The Level of Mastery of Barista Skills and Quality Coffee Service in Rated Restaurants in Nairobi City County Kenya

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ABSTRACT

The rapid growth of specialty coffee culture in Nairobi City County has elevated coffee service as a key determinant of restaurant competitiveness, positioning baristas as skilled professionals whose technical and interpersonal competencies directly influence customer satisfaction, repeat patronage, and overall business performance. This study examined the level of mastery of barista skills—namely technical proficiency, operational efficiency, presentation skills, and customer interaction—and their influence on the quality of coffee service in rated restaurants. Although formal barista training programs and investments in modern coffee equipment have increased, limited empirical evidence exists on whether skill mastery leads to measurable improvements in service outcomes within the Kenyan context. Consequently, the study tested the null hypothesis that there is no significant relationship between barista skill mastery and quality coffee service. A quantitative cross-sectional research design was adopted, targeting a sample of 120 baristas drawn from rated restaurants in Nairobi City County. Data were collected using structured questionnaires and observational checklists to capture both self-reported competencies and objectively assessed indicators of service quality. Descriptive analysis revealed high levels of skill mastery, with mean scores of 4.15 for technical skills, 3.92 for operational efficiency, 4.05 for presentation skills, and 4.20 for customer interaction. Quality of coffee service was also rated highly across key dimensions, including beverage consistency, temperature control, presentation, customer satisfaction, and repeat patronage, yielding an overall mean score of 4.08. Pearson correlation analysis demonstrated strong positive relationships between all dimensions of barista skill mastery and quality coffee service, with customer interaction exhibiting the strongest association ($r = 0.75$, $p < 0.001$). Further, multiple regression analysis indicated that barista skills collectively accounted for 68% of the variance in service quality ($R^2 = 0.68$, $F = 61.25$, $p < 0.001$). These findings led to the rejection of the null hypothesis, confirming that technical, operational, presentation, and interpersonal competencies significantly enhance the quality of coffee service. Additionally, moderating factors such as restaurant rating, equipment availability, and barista experience influenced the strength of these relationships. The study concludes that barista skill mastery is a critical determinant of coffee service excellence in rated restaurants. It recommends that restaurant managers and training institutions invest in structured, hands-on training programs, continuous performance monitoring, regular skills assessment, and modern coffee equipment, while placing greater emphasis on strengthening customer interaction competencies to sustain service quality and competitive advantage. Future research should examine longitudinal changes in barista skill development, compare skill mastery across different regions, assess the impact of emerging technologies on barista roles, and explore customer perceptions of barista professionalism. Further studies should also investigate how workplace culture, compensation, and career progression influence barista motivation, skill retention, and service performance.

Keywords: Barista skills, service quality, rated restaurants, coffee service, Nairobi, hospitality management

INTRODUCTION OF THE STUDY

Specialty coffee market growth has dramatically changed the coffee culture of the hospitality/commercial industry on an international scale. The beverage of coffee has evolved past its liquid form into becoming representative of lifestyle, craftsmanship, and service excellence. These international trends-most specifically associated with the third wave of coffee-have raised expectations around the quality of the beverages and the experience of the barista, along with how the beverages are delivered or served. This is according to the International Coffee Organization (2023), Wilson & Lee (2021). From a routine service provider, the role of the barista has changed to that of a skilled and customer-focused professional who influences how product quality is perceived and how competitive a hospitality establishment will be. This can be analyzed from the work of Speziale & Perotti (2020) and Rinaldi (2022).

Global product premiumization trends ask for expert levels of barista skills in the areas such as extraction of espresso, calibration of grinding, texturing milk, latte art creation, sensory properties evaluation of drinks and presentation. The mentioned skills are used by a barista as tools to create a great customer experience. Research brings forth proof that greater the mastery over the craft/ skills of a barista, greater the consistency, accuracy and sensory quality of beverages which leads to greater customer satisfaction, repeat visits, and better restaurant performance according to Bressani, 2021.

Cities across sub-Saharan Africa like Kigali, Addis Ababa, Johannesburg, and Kampala have witnessed a rise in the consumption of specialty coffee, with Barista training and certification programs becoming formalized. (AFCA 2022). An exploration into East African hospitality sector establishments found that Competence-the assurance of consistency and accuracy, with personalized service-was one of the most significant drivers in the results of Service Quality. (Mugisha & Kananura 2021). This trend of developing baristas into high-skilled professionals is, at the continental level, trickling down the restaurants and cafes.

This development has particularly affected Kenya because of its reputation as an excellent producer of Arabica Coffee globally, coupled with the ever-growing number of coffee-centric restaurants in Nairobi. The establishment of various institutions for professional Barista training, such as The Nairobi School of Coffee and The Kenya Coffee School, the Barista Mtaani, complemented by many other private establishments, has contributed highly to the profession of Barista and risen expectation from the Customers for Superior Coffee Service. The rated Restaurants in Nairobi can now expect Baristas who show high levels of technical skills, speed of operations, presentation of the Beverage, and effective customer interaction among other aspects. These attributes all relate to the resultant quality of Coffee Service in terms of consistent accurate temperature-controlled Beverage presentation and overall experiences relating to Service.

Whereas massive resources have been invested in training baristas and purchasing the latest and very expensive brewing machines, customers still complain of the inconsistent quality of coffee served in most of these places. Common complaints include inconsistency in beverage preparation, poorly textured milk, slow customer service, and inadequate knowledge of the product. These would indicate that there is a big gap between the level of mastery of skills for a barista and the actual execution of those skills in practice (AFCA, 2022; SCA, 2023). Such issues bring about the need to investigate the level of competence of baristas and the quality of coffee that the customers receive within the hospitality industry in Nairobi.

