenced both customer satisfaction and employee morale. Similarly, in India, staffs have shown a preference for fast food outlets that prioritize food safety certifications and visibly enforce hygiene standards, reflecting a growing awareness of health implications in dining choices (Gupta & Sajnani, 2019). These findings suggest that hygiene compliance is not only a regulatory obligation but also a strategic approach that enhances both customer trust and staff satisfaction in the fast food industry.

Several studies have highlighted that foodborne diseases remain prevalent in many African countries, largely due to poor hygiene practices in food outlets (World Health Organization, 2022). This reality makes hygiene compliance not merely a customer service concern but a public health necessity and an internal management issue. Staff members who work in hygienic environments are less exposed to occupational health risks and tend to exhibit higher job satisfaction, commitment, and efficiency. According to Chukwuma and Eze (2023), staff satisfaction largely depends on their perception that food outlets maintain high levels of sanitation through safe food handling, proper waste disposal, and clean dining areas. Employees working in such environments also tend to express greater pride and contentment in their work. Outlets that implemented visible hygiene practices, such as handwashing stations and proper waste management systems, have been found to report higher levels of both customer and staff satisfaction. In South Africa, research conducted by Steyn et al. (2011) revealed that university staff perceived fast food hygiene standards as critical to their overall dining experience and their willingness to recommend such outlets to colleagues.

At the same time, staff members in outlets with consistent hygiene monitoring reported improved morale and motivation due to safer and more organized work environments. The growth of fast food outlets across Africa has significantly transformed the eating habits of staff, who represent a major consumer segment within this industry. With increasing urbanization, globalization, and lifestyle changes, fast food restaurants have become a convenient choice for staff due to their affordability, accessibility, and quick service (Afolabi, 2022). Broader studies across Nigerian tertiary institutions and similar contexts reinforce the

link between hygiene practices and satisfaction, suggesting that both customers and employees respond positively to visibly clean and well-maintained environments.

In a multi-campus analysis from Abia State, hygiene and food safety practices measured through checklists and structured questionnaires were found to significantly influence consumer choice of on-campus vendors, indicating that compliance is not only a public health imperative but also a strategic driver of demand (Amaechi et al., 2024). Related investigations in Nigerian cities further report that service tangibility, which includes the cleanliness of facilities, food handling practices, and staff appearance, is a major predictor of satisfaction in fast food restaurants frequented by young customers (Ekpo et al., 2025). These patterns align with public health guidance that emphasizes fundamental hygiene controls such as handwashing, separation of raw and cooked foods, maintenance of adequate cooking and holding temperatures, and protection from vectors and environmental contamination.

Within Cross River State, municipal-level assessments indicate that although many food handlers possess foundational knowledge and positive attitudes toward hygiene, actual practices often vary due to infrastructural challenges such as irregular water supply, inadequate storage facilities, and poor waste management systems. These constraints not only undermine hygiene compliance but also affect employee morale and perceived service quality among staff consumers (Okon, Ubi, & Basse, 2022).

In a university setting, staff satisfaction is therefore contingent not only on individual attitudes or vendor behavior but also on institutional support systems that enable compliance. Such supports include access to potable water, regular inspection and feedback mechanisms, structured training, and clear operational standards that promote consistent and safe practices. Previous studies, which suggest that staffs are more likely to comply with observable hygiene measures than with less visible but critical safety practices (Purnasari & Rusdan, 2021; Fenteng et al., 2020). Gaps in these critical areas may reflect insufficient supervision or inadequate training, highlighting the need for ongoing capacity-building programs, as emphasized by the World Health Organization (2022). Staff perceptions of hygiene largely reflected actual practices. Many respondents rated hygiene standards as good or very good; however, inconsistencies were reported, including hygiene being maintained only during inspections or in select outlets. The staff attitudes and awareness strongly influence adherence to hygiene protocols (Zahari et al., 2020; Chukwuma & Eze, 2023). Temporary improvements during inspections have also been reported in previous research, underscoring the importance of cultivating a continuous culture of hygiene rather than relying on periodic supervision (Kunadu et al., 2016).

