

Influence Of Iso 9001:2015 Quality Management Practices on The Relationship Between Customer Management and Student Satisfaction in University Examination Systems in Kenya

John W. Chiri, Betty, J. Tikoko., & Antony, M. Somba
*Department of Education, School of Education, Humanities and Social Sciences
Kabarak University, Kenya*

Abstract

In higher education, examinations management is a critical determinant of student satisfaction because it influences academic progression, fairness, and timely completion of studies. Despite the adoption of ISO 9001:2015 quality management systems in Kenyan universities, challenges such as delayed results, missing marks, weak communication, and limited responsiveness in examination-related services continue to undermine student satisfaction. This study assessed the relationship between managing customer relationships and student satisfaction with examinations management in ISO 9001:2015 certified universities in Kenya. The study was guided by the Service Quality (SERVQUAL) model and Deming's Theory of Quality Management. A convergent parallel mixed-method research design was adopted, targeting final-year students and university management in ISO-certified universities. Using stratified random and purposive sampling techniques, 380 respondents and key informants were selected. Data were collected using questionnaires and interview schedules. Quantitative data were analyzed using descriptive and inferential statistics, including means, standard deviations, and multivariate regression, while qualitative data were analyzed thematically. The findings revealed that ISO 9001:2015 quality management practices significantly enhance the relationship between customer relationship management and student satisfaction in examinations management. Regression results showed that CRM practices explained a substantial proportion of variation in student satisfaction, with issue resolution, technology use, staff approachability, timely response, and information access emerging as significant predictors. However, some structural CRM mechanisms were not statistically significant, indicating uneven implementation. Qualitative findings confirmed that universities have established formal quality systems and feedback mechanisms, but their effectiveness is constrained by inconsistent responsiveness and weak feedback utilization. The study concludes that ISO 9001:2015 strengthens CRM's effect on student satisfaction when consistently implemented, and recommends improved responsiveness, better feedback utilization, staff training, and enhanced digital systems to improve examination management outcomes in Kenyan universities.

Keywords: ISO 9001:2015, Customer Relationship Management, Student Satisfaction, Examinations Management, Quality Management Practices.

Date of Submission: 02-10-2026

Date of Acceptance: 12-10-2026

I. Introduction

1.1 Background of the Study

Managing customer relationships has become a central strategic focus for organizations seeking to enhance service quality and improve customer satisfaction. Customer Relationship Management (CRM) integrates people, processes, and technology to strengthen interactions between service providers and clients, ensuring that customer needs are effectively understood and addressed (Mohammed & Bin Rashid, 2012). In higher education institutions, students are increasingly viewed as key customers whose satisfaction depends on how well universities manage academic and administrative relationships. Effective CRM reduces the gap between expectations and service delivery, thereby enhancing satisfaction outcomes. ISO 9001:2015 further reinforces this approach by emphasizing customer focus and continuous improvement as core principles for quality assurance (ISO, 2016). Within universities, managing customer relationships is therefore critical in shaping students' experiences, particularly in high-stakes academic processes such as examinations management.

Customer satisfaction is a key performance indicator in ISO 9001:2015-certified organizations, reflecting the extent to which services meet or exceed customer expectations. The SERVQUAL model explains that satisfaction is determined by the gap between expected and perceived service quality, focusing on dimensions such as reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman et al., 1988). In higher education, these dimensions are reflected in how universities manage student interactions, communicate academic

processes, and respond to student concerns. CRM systems support these dimensions by enabling institutions to capture feedback, improve communication, and enhance service responsiveness (Indrayani & Pardiyono, 2019). When effectively implemented, CRM strengthens customer focus under ISO 9001:2015 by ensuring that student needs are consistently identified and addressed. In examinations management, this translates into timely communication, transparent procedures, and responsive handling of student issues, all of which contribute to higher satisfaction levels.

Globally, universities have increasingly adopted CRM and ISO 9001:2015 systems to improve service delivery and institutional competitiveness. In Malaysia, public universities have widely implemented ISO standards to enhance efficiency and customer satisfaction (Wahid, 2019). In contrast, many institutions in Africa and parts of Asia continue to face challenges in fully integrating CRM systems within academic processes (Kiarie, 2020; Maqbool et al., 2023). In Kenya, public universities were directed to adopt ISO 9001 to improve service quality and operational performance (Chumba et al., 2019). However, despite this adoption, gaps remain between CRM policy implementation and actual student experiences. Studies indicate that many universities still struggle with communication delays, inadequate feedback systems, and weak relationship management practices, particularly in examination-related services. These challenges suggest that managing customer relationships has not been fully optimized to influence student satisfaction in critical academic processes such as examinations management.

Examinations management is a core academic function that significantly shapes student satisfaction in universities. It involves planning, scheduling, administering, marking, and processing examination results in a fair and efficient manner (Aikins, 2019). However, studies in Kenyan universities reveal persistent challenges such as delayed results, missing marks, unclear communication, and administrative inefficiencies that negatively affect students' experiences (Muchai, 2023). Additionally, issues such as examination malpractice, weak invigilation, and procedural inconsistencies further undermine trust in examination systems (Mulongo, 2020). Although ISO 9001:2015 promotes structured processes and customer focus, limited empirical evidence exists on how managing customer relationships influences student satisfaction in examinations management. Most existing studies focus on general service quality rather than specific academic processes, creating a gap in understanding how CRM practices affect student perceptions of fairness, transparency, and reliability in examinations systems.

Despite widespread adoption of ISO 9001:2015 in Kenyan universities, student dissatisfaction with examinations management remains evident. Complaints related to delayed results, missing marks, and inconsistent grading suggest weaknesses in service delivery and relationship management systems (Kegoro & Anyango, 2020; Mulongo, 2020). While CRM is intended to enhance communication, feedback handling, and responsiveness, its actual influence on examinations management has not been adequately investigated in the Kenyan context. Existing studies tend to examine ISO implementation or CRM as broad organizational concepts without isolating their effects on student satisfaction in specific academic processes (Indrayani & Pardiyono, 2019). Furthermore, research has largely focused on public universities, leaving private institutions underexplored. This creates a contextual and empirical gap regarding how managing customer relationships affects student satisfaction in examinations management. Therefore, this study sought to assess the relationship between CRM practices and student satisfaction in examinations management in universities in Kenya.