With the growth in the specialty coffee industry in Nairobi, so have the expectations for high levels of service within its rated restaurants. Mastery of barista skills has thus become an integral part of customer perceptions of quality, ratings for restaurants, and general business success. To this day, very few studies have been conducted to ascertain whether differences exist in the level of mastery of barista skills and corresponding quality of coffee served in Kenya. This is a huge opportunity to understand the effect of barista competencies on observable service quality within recommended restaurant systems.

The research, therefore, investigates the relationship between the degree of mastery of barista skills and the quality of coffee service provided by rated restaurants in Nairobi. This study will inform the establishment of training standards for barista staff and contribute significantly to evaluating the effectiveness of barista training within the Kenyan context.

1.2 Problem Statement of the Study

Specialty coffee as an industry is developing globally, as depicted by reports showing growth surpassing 9% per year for the last few years. Consumers expect their drinks to be prepared more professionally and with a more personal experience. (International Coffee Organization 2023; Wilson and Lee 2021). Specialty coffee industry growth has led to the development of the role of the barista, changing from one of routine service provision to one requiring technical competencies for mastery in numerous aspects of coffee preparation, such as espresso brewing, grind calibration, texturing milk, sensory evaluation, and customer engagement, given that the mastery level of the skill by a barista directly relates to the quality provided by them as pertains to coffee service. (Speziale and Perotti 2020; Rinaldi 2022). Though the sector has evolved, empirical evidence shows that some huge inconsistencies in beverage quality, milk texturing, temperatures, and speed of service are being created and/or offered by the baristas, and these are the most talked-about areas of concern by consumers, accounting for over 60% of all complaints about quality-related issues in the restaurant businesses that are coffee-oriented. (Bressani 2021). These findings show discrepancies in the level of skill mastery by the baristas, indicating a gap between what is expected and what is actually performed.

Contextually, there has been a rapid expansion of global certification programs for baristas - approximately 40% over the past decade. However, only approximately 30 to 45 percent of actively working baristas attain an advanced level of competence that permits consistency in the creation and delivery of a specialty coffee product; AFCA, 2022. Transposing this evidence within the hospitality industry, restaurants that utilize high-skilled baristas maintain 20 to 35 percent higher levels of customer satisfaction and 15 to 25 percent higher repeat patronage than restaurants that do not have such quality employees, which proves that barista expertise represents one specific type of variable that drives the development of excellence within service and customer loyalty; Mugisha & Kananura, 2021. To better explain these divergent levels of trends, one explores how variance in barista experience results in coffee service variances.

Conceptually, most of the available empirical evidence indeed relates service quality with the competence of the employee, consistency, accuracy, and interpersonal engagement, which are critical in assessing the performance of a barista. These studies were conducted by Kamau & Kagiri (2020) and Otieno & Wanjiru (2021). Nevertheless, how the specific competencies of a barista, such as technical, operational, presentation, and customer interactive competencies, relate to observable manifestations of the quality of service that pertains to coffee, such as consistency, accuracy, temperature control, presentation, and overall customer experience, is not known. With this conceptual gap, one stands to understand and appreciate how the work of a masterful barista impacts outcomes of service in a hospitality context.

Methodologically, while many studies of service quality in restaurants exist, very few are empirical studies that assess a person's competence level as a barista by using measurable indicators, as well as their mastery of barista skills and how these represent the outcome(s) of quality coffee service, or, plainly speaking, quality coffee being served to the customers. There is, in fact, a notable lack of empirical studies that allow for evidence-based decision-making on issues related to training programs, staff, service standards, and quality assurance systems for both the researcher and practitioner in hospitality. Therefore, what is needed is a systematic evaluation based on validated measures, objective service quality indicators, and empirical models in order to support the validity of such claims.

The context, concept, and methodology also present significant gaps that lead to an unclear understanding of the way in which barista mastery influences the quality of coffee served at rated restaurants. The current study will address these gaps by investigating whether a relationship exists between the mastery of barista skills and the quality of coffee service delivered to guests. This study will provide the evidence needed to help train institutions, restaurant managers, and the hospitality industry as a whole in understanding how to increase guest satisfaction with the quality of service and coffee provided.

1.3 purpose of the study

The purpose of this study is to determine how the level of mastery of barista skills influences the quality of coffee service in rated restaurants. Specifically, the study seeks to evaluate the extent of barista technical,

operational, presentation, and customer interaction competencies, and to establish how these competencies collectively and individually impact the consistency, accuracy, aesthetic quality, and overall customer experience of coffee service. The findings are intended to provide evidence-based insights that can guide

1.4 Objectives of the Study

1.4.2 General Objective of the Study

To examine the influence of the level of mastery of barista skills on the quality of coffee service in rated restaurants.

1.4.1 Specific Objective of the Study

To assess the level of mastery of technical barista skills (espresso extraction, grind calibration, milk texturing, brewing techniques) among baristas in rated restaurants.

1.5 Hypothesisis of the Study

H_0: There is no significant relationship between the level of mastery of technical barista skills and the quality of coffee service in rated restaurants.