Staff satisfaction with hygiene standards was generally high, with most respondents reporting satisfaction or very high satisfaction. Positive perceptions of hygiene are known to motivate staff to maintain safe environments (Zahari et al., 2020). Nevertheless, some people expressed dissatisfaction, often linked to poor service environments or inconsistent hygiene across outlets, reflecting the influence of operational and environmental factors on staff contentment (Fenteng et al., 2020; WHO, 2022). Satisfaction was higher when food was freshly prepared, highlighting the role of operational practices in shaping perceptions of hygiene quality. Hygiene factors influencing outlet choice were primarily related to environmental cleanliness, proper food handling, and staff personal hygiene. Additional factors included sanitation facilities, food freshness, and regular cleaning routines. Visible cleanliness, staff appearance, and adherence to food safety measures strongly affect decisions to patronize food outlets (Afolabi, 2022; Verbeke et al., 2020). This demonstrates that hygiene not only influences staff behavior but also affects consumer confidence and patronage.

Several challenges are identified as barriers to proper hygiene practices. The most cited issues were poor waste disposal, overcrowding, insufficient staff training, and lack of supervision. Other challenges included limited water supply, low awareness of food safety rules, and financial constraints, although cost was less significant. These challenges are consistent with prior research highlighting structural, behavioral, and resource-related factors that hinder effective hygiene practices in food service establishments (Afolabi, 2022; Ameh et al., 2021; Chukwuma and Eze, 2023; Okon et al., 2022). Staff perceptions of the risk of foodborne illnesses were high, with most respondents identifying very high or high risk due to poor hygiene. Key risk factors included undercooked food, unwashed hands, dirty utensils, uncovered food, and unsanitary environments. These perceptions correspond with studies that link inadequate hygiene practices to increased risk of foodborne diseases (Afolabi, 2022; Ameh, 2021; Chukwuma and Eze, 2023, Mphasha et al., 2024).

Hygiene compliance in fast food outlets remains a critical factor influencing staff satisfaction within the University settings. Since these outlets serve as vital sources of affordable and convenient meals, the health, safety, and well-being of the university community depend directly on the hygienic conduct of food handlers and the cleanliness of facilities. Poor hygiene practices not only expose consumers to foodborne illnesses but also reduce employee morale and commitment, leading to lower productivity and reduced customer trust. Understanding the relationship between hygiene compliance and staff satisfaction, therefore, provides valuable insights for improving service quality, promoting occupational health, and ensuring sustainable food service delivery within the university environment.

Statement of the problem

The global expansion of fast food outlets has brought convenience and affordability to millions of consumers, particularly staff and other working populations who rely on such establishments for quick meals. However, hygiene compliance in these establishments have raised serious concerns regarding food safety, public health, and employee well-being. According to the World Health Organization (WHO, 2021), unsafe food containing harmful bacteria, viruses, parasites, or chemical substances causes more than 600 million cases of foodborne illnesses annually, with food outlets identified as a major source of contamination. Studies reveal that fast food establishments often compromise hygiene standards due to high customer demand, inadequate training of food handlers, limited resources, and weak regulatory monitoring.

In developing contexts, particularly among university-based outlets, hygiene compliance is even more critical. Staff working under unsanitary conditions face health hazards, lack motivation, and often feel undervalued, which in turn affects service quality. In Nigeria, compliance with hygiene standards among fast food handlers is low, largely due to inadequate training and limited institutional support. Such deficiencies reduce staff satisfaction and overall service effectiveness, leading to increased occupational stress and potential public health risks.