1.2 Statement of the Problem

In ISO 9001:2015-certified universities, managing customer relationships is expected to translate into efficient, transparent, and student-centred examinations management systems. Through effective customer relationship management, universities are expected to enhance communication, ensure timely and accurate release of examination results, and respond effectively to student concerns. ISO 9001:2015 further emphasizes customer focus as a key principle for improving service quality and ensuring continuous satisfaction. However, evidence from Kenyan universities indicates persistent weaknesses in examinations management despite the adoption of ISO standards. For instance, examination malpractice remains widespread, with 76.1% of students in public universities and 69% in private universities reporting its occurrence, while about 40% experience missing or incorrect marks (Andiva, 2019; Kegoro & Anyango, 2020). These challenges suggest that managing customer relationships has not effectively translated into improved examination service delivery or enhanced student satisfaction.

Despite the implementation of ISO 9001:2015 quality management systems and customer relationship initiatives, universities in Kenya continue to experience significant examinations management challenges that undermine student satisfaction. Only about 30% of public universities reportedly have fully functional academic records systems, contributing to delays in grading, slow feedback, and unresolved examination disputes. In addition, 56.2% of students report continued academic dishonesty and inefficiencies in examination processes, which weaken trust in institutional assessment systems (Mulongo, 2020). Although universities have introduced feedback mechanisms and communication improvements, their effectiveness in enhancing student satisfaction remains limited and inconsistent. Furthermore, existing studies have largely examined ISO implementation, general service quality, or specific examination stages, with minimal focus on how managing customer

relationships influences student satisfaction across the entire examinations management process. Therefore, there is insufficient empirical evidence on the relationship between managing customer relationships and student satisfaction with examinations management in universities in Kenya, creating a clear research gap that this study addresses.

1.3 Objective of the Study

To assess the relationship between managing customer relationships and student satisfaction with examinations management in ISO 9001:2015 certified universities in Kenya

1.4 Hypothesis

H₀: There is no significant relationship between managing customer relationships and student satisfaction with examinations management in universities in Kenya.

II. Literature Review

2.1 Customer Relationship Management (CRM) and Student Satisfaction in Universities

Customer Relationship Management (CRM) has become increasingly important in higher education as universities adopt customer-oriented strategies to enhance student satisfaction and institutional competitiveness. CRM is broadly understood as a strategic approach that integrates people, processes, and technology to build long-term relationships and deliver superior value to customers. In the university context, CRM focuses on reducing the gap between students' expectations and their actual experiences by ensuring consistent, high-quality service delivery (Mohammed & Bin Rashid, 2012; Adikaram & Khatibi, 2016). It also emphasizes continuous interaction and improvement of satisfaction through value creation (Indrayani & Pardiyo, 2019). Despite its alignment with ISO 9001:2015 principles of customer focus, limited empirical research has examined how CRM operates within ISO-certified universities. Much of the literature treats CRM as a general competitiveness strategy rather than a structured quality management tool, leaving its specific contribution to student satisfaction insufficiently understood.

The growing adoption of CRM in universities is driven by increased competition, globalization, and evolving student expectations. Higher education institutions are no longer viewed solely as public service providers but as competitive entities striving to attract and retain students through superior service experiences (Guilbault, 2018). CRM enables universities to enhance recruitment, engagement, and retention by managing relationships throughout the student lifecycle (Mayanja & Tibaingana, 2020). Furthermore, institutions must address the needs of multiple stakeholders, including students, parents, employers, and regulatory bodies (Zuhairi et al., 2020). However, while CRM adoption has expanded, most studies focus on enrollment and retention outcomes rather than satisfaction with specific academic services. As students increasingly act as partners in value creation, there is a need for participatory relationship management systems (Mater et al., 2024). Nonetheless, limited evidence exists on whether CRM improves experiences in critical academic processes such as examinations management.

Existing studies on CRM and student satisfaction provide valuable insights but reveal notable gaps, particularly in ISO-certified university contexts. Research on customer satisfaction management systems, such as ISO 10002, shows that structured feedback and complaint-handling mechanisms enhance institutional responsiveness and continuous improvement (Dibek, 2025). Similarly, Total Quality Management practices have been linked to improved service quality and customer satisfaction (Konstantinides et al., 2025). However, these studies often do not directly examine CRM practices or focus specifically on ISO 9001:2015 certified universities. Other research emphasizes relationship quality as essential for sustainable institutional transformation but tends to prioritize broader organizational outcomes over measurable student satisfaction (Grunwald et al., 2026). Consequently, the relationship between CRM and student satisfaction within ISO-certified universities remains underexplored, indicating the need for more focused empirical investigations in this area.

Empirical evidence further shows that CRM-related technologies and processes influence student satisfaction, although contextual limitations persist. Studies in Jordan and Uganda demonstrate that system quality, service quality, trust, and technological infrastructure significantly affect satisfaction levels (Mater et al., 2024; Mayanja & Tibaingana, 2020). However, these findings may not be directly applicable to Kenya due to differences in institutional environments and technological capacity. Additionally, most studies focus on administrative services such as admissions, registration, and orientation rather than academic processes like examinations management. This narrow focus limits understanding of how CRM influences critical academic experiences. The lack of multi-institutional studies further constrains generalizability, highlighting the need for research that examines CRM practices across diverse university contexts while emphasizing their impact on specific student service experiences.

In Kenya, research on CRM in higher education remains limited and often draws from private-sector models that may not fully reflect university environments. Existing studies tend to emphasize general service delivery and institutional competitiveness rather than examining CRM's direct impact on student satisfaction or

academic quality. Moreover, although ISO-related research highlights improvements in institutional processes, it rarely explores how CRM practices embedded within ISO systems influence student experiences. CRM is closely linked to feedback management, enabling institutions to collect, analyze, and respond to student concerns. However, many universities fail to demonstrate how feedback translates into service improvements, raising questions about CRM effectiveness. Overall, while CRM offers a strong framework for enhancing satisfaction, there is a clear need for empirical studies that examine its role in ISO-certified universities, particularly in relation to core academic services such as examinations management.