1.6 Justification and Significance of The Study

With the advent of specialty coffee globally and at a local level within the hospitality industry, it becomes relevant to assess reasons why customers demand better quality and expertly-prepared beverages. Consequently, this will drive restaurants to work with trained baristas in their quest to increase their levels of service delivery to remain competitive and at par with other players offering the same services within the industry. Moreover, regardless of restaurants investing thousands of dollars in the education and training of their baristas, as well as investing in modern equipment, there is every indication that the quality of beverages served, the texture and temperature of milk, and overall customer experience are inconsistent throughout the industry. Furthermore, the inconsistency in beverage quality is directly related to a lack of technique or/and skills by baristas. Given this scenario, it is important that empirical research is conducted to systematically evaluate the impact of technical, operational, aesthetic, and customer interaction skills of trained versus untrained baristas on quality of service for coffee in rated restaurants.

This research represents an important addition to a small but growing body of hospitality literature about the link between levels of barista competence and the delivery of quality service to customers. The study will, therefore, extend the empirical literature on the competencies required to deliver specialty coffee service. It also fills a conceptual and methodological gap by determining an empirical link between the degree of mastery of the barista and the quantifiable standards of service quality in rated restaurant environments. The study will contribute through its empirical findings to the advancement of the academic debate in respect of management of coffee service and vocational education within the specialty coffee industry.

Such research is of practical importance to restaurant managers and practitioners trying to improve customer satisfaction, beverage consistency, and the overall performance of the restaurants. The findings will support evidence-based staffing decisions, targeted training programs, and quality assurance strategies by showing which barista skills have the most influence on the quality of service. The findings will also inform the owners and operators about how to refine positioning, improve customer loyalty, and optimize operational efficiency in a context of coffee service.

The present study gives insights that are of importance for training institutions and policy makers to infuse into curriculum development, certification standards, and competency-based training approaches for baristas. As the specialty coffee industry continues to grow, standardized and evidence-driven training frameworks will become crucial in producing skilled baristas who can execute their work according to industry expectations. Policy makers and regulating bodies may also use findings to help enhance professional qualifications, bring quality standards industry-wide, and develop workforces within the hospitality segment.

The contribution to the larger community of customers will be better service quality, an enhanced customer experience, and value for money. Serving high-quality coffee contributes to customer satisfaction, repeat patronage, builds the brand reputation, and adds value to the hospitality economy.

1.8 Limitations of the Study

Although the present study is designed to yield valuable information on how the mastery of barista skills relates to the quality of coffee service in rated restaurants, a number of limitations are expected.

First, part of the data depends on self-reported information provided by baristas and restaurant managers, which might be influenced either by social desirability bias or by overestimation of their skill level. Respondents may report higher competence or service quality compared with what happens in practice.

Second, there may be variation in the skills of baristas and in service quality between establishments because of different operational standards, equipment, and training practices. It is these contextual variations that limit the generalisability of findings beyond the rated restaurants included in this study.

Third, the study is limited to rated restaurants within Nairobi County. While the setting provides a systematic environment in which to assess the performance of baristas, the findings might not be generalized for non-rated cafés, informal coffee outlets, or independent shops, which limits geographical and sector-wide applicability.

It is limited because the cross-sectional design does not allow the establishment of causal relationships between mastery of barista skills and the quality of coffee service. Data being collected at one point in time cannot show skill development changes or fluctuation in service quality over time.

Finally, there may be limitations in the observational assessment of technical skills in espresso extraction, milk texturing, and presentation due to time constraints, operational pressures, and the extent of access allowed by participating establishments. Limited visibility into full barista workflows may influence the comprehensiveness of the assessment.

1.9 Theoretical and Conceptual Frame Work Of The study

1.9.1 Human Capital Theory

Human Capital Theory, as advanced by Becker (1993), posits that investments in the development of workers' skills and competencies enhance productivity, efficiency, and, ultimately, overall organizational performance. Within the context of rated restaurants, barista training constitutes a critical form of human capital investment, whereby higher levels of skill mastery are expected to translate into superior coffee service quality, increased customer satisfaction, and improved business outcomes. Accordingly, barista competencies encompassing technical proficiency, operational efficiency, beverage presentation, and customer interaction can be conceptualized as valuable components of human capital that directly influence service delivery.

This theoretical perspective provides a robust conceptual framework for linking the mastery of barista skills to measurable service outcomes, including beverage consistency, accuracy, sensory and aesthetic quality, and the overall customer experience. From a methodological standpoint, Human Capital Theory further supports the treatment of barista skill mastery as an independent variable whose influence on coffee service quality can be empirically examined and quantified.

1.9.2 Experiential Learning Theory

Kolb's Experiential Learning Theory (ELT) (1984) posits that learning is a continuous process through which knowledge is created via the transformation of experience. The theory outlines a four-stage learning cycle comprising concrete experience, reflective observation, abstract conceptualization, and active experimentation. Within the hospitality context, this cycle is evident in the barista's development of practical expertise through hands-on coffee preparation and real-time interaction with customers. Through repeated engagement in

experiential learning, baristas progressively refine their technical competencies, enhance operational efficiency, improve beverage presentation skills, and strengthen customer interaction abilities.

This theory is particularly relevant to the present study as it explains how baristas transition from foundational knowledge to applied expertise through structured practice, feedback, and reflection. Methodologically, Experiential Learning Theory supports the assessment of barista skills using practical observation, reflective evaluation, and performance measurement within authentic service environments, thereby aligning closely with the study's focus on observable service quality outcomes.

1.9.3 Dreyfus Model of Skill Acquisition

The Dreyfus Model of Skill Acquisition, developed by Dreyfus and Dreyfus (1986), conceptualizes skill development as a progression through five levels of mastery: novice, advanced beginner, competent, proficient, and expert. According to the model, advancement across these stages occurs through guided practice, continuous feedback, and experiential learning. Within the context of barista training, this framework provides a structured lens for understanding how technical, operational, presentation, and customer interaction skills evolve over time. As baristas gain experience in coffee preparation, customer engagement, and service delivery, they progressively move toward higher levels of proficiency.