Despite global awareness, many fast food outlets continue to prioritize profitability over hygiene, creating a gap between expected standards and actual practices. This challenge underscores the need to assess hygiene compliance and its impact on staff satisfaction, as both factors are crucial for ensuring food safety, employee well-being, and sustainable business operations. Studies have shown that when hygiene standards are consistently maintained, staff are more likely to report higher job satisfaction, demonstrate professionalism, and deliver better service, thereby contributing to a safer and more productive work environment

Fast food outlets operating within and around the University of Calabar, Cross River State, Nigeria, play a significant role in daily campus life by providing accessible and affordable meal options. However, hygiene compliance within these outlets remains a pressing concern. A recent survey of fast food vendors near the campus revealed that only 54% consistently maintain clean food preparation surfaces, 47% adhere to proper handwashing procedures, and just 33% manage waste disposal effectively, raising concerns for both worker and consumer safety. Similarly, the Cross River State Ministry of Health reported three outbreaks of foodborne illnesses among university students between 2022 and 2024, which were traced to poor hygiene practices in campus-adjacent eateries. These findings highlight a critical

problem: inadequate hygiene compliance in fast food outlets may undermine staff satisfaction, safety, and performance, while simultaneously posing risks to public health and consumer trust.

Despite the importance of this issue, little or no study has yet examined how hygiene compliance in fast food outlets within the University of Calabar influences staff satisfaction, motivation, and service quality. Addressing this gap is essential to ensure safe and supportive working environments, enhance job satisfaction among employees, and promote sustainable food service practices in the university's fast food sector. There is a need to evaluate current hygiene practices, assess staff satisfaction levels, identify operational challenges, and propose practical strategies for improvement.

Objectives of the Study

The main objective of this study is to examine the relationship between hygiene compliance and staff satisfaction in fast food outlets within the University of Calabar, Cross River State, Nigeria. Specifically, the study seeks to:

1. To examine the relationship between the various hygiene practices in fast food outlets and the challenges preventing the maintenance of hygiene practices in the study area.
2. To determine the relationship between staff satisfaction with hygiene standards in fast food outlets and the challenges preventing the maintenance of hygiene practices in the study area.

Research Hypotheses

Based on the objectives of the study, the following null hypotheses were formulated:

1. There is no significant relationship between the various hygiene practices in the fast-food outlets and challenges preventing fast food outlets from maintaining hygiene practices within the University of Calabar, Cross River State, Nigeria.
2. There is no significant relationship between the staff satisfaction with hygiene standard in the fast-food outlets and challenges preventing fast food outlets from maintaining hygiene practices within the University of Calabar, Cross River State, Nigeria

Methods

This study adopted a survey research design to answer the research questions of this study. The study adopted a descriptive research design, the study collected data through structured questionnaires administered to staff and observational checklists from selected fast-food

outlets within the university environment. The research adopted both quantitative and qualitative approaches to provide a comprehensive assessment of hygiene compliance and staff satisfaction. Data were collected across the two faculties in the University of Calabar used for the study. An open ended questionnaire was designed which contained a set of questions that capture all the variables in the objectives of the study. Information captured in the questionnaire include the various hygiene practices in the fast food outlets, Staff perceived level of hygiene practices around fast food outlet, staff satisfaction of hygiene standard around fast food outlets, hygiene factors that influence staff choice and the challenges preventing fast food outlets from maintaining hygiene practices, providing insights for improving workplace conditions and food safety within the university environment. However, the questionnaire was administrated with the aid of field assistant that were deployed in the fast food outlets used for the study. The data were analyzed using descriptive statistics, including frequency and mean score distributions, as well as inferential statistics such as Pearson's Product Moment Correlation analysis to test the relationship between hygiene compliance, staff satisfaction, and operational challenges. Two hypotheses were formulated and tested to establish the significance of relationships between staff-perceived hygiene levels, challenges of hygiene compliance, and staff satisfaction.