2.2 Examinations Management

Examinations are an integral part of the education system, serving as a means of evaluating a student's knowledge and understanding of various subjects. They are designed to test a student's ability to recall and apply concepts learned in class and provide feedback on their academic progress (Mackatiani, 2017). Rossiter et al. (2021) aver that examination is the fulcrum around which any university's standards revolves. The degrees and certificates awarded by universities are recognized based on the fact that examinations are effectively and efficiently managed to the satisfaction of the Board of Examiners and the Senate. Examinations also serve as a motivation for students to study and prepare for their future careers. Therefore, it can be said that examinations play a crucial role in education by providing feedback, motivation, assessment, and accountability in the learning process (French et al., 2023). Consequently, it is imperative to accord due gravity to the matter at hand as examinations have a profound impact on ppils' prospects and the pragmatic implementation of acquired ideas (Muchai, 2023).

According to Mackatiani (2017), Kenya education system is predominantly examination oriented. This means that results of the examinations determine which secondary schools and universities a student may attend and the employment opportunity one is able to secure. Educators and all those involved in the realm of education place great importance on examination outcomes, viewing them as a metric for measuring educational efficacy. Examinations are vital as they result to certification; they are part and parcel of student assessment and are also a compulsory part for a university's advancement and completion of a programme that is in circle (Maghnouj et al., 2020). Since examinations are considered as being crucial in determining job opportunities, the public perceives the exam-oriented model as a determinant for better future. The exam-oriented system causes stress for teachers and students as tests are seen as crucial for a successful future (French et al., 2023).

Karn and Mishra (2026), however, observes that the management of university exams is faced with a variety of intricate issues that have a big impact on productivity, safety, and the quality of education in general. Exams administered manually using traditional methods like paper-based testing and manual result processing, take longer to complete, may contain errors, and cause needless delays (Lynch, 2022). Such problems could lead to student dissatisfaction in management of university examinations hence the need to investigate the relationship between customer focus and student satisfaction in examination management in ISO 9000:2015 certified universities in Kenya.

2.3 The Concept of Student Satisfaction in Universities

Student satisfaction has become a central concern for universities seeking to demonstrate effectiveness, comply with regulatory expectations, and improve learning environments. Institutions increasingly recognize that satisfaction influences student retention, progression, and advocacy, as satisfied students are more likely to complete their studies and recommend the university to others. Sulaeman et al. (2021) emphasize that satisfaction shapes both continuity decisions and institutional reputation. Conceptually, student satisfaction reflects an evaluative attitude formed through experiences with academic services, facilities, and institutional support systems (Kanwar & Sanjeeva, 2022). Universities must therefore align their offerings with student expectations while balancing broader stakeholder demands (Ameeka et al., 2023). Service delivery plays a pivotal role in this process, as students assess whether institutional performance meets or exceeds expectations (Petrusch & Vaccaro, 2019). Satisfaction arises when perceived performance matches expectations, while dissatisfaction emerges when gaps exist (Kanori et al., 2020), making it a critical benchmark for institutional quality assurance and competitiveness.

In higher education, student satisfaction serves as a key indicator of institutional performance across academic, administrative, and social dimensions. Universities are evaluated not only on teaching quality but also on how effectively they deliver support services and manage student interactions. Wong and Chapman (2023) highlight that communication, responsiveness, and staff engagement significantly shape student perceptions. Similarly, Goel (2026) demonstrates that service quality influences satisfaction, academic success, and perceived employability, reinforcing its multidimensional nature. Despite its importance, student satisfaction remains complex because it encompasses diverse service touchpoints beyond the classroom. Most studies aggregate these dimensions into broad categories, limiting insight into how specific operational processes influence satisfaction. One such overlooked area is Examinations Management, which plays a crucial role in academic progression.

Given its high-stakes nature, the efficiency, transparency, and reliability of examination processes can significantly influence how students evaluate their overall university experience.

Empirical evidence underscores that student satisfaction is shaped by the totality of institutional services rather than isolated academic experiences. Amoako et al. (2023) found that administrative services, academic delivery, and physical facilities collectively influence satisfaction in higher education institutions in Ghana. These findings confirm that students assess universities holistically, considering efficiency, responsiveness, and reliability across multiple service areas. However, such studies often treat institutions as unified systems, overlooking the contribution of specific processes like Examinations Management. This creates a significant knowledge gap, as examinations directly affect academic timelines, progression, and graduation outcomes. Poorly managed examinations—characterized by delays, unclear communication, or inconsistent grading—can negatively impact students' perceptions of institutional quality. Therefore, isolating examination processes as a distinct determinant of satisfaction is essential. Understanding this relationship can help universities identify targeted improvements that enhance both academic experiences and institutional credibility.

Existing literature further highlights the need to examine Examinations Management as an independent factor influencing student satisfaction. Studies such as Umar and Hasan (2024) and Zaitseva and Goncharova (2022) confirm that academic service quality and technological integration significantly affect satisfaction, yet they do not isolate examination processes. Evidence from Sulaeman et al. (2021) also shows mixed satisfaction levels, with only 50.9% of students satisfied, indicating persistent service gaps. In Kenya, Kanori et al. (2020) reported a negative service quality gap (-2.11), suggesting that institutional performance often falls below expectations, though examination-specific insights were not provided. Similarly, Kimaita (2023) identified responsiveness as critical but did not analyze exam-related services independently. These limitations reveal a consistent gap in empirical research, particularly within diverse institutional contexts. Consequently, there is a strong need for focused studies that evaluate how examination practices influence student satisfaction across universities, especially in Kenya's evolving higher education sector.