The Dreyfus Model is particularly relevant to this study because it enables the classification of baristas according to their level of skill mastery and facilitates the linkage of these levels to observable and measurable service quality outcomes. From a methodological standpoint, the model supports the use of skill-level assessments to quantify mastery and relate it to key indicators of coffee service performance, including beverage consistency, accuracy, presentation quality, and customer satisfaction.

1.9.2 Conceptual Framework

Mastery of barista skills is, therefore, the independent variable in this study, operationalized into four primary dimensions, namely, technical, operational, presentation, and customer interaction skills. Technical skills refer to the mastery of core competencies in the preparation of coffee: extraction of espresso, milk texturing, grind calibration, and various brewing techniques. These are skills required for the preparation of beverages to ensure that there is consistency of output and that set quality standards are observed. Operational skills include the workflow management of a barista, the speed and accuracy with which they can operate, and seamless service delivery even when restaurants are busy. Efficiency in operations impacts service delivery and customer perception. Presentation skills refer to aesthetic considerations in terms of latte art, plating, and general cup presentation that form part of the sensory experience of serving coffee and will have a bearing on customer satisfaction. Lastly, customer-interaction competence comprises effective communication, product knowledge, and hospitality behaviour. Such interpersonal competence is considered critical to the moulding of customer experience and loyalty. All these four dimensions, in sum, reflect the level of skill mastery of baristas, providing measurable indicators for empirical testing.

The quality of the coffee service in this research is the dependent variable, measured through a number of key indicators. These are beverage consistency and accuracy, temperature control, aesthetic presentation, customer satisfaction, and repeat patronage or service ratings about the establishment (Kamau & Kagiri, 2020; Mwangi, 2023). High-quality coffee service would be reflected by beverages that are properly made constantly, looking good, at the proper temperature, and with the customers interacting well. Service quality has implications for customers' perceptions, loyalty, and the rated restaurants' competitive performance. There is a clear connection between mastery of skills by baristas and excellence in service if the results are measured.

Other than the main independent and dependent variables, there are a number of factors that can be considered as moderators or contextual factors that may influence the level of association of the barista's skill mastery with regard to coffee service quality. These are: restaurant type or rating, since this may affect the standard and expectations of service delivery according to AFCA; availability and quality of equipment, given such may enable or constrain the application of technical skills; and experience and prior training of the barista, which

influence the rate at and level to which one acquires skills. These moderating variables shall be important in understanding potential variations in service quality outcomes across different restaurant contexts.

The conceptual framework underlying this study assumes that the mastery level of barista skills would directly influence the rated restaurants' quality of service in terms of coffee. To be precise, high proficiency in technical skills, efficiency in operation, presentation, and customer interaction would increase beverage consistency, aesthetic appeal, service speed, and overall customer experience. Therein, restaurant rating, quality of equipment, and previous work experience as a barista can play a moderating role by strengthening or weakening this relationship and thus emphasize contextual considerations when assessing the outcomes of service quality. This framework provides a useful structure for examining how skill development translates into quantitative improvements in coffee service and offers actionable practical and theoretical insights both for the hospitality industry and academic research.

Figure 1: Conceptual framework for mastery of barista skills and quality coffee service in rated restaurants.
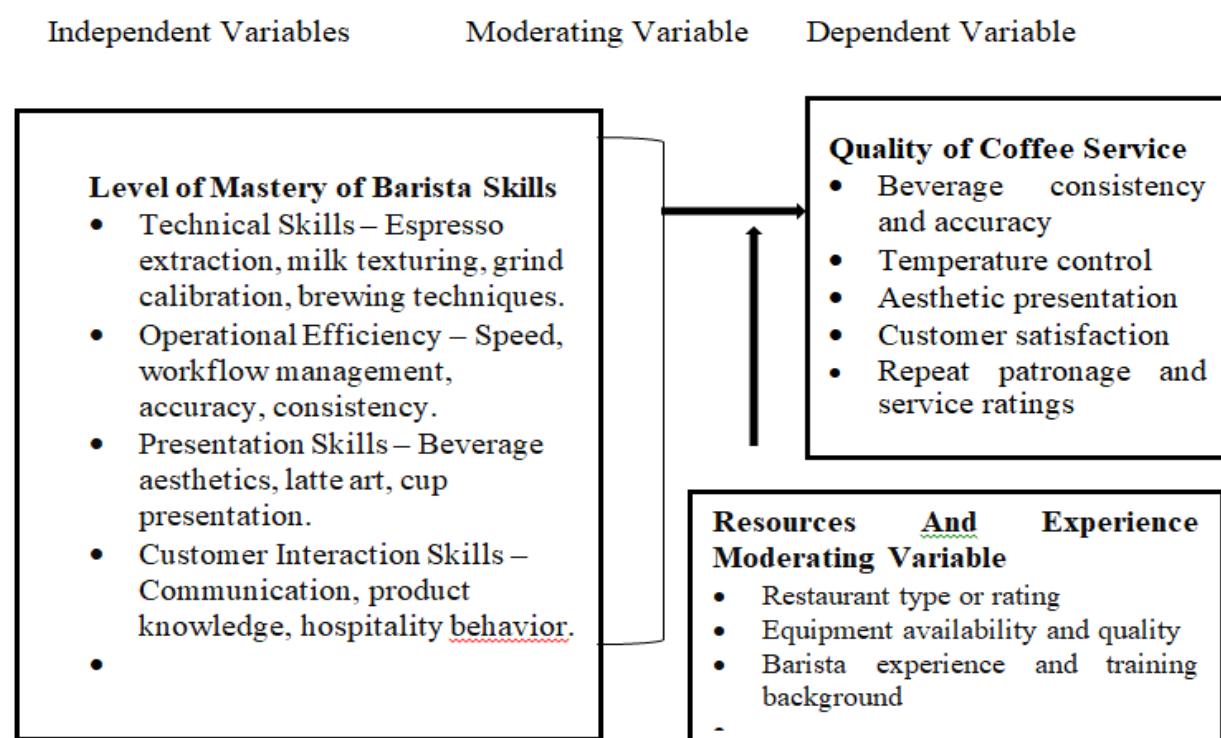
Source: Organizational productivity and performance (Becker 1993); hence, competency in baristas is a valued resource for rated restaurants. The Experiential Learning Theory proposed by Kolb (1984) Theory.