Results

HO₁:

There is no significant relationship between the various hygiene practices in the fast-food outlets and challenges preventing fast food outlets from maintaining hygiene practices within the University of Calabar, Cross River State, Nigeria

The initial analysis suggested no significant association between various hygiene practices in the fast food outlets and challenges preventing fast food outlets from maintaining hygiene practices. However, a closer examination of the data presented in Table 1 revealed a positive correlation with a coefficient of $R = 0.763$ and $P < 0.05$, indicating a statistically significant relationship between various hygiene practices in the fast food outlets and challenges preventing fast food outlets from maintaining hygiene practices in the study area.

Consequently, the null hypothesis is rejected, and the alternative hypothesis is accepted. This confirms that various hygiene practices in the fast food outlets are significantly related to the challenges preventing fast food outlets from maintaining hygiene practices at the University of Calabar.

TABLE 1: Correlation analysis between various hygiene practices in the fast food outlets and challenges preventing fast food outlets from maintaining hygiene practices at the University of Calabar

Parameter	N	R	p-value
various hygiene practices in the fast food outlets	11	0.763 ^{ns}	0.001
challenges preventing fast food outlets from maintaining hygiene practices	11		

Source: Pearson correlation computational output, 2026

HO₂:

There is no significant relationship between the staff satisfaction with hygiene standard in the fast-food outlets and challenges preventing fast food outlets from maintaining hygiene practices within the University of Calabar, Cross River State, Nigeria

The analysis of the data provides evidence against the null hypothesis. As shown in Table 2, a strong positive correlation exists between staff satisfaction with hygiene standard in the fast food outlets and challenges preventing fast food outlets from maintaining hygiene practices, with a correlation coefficient of $R = 0.857$ and $P < 0.001$. This signifies a statistically significant and linear relationship between the two variables. Accordingly, the null hypothesis is rejected, and the alternative hypothesis is accepted. The findings demonstrate that staff satisfaction with hygiene standard in the fast food outlets significantly challenges preventing fast food outlets from maintaining hygiene practices at the University of Calabar.

Table 2: Correlation analysis between staff level of satisfaction in hygiene standard around fast-food outlets and hygiene factors influencing staff choice to fast food outlets at the University of Calabar

Parameter	N	R	p-value
Staff satisfaction in hygiene standard around fast-food outlets	11	0.857**	0.001
Hygiene factors influencing staff choice	11		

Source: Pearson correlation computational output, 2026

Discussion of findings

The study examined hygiene practices, staff perceptions, satisfaction levels, factors influencing outlet choice, challenges, and perceived risks of foodborne illnesses in fast-food outlets within the University of Calabar. The findings indicate that while visible hygiene practices, such as wearing clean uniforms, covering hair, and using gloves, are generally observed, essential protocols, including surface sanitization, proper refrigeration, and avoiding food handling when ill, are inconsistently implemented. These results are consistent with previous studies, which suggest that staffs are more likely to comply with observable hygiene measures than with less visible but critical safety practices (Purnasari and Rusdan, 2021; Fenteng et al., 2020). Gaps in these critical areas may reflect insufficient supervision or inadequate training, highlighting the need for ongoing capacity-building programs, as emphasized by the World Health Organization (2022). Staff perceptions of hygiene largely reflected actual practices. Many respondents rated hygiene standards as good or very good; however, inconsistencies were reported, including hygiene being maintained only during inspections or in select outlets. This aligns with earlier studies indicating that staff attitudes and awareness strongly influence adherence to hygiene protocols (Zahari et al., 2020; Chukwuma & Eze, 2023). Temporary improvements during inspections have also been reported in previous research, underscoring the importance of cultivating a continuous culture of hygiene rather than relying on periodic supervision (Kunadu et al., 2016).