2.3 Theoretical Framework

2.3.1 Service Quality Model (SERVQUAL)

The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1988), conceptualizes service quality as the gap between customer expectations and actual service performance. It identifies five key dimensions—reliability, responsiveness, assurance, empathy, and tangibles—that shape customer satisfaction outcomes. In the context of this study, managing customer relationships in universities influences how these dimensions are experienced by students during examinations management. For example, effective communication and feedback systems enhance responsiveness, while accurate and timely release of results reflects reliability. Within ISO 9001:2015 frameworks, SERVQUAL aligns with customer focus principles by emphasizing continuous improvement of service delivery systems (McCollin et al., 2011; Rahmatia et al., 2025). Therefore, the model provides a foundation for assessing how CRM practices in universities influence student satisfaction in examinations management through improved service quality alignment and expectation management.

SERVQUAL has been widely applied in higher education to evaluate how service quality dimensions influence student satisfaction. Studies show that responsiveness, empathy, and assurance significantly shape students' perceptions of institutional quality and trust (Sultan & Wong, 2013; Teeroovengadum et al., 2019). Abdullah (2006) further adapted SERVQUAL into HEDPERF, demonstrating that student satisfaction is strongly influenced by administrative responsiveness and academic reliability. In examinations management, these dimensions are reflected in how universities handle marking, respond to complaints, and communicate results. Effective customer relationship management strengthens these interactions by ensuring timely feedback and student-centred communication. However, despite these insights, limited research has specifically examined how CRM practices influence SERVQUAL dimensions within ISO 9001:2015-certified universities in Kenya, particularly in the context of examinations management. This creates a contextual gap that this study seeks to address.

2.2.2 Deming's Theory of Quality Management

Deming's Theory of Quality Management emphasizes continuous improvement, systems thinking, and customer-focused processes as essential for organizational effectiveness (Deming, 1986). The theory is operationalized through the Plan-Do-Check-Act (PDCA) cycle, which promotes iterative improvement of processes based on feedback and evaluation. In this study, managing customer relationships in universities aligns with Deming's principle of using feedback from students to improve examinations management systems. Effective CRM enables universities to collect student concerns, analyze service gaps, and implement corrective actions in grading, result processing, and communication. Within ISO 9001:2015, this continuous improvement approach is central to enhancing customer satisfaction and ensuring service consistency (Agrawal, 2019;

Satapathy et al., 2024). Thus, Deming's theory provides a framework for understanding how structured relationship management influences student satisfaction in examinations management systems.

In higher education, Deming's theory has been applied to demonstrate how continuous improvement enhances service delivery and customer satisfaction. Studies show that institutions applying PDCA cycles experience improved efficiency, reduced errors, and higher stakeholder satisfaction (Ikram & Kenayathulla, 2023; Wanza et al., 2017). Oakland (2014) further argues that systematic quality control strengthens customer-oriented service delivery by improving process reliability and accountability. In examinations management, this translates into consistent grading, timely release of results, and effective handling of student complaints. However, Kenyan universities continue to experience inefficiencies despite ISO 9001:2015 adoption, suggesting weak implementation of continuous improvement mechanisms. Limited studies have examined how customer relationship management interacts with Deming's PDCA cycle to influence student satisfaction in examinations management. This study therefore uses Deming's theory to explain how continuous feedback and process improvement shape student satisfaction outcomes in Kenyan universities.

III. Methodology

3.1 Research Design

The study adopted the convergent parallel mixed method research design to establish the relationship between customer focus and student satisfaction in examinations management in ISO 9001 2015 certified universities in Kenya. The design helped describe the relationship between the variables of the study using both quantitative and qualitative method. Convergent parallel mixed method design, according to Creswell and Creswell (2023) is a method that entails collecting quantifiable and subject data simultaneously and analysing the two datasets separately. The findings of the quantitative and qualitative arms of the study were integrated at the interpretation stage for triangulation and cross-validation. The study was also cross-sectional in nature providing a snapshot view of the study across the various universities in Kenya. This approach enabled collection of large amounts of data for two or more variable that was analysed to show the association patterns across several universities at a point in time (Creswell & Creswell, 2023).

3.2 Location of the Study

The study was conducted in ISO 9001:2015 certified universities across Kenya, both public and private universities. According to the Kenya Bureau of Statistics (KEBS, 2024), there are 21 public and 3 private universities which are ISO 9001 2015 certified in Kenya. The universities are located in all parts of the country

3.3 Population of the Study

The study focused on the 21 ISO 9000-2015 certified universities to provide insight regarding how effectively they have implemented the customer focus principle as well as how the implementation of this principle has shaped student satisfaction with examination management. These were the units of analysis. University students in their final year and the universities management particularly those concerned with examinations management and quality assurance were also targeted as the unit of observation. Final year students are targeted because they have interacted with their university over a long period of time and have undertaken most of the examinations, thus are better placed to establish satisfaction level with examination management services offered by their universities. The universities' ISO coordinators, directors of quality assurances, registrars academic affairs and university examination officers were also included as key stakeholders as they had relevant information on quality management systems implementation.

3.5 Sampling Procedure and Sample Size

Sampling was conducted in several stages. First, a census was carried out for the relatively few (21) ISO 9001:2015 certified universities. The universities were then stratified into public and private universities were included in the sample because of their few numbers. Thereafter, systematic random sampling was used to select respondents from the list of final year students in each university. Finally, purposive sampling was used to identify key informants where officers linked to quality management system implementation in ISO 9000:2015 certified universities were selected. Cochran's (1977) formula was used to determine the sample size for final year students to be utilized in the study, as under;

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where: Z is at 1.96 (95 % confidence level), p = 0.5, q is 1 – p and e is the margin of error (0.05). Upon substitution, the formula yielded a sample size of 380 final year students. Subsequently, 20 final year students, and four

management members were selected from each university using stratified random sampling and purposive sampling respectively.

3.6 Research Instrumentation

The study was designed to use a questionnaire for students and interview schedules for key informants to collect both quantitative and qualitative data. The questionnaire was developed for the study to obtain quantifiable data to enable the testing of the research hypotheses. Interview schedules helped in provision of critical access to key informants' opinions on the subject matter (Boiyon, 2022).