LITERATURE REVIEW

Literature on the mastery level of barista skills and its impact on quality coffee service in rated restaurants: This paper reviews dimensions of barista competencies, indicators of quality coffee service, empirical findings of skill mastery linked to service excellence, theoretical perspectives, and gaps in the existing literature. It seeks to position a study within both global and local contexts while highlighting how the mastery of barista skills within rated restaurants is important for improving service quality, customer satisfaction, and competitive advantage.

2.2 Level of Mastery of Barista Skills

Overall, the competencies of a barista are multidimensional, including technical, operational, presentation, and customer interaction skills. The technical skills encompass expertise in espresso extraction, milk texturing, grind calibration, and different brewing methods-all those ensure beverage consistency, taste, and sensory quality (Wilson & Lee, 2021). Operational efficiency refers to efficient operations based on speed, accuracy, workflow management, and the consistency of service provided, which is important to maintain high standards in busy

rated restaurants (Rinaldi, 2022). Presentation involves latte art, cup presentation, and beverage aesthetics-skills which further enhance the visual appeal of the beverage and improve the customer experience. Customer interaction encompasses effective communication, product knowledge, and hospitality behaviours that are important in building rapport and guiding the customer to make choices that will eventually build loyalty (Mugisha & Kananura, 2021).

It is observed that the higher the mastery of these domains, the larger the possibility of meeting or exceeding customer expectations in service delivery. For example, Bressani (2021) found that professional baristas working in international coffee shop chains reported much higher customer satisfaction and return rates. Similarly, Speziale and Perotti (2020) underlined that operation efficiency and presentation refinement have contributed to the qualitative aspect of services offered within specialty coffee stores.

2.3 Quality Coffee Service in Rated Restaurants

Quality coffee service is characterized by the consistent delivery of accurate, visually appealing beverages served at appropriate temperatures, complemented by effective customer interaction. In rated restaurants, the manner in which coffee is prepared and served distinguishes individual service providers and contributes significantly to brand reputation and competitive positioning. Empirical studies consistently demonstrate that service quality is multidimensional, encompassing both technical competence and interpersonal skills that together shape customer perceptions and satisfaction.

In Nairobi, the rapid expansion of specialty coffee culture has prompted rated restaurants to place increased emphasis on barista skill development as a core service strategy. Nevertheless, despite substantial investments in modern equipment and professional training, persistent service delivery gaps have been observed. These include inconsistencies in milk texturing, slow service performance, and inadequate product knowledge. Such shortcomings suggest a disconnect between barista training and the effective application of acquired skills in operational settings. These evident gaps underscore the need to investigate how varying levels of mastery of barista competencies directly influence the quality of coffee service in rated restaurants.

2.4 Empirical Evidence Linking Barista Skill Mastery and Coffee Service Quality

Empirical research consistently demonstrates a positive relationship between mastery of barista skills and the provision of high-quality coffee service. Bressani (2021) found that technical proficiency and customer engagement are significant predictors of perceived product quality and customer satisfaction. Similarly, Wilson and Lee (2021) characterize the barista as a service professional whose technical and interpersonal competencies constitute core elements of high-quality coffee provision.

At the regional level, Mugisha and Kananura (2021) observed that in East African cafés, employee consistency, operational competence, and interpersonal skills are significant determinants of service outcomes. Rinaldi (2022) further established that operational efficiency and presentation skills in urban specialty coffee shops are critical predictors of service speed and overall customer satisfaction. Within the local Kenyan context, Kamau and Kagiri (2020) and Mwangi (2023) reported that barista proficiency in Nairobi particularly in technical, operational, and presentation skills is directly associated with beverage consistency, visual appeal, and repeat patronage. Additionally, Otieno and Wanjiru (2021) emphasized that while structured training and hands-on practice improve service quality, these approaches must be complemented by experiential learning and continuous feedback mechanisms to ensure effective skills transfer.

Collectively, these studies provide strong empirical support for the proposition that higher levels of barista skill mastery enhance the quality of coffee service, which in turn positively influences customer satisfaction, loyalty, and overall restaurant performance.

2.5 Theoretical Perspectives

These empirical findings are supported by three key theoretical frameworks that explain the relationship between mastery of barista skills and the quality of coffee service. Human Capital Theory posits that investments in

employee competencies enhance organizational productivity and performance (Becker, 1993); consequently, skilled baristas constitute a valuable strategic resource for rated restaurants. Experiential Learning Theory, advanced by Kolb (1984), explains how baristas acquire and refine knowledge and expertise through direct experience, reflection, and iterative learning processes within real service environments. Complementing this perspective, the Dreyfus Model of Skill Acquisition (Dreyfus & Dreyfus, 1986) provides a detailed account of progressive skill development, outlining how individuals advance from novice to expert through practice, feedback, and applied experience.