Staff satisfaction with hygiene standards was generally high, with most respondents reporting satisfaction or very high satisfaction. Positive perceptions of hygiene are known to motivate staff to maintain safe environments (Zahari et al., 2020). Nevertheless, some respondents expressed dissatisfaction, often linked to poor service environments or inconsistent hygiene across outlets, reflecting the influence of operational and environmental factors on staff contentment (Fenteng et al., 2020; WHO, 2022). Satisfaction was higher when food was freshly prepared, highlighting the role of operational practices in shaping perceptions of hygiene quality. Hygiene factors influencing outlet choice were primarily related to environmental cleanliness, proper food handling, and staff personal hygiene. Additional factors included sanitation facilities, food freshness, and regular cleaning routines. These findings align with previous studies indicating that visible cleanliness, staff appearance, and adherence to food safety measures strongly affect decisions to patronize food outlets (Afolabi, 2022; Verbeke et al., 2020). This demonstrates that hygiene not only influences staff behavior but also affects consumer confidence and patronage.

Several challenges were identified as barriers to proper hygiene practices. The most cited issues were poor waste disposal, overcrowding, insufficient staff training, and lack of

supervision. Other challenges included limited water supply, low awareness of food safety rules, and financial constraints, although cost was less significant. These challenges are consistent with prior research highlighting structural, behavioral, and resource-related factors that hinder effective hygiene practices in food service establishments (Afolabi, 2022; Ameh et al., 2021; Chukwuma and Eze, 2023; Okon et al., 2022). Staff perceptions of the risk of foodborne illnesses were high, with most respondents identifying very high or high risk due to poor hygiene. Key risk factors included undercooked food, unwashed hands, dirty utensils, uncovered food, and unsanitary environments. These perceptions correspond with studies that link inadequate hygiene practices to increased risk of foodborne diseases (Afolabi, 2022; Ameh, 2021; Chukwuma and Eze, 2023, Mphasha et al., 2024). Staff awareness of hygiene risks appears to influence behavior, as shown by their avoidance of unhygienic outlets and preference for establishments demonstrating observable hygiene practices.

Therefore, while visible hygiene practices are widely implemented, critical measures remain inconsistent due to gaps in training, supervision, and resources. Staff perceptions and satisfaction are generally positive but reflect awareness of variability in hygiene standards across outlets. Hygiene practices significantly influence staff choices of fast-food outlets and perceptions of foodborne illness risk. These findings highlight the need for continuous training, regular monitoring, consistent enforcement of hygiene protocols, and improved infrastructure to ensure safe and hygienic food service environments..

Conclusion

Based on the findings, the study concludes that while basic and visible hygiene practices, such as wearing clean uniforms, covering hair, and using gloves, are generally followed, critical hygiene measures, including surface sanitization, proper refrigeration, and avoidance of handling food when ill, are inconsistently observed. This suggests that although staffs are aware of hygiene requirements, gaps in training, supervision, and monitoring limit full compliance. Staff perceptions of hygiene largely corresponded with observed practices, with many respondents rating hygiene standards as good or very good. However, inconsistencies were reported, including hygiene maintained only during inspections or in select outlets. Staff satisfaction with hygiene was generally positive, though some respondents expressed dissatisfaction due to poor service environments, uneven compliance across outlets, and operational shortcomings. Satisfaction was higher when food was freshly prepared, highlighting the influence of operational quality on perceptions of hygiene. The study also concluded that hygiene factors strongly influence staff choice of fast-food outlets. Clean environments, proper food handling, and staff personal hygiene were the most important determinants, followed by sanitation facilities, food freshness, and regular cleaning. Staff

perceptions of the risk of foodborne illnesses were high, with undercooked food, unwashed hands, dirty utensils, uncovered food, and unsanitary environments cited as major concerns.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The outlet operators and university authorities strengthen training, institutional support, and regular monitoring systems to ensure consistent hygiene practices, thereby fostering a healthier and more productive campus food environment.
2. Regulatory agencies should conduct regular inspections, provide clear guidelines, and enforce compliance with food safety standards. Collaboration with health authorities can help disseminate best practices and maintain consistent hygiene across outlets.

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