3.7 Pilot Test, Validity and Reliability of the Research Instruments

A pilot test of the instruments was conducted in one of the private and one public university to estimate the reliability of questionnaire for students before the commencement of actual data collection exercise. It involved 38 final year students and 8 management members. The purpose of the pilot study is to assess the relevance of the items in measuring study variables, and estimate time required to fill in the questionnaires (Anyango et al., 2018). Construct was safeguarded by conducting a thorough review of literature on the study variables and construct so as to develop relevant and comprehensive measure while Content validity was achieved using Confirmatory Factor Analysis. Further, the internal consistency method was used to test for the reliability of the instruments using Cronbach's alpha scale, with a value of between 0.70 and 0.95 being regarded as valid (Ikram & Kenayathulla, 2023).

3.8 Data Analysis

Quantitative data was analysed using descriptive and inferential statistics using SPSS version 24.0. Descriptive statistics used included: frequencies, percentages, mean and standard deviation to provide the general trends of the data and subsequently the basis for inferential statistics. Inferential statistical analysis were carried out using both bivariate regression analysis and was used to test the hypothesis of the study at 0.05 level of significance. Thematic analysis was used to analyse qualitative data using NVivo version 21. Thematic analysis is a procedure of identifying and analysing patterns in qualitative data (Andiva, 2019).

IV. Result and Discussions

4.1 Introduction

This section presents the data analysis results and discussions beginning with the questionnaire response rate as shown in Table 1.

Table 1 Instrument Response Rate

Respondents	Instruments	No. Issued/ Targeted	No. Returned/ Completed	Response Rate (%)
Students	Questionnaires	382	311	81.41%
University Management	Interview Schedules	76	54	71.05%

The study achieved a high response rate from both students and university management, which supports the reliability and representativeness of the data collected. Out of the 384 questionnaires issued to students, 311 were completed and returned, yielding a response rate of 80.99%. Overall, both response rates surpassed the minimum thresholds of 60–70% recommended for social science research (Fowler, 2014; Baruch & Holtom, 2008), ensuring that the data collected are representative and reliable.

4.2 Managing Customer Relationship

The objective of the study was to establish the relationship between regular assessment of customer satisfaction and student satisfaction with examination management in ISO 9001: 2015 certified universities in Kenya. This objective was measured through six indicators; Friendly staff, Approachability, Helpful, Priority for students needs, Emphasis on excellence and efficiency, and Technology utilization. The findings are presented in Table 2

Table 2 Managing Customer Relationships

	SA	A	N	D	SD	Std.	
Statement	Freq(%)	Freq(%)	Freq(%)	Freq(%)	Freq(%)	Mean	Dev.
The university has platforms (like dean of student office, social media, student portal etc.) where students can get support services on different issues	120(38.6)	140(45)	22(7.1)	18(5.8)	11(3.5)	4.09	1.000

The individuals who manage the student support platforms channels are friendly and approachable	78(25.1)	111(35.7)	61(19.6)	35(11.3)	26(8.4)	3.58	1.215
The personnel managing the student support platforms provides help when a student's has examination related problem	77(24.8)	118(37.9)	70(22.5)	35(11.3)	11(3.5)	3.69	1.072
The university student support platforms puts priority on student's examination needs	68(21.9)	121(38.9)	66(21.2)	44(14.1)	12(3.9)	3.61	1.093
The support services provided by the university effectively address my examination-related concerns.	66(21.2)	120(38.6)	66(21.2)	37(11.9)	22(7.1)	3.55	1.157
If issues arise regarding examinations (e.g., scheduling conflicts, grading disputes), the university has effective mechanisms for resolution	71(22.8)	118(37.9)	60(19.3)	44(14.1)	18(5.8)	3.58	1.155
Technology is used to ensure that examination management is efficient	79(25.4)	118(37.9)	70(22.5)	34(10.9)	10(3.2)	3.71	1.062
I can easily access relevant information regarding examination guidelines and regulations through university platforms	97(31.2)	134(43.1)	43(13.8)	29(9.3)	8(2.6)	3.91	1.025
When I have questions or concerns regarding examinations, the university responds in a timely manner.	47(15.1)	102(32.8)	58(18.6)	55(17.7)	49(15.8)	3.14	1.314
I feel confident that my personal information is secure and protected while using the university customer management platforms	88(28.3)	117(37.6)	60(19.3)	30(9.6)	16(5.1)	3.74	1.124
Aggregate						3.66	1.122

The findings in Table 4.6 indicate that the university demonstrates a moderate to high level of performance in managing customer relationships in relation to examination management (Aggregate Mean = 3.66; S.Dev = 1.122). This suggests that while key structures and practices are in place, there are still notable gaps in responsiveness and consistency. Regarding the availability of support platforms such as the dean of students' office, social media, and student portals, a majority of students (45%) agreed that these platforms exist, while only 5.8% disagreed (Mean = 4.09; S.Dev = 1.000). This high level of agreement indicates that the university has effectively established multiple channels for student support. On whether individuals managing these platforms are friendly and approachable, 35.7% of students agreed, while 11.3% disagreed (Mean = 3.58; S.Dev = 1.215). This moderate rating suggests that although many students perceive staff positively, a significant proportion experience challenges in interpersonal interactions. The implication is that staff attitude and customer service skills require improvement to enhance student experience.

Concerning whether personnel provide help when students face examination-related problems, 37.9% agreed, while 11.3% disagreed (Mean = 3.69; S.Dev = 1.072). This indicates that support is generally available, but not consistently effective. The implication is that while assistance exists, delays or inefficiencies in problem resolution may reduce satisfaction. On prioritization of students' examination needs, 38.9% agreed and 14.1% disagreed (Mean = 3.61; S.Dev = 1.093). This suggests that the university moderately prioritizes student needs. The implication is that although students feel considered, there is room for improvement in ensuring that their examination concerns are treated with urgency and importance. Regarding whether support services effectively address examination-related concerns, 38.6% of students agreed, while 11.9% disagreed (Mean = 3.55; S.Dev = 1.157). This moderate rating indicates that while services are somewhat effective, they do not fully meet student expectations. The implication is that inefficiencies in resolving issues may persist, potentially affecting trust in the system.