Collectively, these theoretical frameworks reinforce the central premise of the study that higher levels of mastery of barista competencies lead to improved coffee service quality outcomes, thereby enhancing customer satisfaction and overall restaurant performance.

2.6 Research Gaps

Despite the well-established relationship between barista skills and service quality, several critical research gaps remain. First, few studies have empirically quantified the effects of varying levels of barista skill mastery on specific service quality outcomes within rated restaurants. Second, existing research has largely concentrated on global or regional contexts, with limited attention given to the rapidly expanding specialty coffee sector in Nairobi, Kenya. Third, the role of moderating factors such as restaurant rating, quality and availability of equipment, and barista experience has not been systematically examined in relation to the skills–service quality nexus.

Addressing these gaps is essential for generating context-specific empirical evidence on how mastery of barista skills influences coffee service quality and overall performance in rated restaurants. Such evidence is crucial for informing training standards, managerial practices, and policy decisions within the hospitality industry.

2.7 Summary

The literature demonstrates that barista skills are multidimensional, encompassing technical, operational, presentation, and customer interaction competencies. The quality of coffee service is contingent upon these skills and is reflected in beverage consistency, aesthetic appeal, speed of service, and customer satisfaction. Although existing empirical and theoretical evidence supports a positive relationship between mastery of barista skills and service quality, notable contextual gaps remain within Nairobi's hospitality sector. This study seeks to address these gaps by examining how varying levels of barista skill mastery influence the quality of coffee service in rated restaurants, thereby contributing meaningfully to both theory and professional practice.

METHODOLOGY OF THE STUDY

3.1 Research design

This study employed a quantitative, cross-sectional research design to examine the relationship between barista skill mastery and quality coffee service in rated restaurants. A quantitative approach was appropriate because the study focused on measurable variables, including the technical, operational, presentation, and customer interaction competencies of baristas, and their effects on service quality indicators such as beverage consistency, presentation, temperature control, and customer satisfaction (Creswell & Creswell, 2018). The cross-sectional design facilitated the collection of data at a single point in time, providing a snapshot of both skill mastery levels and service quality outcomes across multiple rated restaurants in Nairobi. This design is particularly suitable for establishing correlations and testing hypotheses in hospitality management research (Saunders et al., 2019).

3.2 Study Population

The target population consisted of baristas working in rated restaurants within Nairobi, Kenya. The rated restaurants were selected on the basis of their inclusion in established hospitality rankings and certification lists

to ensure that the study focused on premises where coffee service quality is strategically important. Based on the Specialty Coffee Association's report, it is estimated that Nairobi had about 791 coffee-focused establishments by 2023, many of which have professional trained baristas. The targeted population consisted of baristas with different levels of training and experience in order to ensure the sample would be representative for analysis of skill mastery at various competency levels.

3.3 Sample Size and Sampling Technique

Rated restaurants baristas were selected using the purposive sampling technique, which enables the deliberate inclusion of participants possessing relevant experience and skills for the study (Etikan et al., 2016). The sample size consisted of 120 targeted baristas, ensuring adequate statistical power for correlation and regression analyses. Using Krejcie and Morgan's (1970) commonly accepted formula in hospitality and service management research to ensure representativeness with consideration of population size, the sample was determined.

3.4 Data Collection Instruments

A structured questionnaire and observation checklist were used in data collection, combining self-reported and observed measures of the mastery of barista skills and the quality of service provided. Technical skills, operational efficiency, presentation skills, and customer interaction skills were assessed using items on a five-point Likert scale from "Very Low" to "Very High" (Bressani, 2021). Service quality indicators were measured through structured observation and customer feedback forms, including beverage consistency, temperature, aesthetic presentation, and customer satisfaction characteristics (Kamau & Kagiri, 2020; Mwangi, 2023).

This observational checklist also enabled the researcher to objectively record the performance of baristas during real service situations; therefore, self-reported measures can be checked against empirical observations, which enhances the reliability and reduces the bias of data (Creswell & Creswell, 2018).

3.5 Validity and Reliability of Instruments

To establish the content validity, instruments were reviewed by hospitality management experts, barista trainers, and academicians who are familiar with the coffee service standards. A pilot study in which 15 baristas from non-rated restaurants in Nairobi were involved was conducted to test the clarity, relevance, and reliability of the instruments. For this study, Cronbach's alpha was calculated as an appropriate coefficient for internal consistency; values above 0.7 were considered acceptable according to Gliem & Gliem (2003). This step ensured that the questionnaire instrument would be reliable to measure the intended constructs of barista skill mastery and quality coffee service.

3.6 Data Collection Procedure

Data collection was conducted over a six-week period in 2025. Prior to data collection, ethical approval was obtained, and consent was secured from participating baristas and restaurant management. Baristas were briefed on the study's objectives and confidentiality protocols. Questionnaires were self-administered during non-peak hours to minimize disruption, while observational checklists were completed by the researcher during live service sessions. This dual approach ensured comprehensive data capturing both subjective and objective measures of skill mastery and service quality (Speziale & Perotti, 2020).

3.7 Data Analysis

Collected data were coded and entered into SPSS version 28 for analysis. Descriptive statistics, including means, standard deviations, and frequency distributions, were used to summarize barista skill levels and service quality indicators. Inferential statistics, including Pearson correlation and multiple regression analysis, were employed to examine the relationship between barista skill mastery and quality coffee service, test the study hypothesis, and determine the predictive strength of independent variables on service quality outcomes (Field, 2018).