On the effectiveness of mechanisms for resolving examination issues such as scheduling conflicts and grading disputes, 37.9% agreed, while 14.1% disagreed (Mean = 3.58; S.Dev = 1.155). This suggests that conflict resolution mechanisms are present but not consistently reliable. The implication is that unresolved or delayed issues may negatively impact student satisfaction and academic progression. The use of technology to enhance efficiency in examination management received 37.9% agreement and 10.9% disagreement (Mean = 3.71; S.Dev = 1.062). This indicates that technology plays a significant role in improving processes. The implication is that digital systems have enhanced efficiency, though further optimization and user-friendliness may be needed. On access to examination guidelines and regulations, a strong majority (43.1%) agreed, while only 9.3% disagreed (Mean = 3.91; S.Dev = 1.025). This suggests that information accessibility is relatively high. The implication is that students are well-informed about examination procedures, which supports transparency and preparedness.

However, concerning timely response to student concerns, only 32.8% agreed while a notable 17.7% disagreed (Mean = 3.14; S.Dev = 1.314). This represents the lowest-rated indicator. The implication is that delays in response significantly undermine the effectiveness of customer relationship management and may lead to frustration and dissatisfaction among students. Finally, on the security and protection of personal information

within customer management platforms, 37.6% of students agreed, while 9.6% disagreed (Mean = 3.74; S.Dev = 1.124). This indicates a relatively high level of confidence in system security. The implication is that trust in digital platforms is fairly strong, which supports continued adoption of technology in examination management.

The findings imply that accessibility to support services is not a major challenge; however, effectiveness depends on how these platforms are utilized. For instance, a business student (ST 141) noted that *"The platforms are there. The problem is utilization by the students body."* Similarly, an IT student (ST 152) stated that *"Online platforms are so effective like student portal thus personal information is being secured."* However, some accessibility gaps remain, as a law student (ST 140) remarked, *"Can't easily access information on examination regulation and rules. Not conversant with the examination rules."* The implication is that while infrastructure is strong, awareness and usability require improvement.

The qualitative feedback, however, reveals mixed experiences. While an education student (ST 167) observed that *"The staff assigned to manage examination in the university are approachable and friendly,"* others reported negative experiences. A nursing student (ST 140) stated that *"Personnel managing the student platforms channels are not friendly and harsh thus making the examination in this university difficult,"* while an engineering student (ST 173) noted that *"Individuals managing students platforms are not friendly and approachable."* The implication is that inconsistency in staff attitudes affects overall satisfaction. The findings correspond with Kelsey and Bond (2015), who identify staff approachability and commitment as key determinants of customer satisfaction. While an education student (ST 167) reported positive experiences, a nursing student (ST 140) and an engineering student (ST 173) highlighted negative interactions.

The findings support existing literature that conceptualizes examination management as a structured, multi-stage process involving planning, administration, and feedback mechanisms (Aikins, 2019; Rossiter et al., 2021). The presence of multiple support platforms demonstrates that universities have established foundational systems to facilitate student engagement and service delivery. However, the mixed experiences reported by students indicate that the effectiveness of these systems depends not only on their availability but also on how they are implemented and managed. This aligns with Kimaita (2023), who emphasizes responsiveness as a critical determinant of student satisfaction, and with Kanori et al. (2020), who argue that satisfaction is achieved when service performance meets expectations. The implication is that universities must ensure consistency in responsiveness across all support channels, as uneven service delivery weakens the overall effectiveness of customer relationship management and limits the potential of existing institutional structures.

The findings further reinforce the argument that accessibility of information and administrative service quality are central to shaping student satisfaction. While support structures and communication platforms are largely in place, variations in staff approachability and effectiveness highlight gaps in service delivery. This supports Dibaba (2021), who underscores the importance of accessible and reliable information in influencing customer perceptions. Similarly, the inconsistencies in staff behavior align with Amoako et al. (2023), who identify administrative service quality as a key driver of satisfaction. The qualitative responses reveal that positive interactions enhance student experiences, whereas negative encounters undermine trust and confidence in institutional processes. These results suggest that universities must not only invest in infrastructure but also prioritize staff training and customer service culture to ensure that service delivery is consistently aligned with student expectations.

Additionally, the findings highlight the critical role of responsiveness, feedback mechanisms, and service reliability in determining student satisfaction. The moderate effectiveness of support services and dispute resolution processes indicates that while systems exist, they are not always efficient in addressing student concerns. This supports Bailey and Schmidt (2022), who emphasizes the importance of actively listening to customer needs, and Petrusch and Vaccaro (2019), who link service delivery quality to satisfaction outcomes. Delays in response and ineffective resolution mechanisms correspond with Mulongo (2020) and Dibaba (2021), who note that weak adherence to procedures and delayed services reduce trust. Furthermore, the role of feedback systems aligns with Wolniak (2020), highlighting their importance in corrective action. Although technology and data security enhance efficiency and trust (Anttila & Jussila, 2017; Demir & Guven, 2017), their benefits are limited when responsiveness remains inconsistent.

4.3 Student Satisfaction with Examination Management

The study also sought to establish the status of student satisfaction with examination management in ISO 9001: 2015 certified universities in Kenya as the dependent variable. This variable was measured through the indicators; Student satisfaction index, and Non-Conformities. The findings are presented in Table 3.

Table 3. Student Satisfaction with Examination Management

	SA	A	N	D	SD	Std.	
Statement	Freq(%)	Freq(%)	Freq(%)	Freq(%)	Freq(%)	Mean	Dev.
Clarity of information about examination time	113(36.3)	135(43.4)	34(10.9)	18(5.8)	11(3.5)	4.03	1.012

Clarity of information about examination venues	115(37)	135(43.4)	37(11.9)	17(5.5)	7(2.3)	4.07	0.953
The format in which the examinations are offered (online, physical, etc)	101(32.5)	135(43.4)	49(15.8)	13(4.2)	13(4.2)	3.96	1.014
The quality of the invigilation process	106(34.1)	110(35.4)	48(15.4)	34(10.9)	13(4.2)	3.84	1.135
The quality of the content of the examinations	105(33.8)	129(41.5)	49(15.8)	17(5.5)	11(3.5)	3.96	1.017
The transparency of the grading process	87(28)	102(32.8)	49(15.8)	35(11.3)	38(12.2)	3.53	1.331
The time within which results are released	78(25.1)	118(37.9)	52(16.7)	41(13.2)	22(7.1)	3.61	1.197
The process of managing disputes related to examination	80(25.7)	92(29.6)	59(19)	48(15.4)	32(10.3)	3.45	1.301
The process of recording marks	80(25.7)	124(39.9)	58(18.6)	29(9.3)	20(6.4)	3.69	1.142
The structure of assessment (ie CATs, projects, assignments, end of semester examinations)	94(30.2)	137(44.1)	48(15.4)	21(6.8)	11(3.5)	3.91	1.020
Quality of examination materials	95(30.5)	145(46.6)	43(13.8)	21(6.8)	7(2.3)	3.96	0.958
Appropriateness of examination venues	102(32.8)	123(39.5)	40(12.9)	31(10)	15(4.8)	3.86	1.128
Storage of examination scripts	85(27.3)	108(34.7)	65(20.9)	32(10.3)	21(6.8)	3.66	1.178
Process used to release examination results	94(30.2)	127(40.8)	48(15.4)	28(9)	14(4.5)	3.83	1.094
Overall experience with the examination process	88(28.3)	128(41.2)	45(14.5)	26(8.4)	24(7.7)	3.74	1.180
Aggregate						3.807	1.111

The aggregate mean score was moderate (Mean = 3.807; S.Dev = 1.111), suggesting overall satisfactory but improvable performance. Regarding clarity of information about examination time and venues, students largely agreed that information was provided in a timely manner, with 43.4% agreement and 5.8% disagreement (Mean = 4.03; S.Dev = 1.012) for examination time, and 43.4% agreement and 5.5% disagreement (Mean = 4.07; S.Dev = 0.953) for venues. For the format in which examinations are offered (online, physical, or hybrid), 43.4% of students agreed and 4.2% disagreed (Mean = 3.96; S.Dev = 1.014). The quality of invigilation recorded 35.4% agreement and 10.9% disagreement (Mean = 3.84; S.Dev = 1.135), suggesting moderate satisfaction. Concerning the quality of examination content, 41.5% of students agreed and 5.5% disagreed (Mean = 3.96; S.Dev = 1.017). Transparency in grading showed lower satisfaction, with 32.8% agreement and 11.3% disagreement (Mean = 3.53; S.Dev = 1.331). Regarding the timeliness of result release, 37.9% agreed and 13.2% disagreed (Mean = 3.61; S.Dev = 1.197). The management of examination disputes scored 29.6% agreement and 15.4% disagreement (Mean = 3.45; S.Dev = 1.301). Students expressed satisfaction with assessment structure (44.1% agree; 6.8% disagree; Mean = 3.91; S.Dev = 1.020) and quality of examination materials (46.6% agree; 6.8% disagree; Mean = 3.96; S.Dev = 0.958), emphasizing that well-prepared assessments and accessible materials enhance the learning experience. Other indicators, such as appropriateness of examination venues (39.5% agreement; 10% disagreement; Mean = 3.86; S.Dev = 1.128) and storage of examination scripts (62.0% agreement; 10.3% disagreement; Mean = 3.66; S.Dev = 1.178), reflected moderate satisfaction.

Finally, regarding overall experience, 41.2% of students agreed and 8.4% disagreed (Mean = 3.74; S.Dev = 1.180). The integration of quantitative and qualitative findings shows that students are moderately satisfied with examination management in ISO 9001:2015 certified universities in Kenya (Aggregate Mean = 3.807; S.Dev = 1.111). Indicators with high satisfaction include clarity of information, assessment structure, examination format, and quality of materials, reflecting effective planning and communication. Lower satisfaction was noted in grading transparency, dispute management, and timely release of results, with recurring student concerns about missing marks, delayed feedback, and venue inadequacies. These findings imply that universities must prioritize transparent grading, responsive dispute resolution, and efficient communication to improve overall student satisfaction with examination management.

Open-ended responses revealed frustration with unresolved issues, particularly missing marks. A nursing student (ST 140) commented, *"I oftenly experience issues of missing marks and late release of examination results, clearly a lot has to be done,"* while a business student (ST 141) stated, *"Poor handling of students concerns and complaints."* A Registrar Academic (KII 30) stated, *"Examination papers are moderated to ensure alignment with course objectives and syllabus coverage."* Similarly, a University ISO Coordinator (KII 11) noted, *"We ensure quality assurance through internal and external moderation before exams are administered."* Nonetheless, persistent issues with missing marks and delayed results continue to reduce full satisfaction. A Deputy Registrar Examinations (KII 54) stated, *"The examination system has become more structured, transparent, and efficient due to ISO-driven improvements."* These practices strengthen academic alignment and assessment quality. The findings imply that dispute management mechanisms require reinforcement to ensure fairness and reduce anxiety.

Lastly, when looking at students satisfaction trends it was evident that while the assessment of their needs still needed some redress, there was substantial improvement. An agriculture student (ST 250) observed “continuous surveys help track issues affecting exams,” while an engineering student (ST 260) noted “stakeholders are better aligned to ensure examination processes are carried out well.” However, a law student (ST 111) remarked “management does not track trends,” suggesting inconsistency. A Director of Quality Assurance (KH 45) stated, “We monitor satisfaction trends using surveys, audit reports, and complaint analysis to guide continuous improvement.” These systems reflect a structured commitment to tracking satisfaction over time, though student awareness of this monitoring remains limited. The implication is that systematic monitoring is essential for continuous improvement and long-term quality assurance. This finding supports ISO 9001 requirements for continuous improvement through trend analysis (Ab Wahid, 2019) and highlights gaps in systematic quality assurance processes. This aligns with management practices such as longitudinal analysis of survey results, audit reviews, and performance indicators tracking.