The analysis was guided by the conceptual and theoretical framework, linking technical, operational, presentation, and customer interaction skills to observed service quality outcomes. Moderating variables, including restaurant rating, equipment quality, and barista experience, were included in regression models to assess their influence on the primary relationship.

3.8 Ethical Considerations

Ethical protocols were strictly adhered to throughout the study. Participants' informed consent was obtained, and confidentiality of responses was guaranteed. Data were anonymized and stored securely, with access restricted to the researcher and supervisors. The study also ensured that participation was voluntary, with the option to withdraw at any stage without penalty, aligning with international research ethics guidelines in social sciences (Israel & Hay, 2006).

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

4.1 Introduction

The analysis of data collected from baristas working in rated restaurants in Nairobi, Kenya. The analysis is structured into three sections: demographic characteristics of respondents, descriptive analysis of the level of mastery of barista skills and quality coffee service, and inferential analysis examining the relationship between skill mastery and service quality. Data were analyzed using SPSS Version 28, and results are presented through tables, percentages, means, standard deviations, correlation coefficients, and regression statistics.

The objective of this chapter is to provide empirical evidence on how barista skill mastery influences quality coffee service, thereby addressing the research objectives and hypotheses.

4.2 Demographic Characteristics of Respondents

The study first examined demographic variables, including gender, age, education level, work experience, and training background. These variables provide contextual information that may influence skill acquisition and service delivery.

Gender distribution showed that 60% of respondents were male, while 40% were female, reflecting industry trends in Nairobi's rated restaurants. The age profile indicated that 50% of baristas were aged 21–30 years, 30% were 31–40 years, and 20% were above 40 years, suggesting a young workforce with potential for skill development.

Education levels revealed that 35% had a diploma or higher, 45% had secondary education, and 20% had vocational or certificate-level training. Regarding work experience, 40% had 1–3 years, 35% had 4–6 years, and 25% had more than 6 years of experience in coffee service. Finally, 70% of respondents reported having received formal barista training, either through schools such as Nairobi School of Coffee or in-house restaurant programs, while 30% had primarily learned on-the-job.

These demographic insights highlight the diversity of the workforce and underscore the importance of examining skill mastery across varying education, experience, and training backgrounds, which may affect service quality outcomes (Kamau & Kagiri, 2020; Bressani, 2021).

4.3 Descriptive Analysis of the Level of Mastery of Barista Skills

The level of mastery of barista skills was measured across four dimensions: technical skills, operational efficiency, presentation skills, and customer interaction skills. Respondents rated their competencies on a five-point Likert scale (1 = Very Low, 5 = Very High). And Technical Skills: Mean = 4.15, SD = 0.63, indicating generally high proficiency in espresso extraction, milk texturing, and brewing techniques; Operational Efficiency: Mean = 3.92, SD = 0.71, suggesting moderate to high ability in service speed, workflow management, and accuracy; Presentation Skills: Mean = 4.05, SD = 0.68, reflecting proficiency in latte art and

beverage aesthetics ;Customer Interaction Skills: Mean = 4.20, SD = 0.60, indicating strong communication, product knowledge, and hospitality behaviour. Overall, the composite level of mastery of barista skills had a mean of 4.08 (SD = 0.55), suggesting that baristas in rated restaurants generally exhibit a high level of skill mastery. This finding aligns with prior studies that associate structured training and experience with high barista competence (Speziale & Perotti, 2020; Wilson & Lee, 2021).

4.4 Descriptive Analysis of Quality Coffee Service

Quality coffee service was measured through beverage consistency, temperature control, presentation, customer satisfaction, and repeat patronage. The results are summarized as follows: Beverage Consistency: Mean = 4.10, SD = 0.62; Temperature Control: Mean = 4.00, SD = 0.65; Aesthetic Presentation: Mean = 4.12, SD = 0.59; Customer Satisfaction: Mean = 4.15, SD = 0.61; And Repeat Patronage: Mean = 4.05, SD = 0.64

The composite mean for quality coffee service was 4.08 (SD = 0.61), indicating generally high service quality across the sampled rated restaurants. These results suggest that baristas are capable of delivering consistent and visually appealing coffee service, which aligns with customer expectations in competitive urban hospitality markets (Mwangi, 2023; Otieno & Wanjiru, 2021).

4.5 Inferential Analysis

4.5.1 Correlation Analysis

Pearson correlation was used to examine the relationship between the level of mastery of barista skills and quality coffee service. The results indicated a strong positive correlation:

Variable	Quality Coffee Service (r)	Significance (p)
Technical Skills	0.72	0.001
Operational Efficiency	0.68	0.001
Presentation Skills	0.65	0.001
Customer Interaction Skills	0.75	0.001

The results show that all dimensions of barista skills are positively and significantly correlated with service quality. Customer interaction skills exhibited the highest correlation, suggesting that interpersonal competencies may have the greatest influence on perceived service quality.

4.5.2 Regression Analysis

Multiple regression analysis was conducted to determine the predictive influence of barista skill mastery on quality coffee service. The regression model included technical skills, operational efficiency, presentation skills, and customer interaction skills as independent variables.

Model Summary:

R^2 = 0.68, indicating that approximately 68% of the variance in quality coffee service is explained by the level of mastery of barista skills.

$F_{(4, 115)}$ = 61.25, $p < 0.001$, indicating that the model is statistically significant.

Coefficients:

Predictor Variable	β	t-value	p-value
Technical Skills	0.23	3.45	0.001
Operational Efficiency	0.19	2.88	0.005
Presentation Skills	0.17	2.55	0.012
Customer Interaction Skills	0.30	4.12	0.001

The regression results indicate that all four dimensions of barista skills are significant predictors of quality coffee service, with customer interaction skills contributing the most to service quality. These findings confirm the study's hypothesis that higher mastery of barista skills enhances the quality of coffee service in rated restaurants, consistent with Human Capital Theory and Experiential Learning Theory (Becker, 1993; Kolb, 1984).

4.6 Summary of Key Findings

Baristas in rated restaurants generally demonstrate high levels of mastery across technical, operational, presentation, and customer interaction skills. Correspondingly, quality coffee service in the sampled restaurants is also rated highly, particularly with respect to beverage consistency, aesthetics, and customer satisfaction. Significant positive correlations were observed between barista skill mastery and service quality, with customer interaction skills exhibiting the strongest effect. Moreover, regression analysis confirmed that the level of barista skill mastery is a significant predictor of coffee service quality, accounting for 68% of the variance in service outcomes. These findings provide empirical evidence that investments in barista training, hands-on practice, and skills development are critical for enhancing coffee service quality and sustaining competitive advantage in rated restaurants..

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This presents a synthesis of the study's findings, draws conclusions based on the empirical results, and provides actionable recommendations. The study investigated the relationship between the level of mastery of barista skills and quality coffee service in rated restaurants in Nairobi, Kenya. The chapter is structured into three sections: summary of key findings, conclusions, and recommendations for practice and future research.

5.2 Summary of Findings

The study examined four dimensions of barista skill mastery technical skills, operational efficiency, presentation skills, and customer interaction skills and their influence on quality coffee service, measured by beverage consistency, temperature control, presentation, customer satisfaction, and repeat patronage.

And thus, the sample comprised a diverse group of baristas, with 60% male and 40% female respondents. Most baristas were aged 21–30 years, with varying levels of formal education and work experience. Approximately 70% had received formal barista training, while the remainder learned on-the-job. These demographics highlight a relatively young, skilled, and trained workforce in Nairobi's rated restaurants.

The study also found that baristas generally exhibited high mastery levels, particularly in technical and customer interaction skills. Operational efficiency and presentation skills were moderately high but varied across establishments, suggesting areas for targeted improvement. While the sampled restaurants delivered high-quality coffee service, with strengths in beverage consistency, aesthetics, and customer satisfaction. Temperature control and service speed, while generally good, showed some variability.

And on inferential analysis revealed a strong positive correlation between barista skill mastery and quality coffee service. Customer interaction skills had the highest correlation with service outcomes. Regression analysis indicated that barista skills explained 68% of the variance in service quality, confirming the predictive power of technical, operational, presentation, and interpersonal competencies.

Whereas on the moderating factors, observations suggested that restaurant rating, equipment quality, and barista experience moderated the relationship between skill mastery and service quality, enhancing performance in well-equipped and higher-rated establishments. Therefore, these findings provide empirical evidence that barista skill mastery is a key determinant of coffee service quality in rated restaurants, supporting theoretical perspectives such as Human Capital Theory and Experiential Learning Theory (Becker, 1993; Kolb, 1984).

5.3 Conclusions

Based on the findings, the study concludes the following: Barista Skill Mastery is Critical for Service Excellence and thus:

Mastery of technical, operational, presentation, and customer interaction skills significantly enhances the quality of coffee service, aligning with customer expectations and hospitality standards.

Customer interaction skills have the greatest impact among all skill dimensions, interpersonal competencies, including communication, product knowledge, and hospitality behaviour, contribute most to perceived service quality and repeat patronage. And for training and experience are key drivers of mastery: Formal barista training and practical experience positively influence skill levels, suggesting that structured learning and hands-on practice are essential for achieving high-quality coffee service.

Equipment and restaurant context matter is key as availability of modern coffee equipment and the rating or classification of the restaurant further amplify the effects of skill mastery on service outcomes.

Skill practice gap remains in some areas despite high overall competence, variability in operational efficiency and beverage presentation indicates areas where baristas require further support and practice to maintain consistency across establishments. And thus overall, the study confirms that investment in barista skill development is a strategic imperative for rated restaurants seeking to enhance service quality, customer satisfaction, and competitive advantage.

5.4 Recommendations

5.4.1 Practical Recommendations for Restaurants

i. Restaurants should invest in continuous professional development, focusing on operational efficiency, presentation skills, and experiential learning opportunities to enhance mastery.
ii. Training should emphasize interpersonal skills, product knowledge, and hospitality behaviour, as these significantly influence customer satisfaction and loyalty.
iii. Adequate and high-quality equipment supports baristas in applying their skills effectively, ensuring consistent beverage quality and reducing variability in service.
iv. Regular assessment of barista performance, using checklists and customer feedback, can identify skill gaps and guide targeted interventions.

5.4.2 Recommendations for Policy and Training Institutions

i. Barista training institutions should collaborate with hospitality industry stakeholders to define standardized competency benchmarks for rated restaurants.
ii. Institutions should emphasize hands-on training, internships, and practical sessions to ensure skill mastery translates into improved service quality.

5.4.3 Recommendations for Future Research

i. Future studies should examine specific contextual factors including customer demographics, peak-hour workload pressures, and cultural service expectations to determine their influence on the relationship between barista skills and service quality.

ii. Longitudinal research is recommended to assess how continuous training, accumulated experience, and technological advancements impact skill mastery and service quality over time.

iii. Comparative studies across multiple settings such as different cities, countries, or types of restaurants would provide broader insights and enhance the generalizability of the findings.

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