Thus, it was evident that while some universities successfully implement ISO processes, many fail to translate policies into consistent practices, leading to dissatisfaction (Kegoro & Anyango, 2020; Boiyon, 2022). This reinforces the need for empirical investigation into how customer focus affects student satisfaction in examination management, bridging the gap between standards adoption and service delivery outcomes. These findings align with Muchai (2023), who observed that post-examination services in Kenyan public universities often fail to resolve issues of missing marks and delayed results, compromising student satisfaction. According to ISO 9001:2015 principles, particularly customer focus, institutions are required to meet customer expectations in all services (Schmuck, 2021). The students’ complaints suggest a gap between policy and operational practice, where the quality standards set by ISO 9001:2015 are not fully realized in examination management. The delays and errors lead to student dissatisfaction, consistent with Kandie (2019) and Khattab (2019), who link service quality directly to customer (student) satisfaction.

The students’ complaints and praises directly support the extant literature on ISO 9001:2015 implementation and service quality. Missing marks, delays, unclear schedules, poor invigilation, and unfair grading mirror prior studies highlighting service quality gaps in Kenyan universities (Muchai, 2023; Mulongo, 2020). Positive feedback aligns with literature showing that adherence to ISO standards and proactive customer focus improves satisfaction (Schmuck, 2021; Amoako et al., 2023). This alignment validates the rationale for investigating customer focus in examination management as a determinant of student satisfaction in Kenyan universities.

4.4 Regression Analysis

The results in Table 4 present the relationship between managing customer relationships and student satisfaction with examinations management in ISO 9001:2015 certified universities in Kenya. The analysis includes the model summary, ANOVA, and regression coefficients. The results are summarized in Table 4.

Table 4. Managing customer relationships and student satisfaction with examinations management

Model Summary ^b	R	R Square	Adjusted R Square	Std. Error of the Estimate		
	.797 ^a	0.635	0.622	0.49274	.	.
ANOVA ^a		Sum of Squares	df	Mean Square	F	Sig.
	Regression	126.354	11	11.487	47.311	.000b
	Residual	72.595	299	0.243		
	Total	198.949	310			
Model Coefficients	Variable	B	Std. Error	Beta	t	Sig.
	Constant	0.966	0.146	—	6.624	0.000
	CRM Mechanism	0.002	0.007	0.012	0.335	0.738
	Support Platforms	0.108	0.034	0.135	3.199	0.002
	Staff Approachability	0.093	0.034	0.141	2.704	0.007
	Support Assistance	0.01	0.038	0.013	0.257	0.797
	Student Priority	0.027	0.04	0.037	0.674	0.501
	Issue Resolution	0.133	0.035	0.192	3.788	0.000
	Technology Use	0.104	0.032	0.151	3.243	0.001
	Info Access	0.103	0.034	0.137	3.067	0.002
	Timely Response	0.092	0.036	0.118	2.559	0.011

Data Security	0.004	0.035	0.005	0.107	0.915
---------------	-------	-------	-------	-------	-------

a Dependent Variable: Student Satisfaction with Examinations Management in Universities in Kenya

The model summary indicates a strong positive relationship between managing customer relationships and student satisfaction with examinations management in ISO 9001:2015–certified universities in Kenya, with a correlation coefficient of $R = 0.797$. The coefficient of determination $R^2 = 0.635$ implies that approximately 63.5% of the variation in student satisfaction is explained by the customer relationship management indicators included in the model. The adjusted R^2 of 0.622 confirms that even after adjusting for the number of predictors, about 62.2% of the variation in student satisfaction is still explained, indicating a strong and reliable model fit. The standard error of estimate (0.49274) is relatively low, suggesting that the model has a high level of precision in predicting student satisfaction levels in examinations management.

The ANOVA results further confirm that the regression model is statistically significant, with $F = 47.311$ and $p = 0.000$. This indicates that the combined effect of managing customer relationship variables significantly predicts student satisfaction with examinations management in universities in Kenya. Therefore, the model is valid, and managing customer relationships is a significant determinant of student satisfaction in examinations management systems within ISO 9001:2015-certified universities.

The regression coefficients show varying levels of influence among the customer relationship management indicators. Issue resolution has the strongest positive and statistically significant effect on student satisfaction ($B = 0.133$; $\beta = 0.192$; $t = 3.788$; $p = 0.000$), indicating that effective handling of examination-related complaints significantly improves student satisfaction. This suggests that timely and efficient resolution of examination issues is critical in shaping positive student perceptions. Similarly, technology use has a positive and significant effect ($B = 0.104$; $\beta = 0.151$; $t = 3.243$; $p = 0.001$), implying that digital systems enhance efficiency and satisfaction in examinations management.

In addition, information access shows a positive and significant influence on student satisfaction ($B = 0.103$; $\beta = 0.137$; $t = 3.067$; $p = 0.002$), indicating that availability of examination guidelines and information improves student confidence in the system. Timely response also has a significant positive effect ($B = 0.092$; $\beta = 0.118$; $t = 2.559$; $p = 0.011$), suggesting that responsiveness to student concerns enhances satisfaction levels. Furthermore, support platforms significantly influence student satisfaction ($B = 0.108$; $\beta = 0.135$; $t = 3.199$; $p = 0.002$), showing that accessible institutional channels improve student experience. Similarly, staff approachability is statistically significant ($B = 0.093$; $\beta = 0.141$; $t = 2.704$; $p = 0.007$), indicating that friendly and supportive staff improve student satisfaction with examinations management.

On the other hand, some variables show statistically insignificant effects. CRM mechanism ($B = 0.002$; $\beta = 0.012$; $t = 0.335$; $p = 0.738$), support assistance ($B = 0.010$; $\beta = 0.013$; $t = 0.257$; $p = 0.797$), and student priority ($B = 0.027$; $\beta = 0.037$; $t = 0.674$; $p = 0.501$) do not significantly influence student satisfaction. Similarly, data security shows an insignificant effect ($B = 0.004$; $\beta = 0.005$; $t = 0.107$; $p = 0.915$), suggesting that although important, it may not be a visible determinant of satisfaction in examinations management compared to more direct service delivery factors such as responsiveness and issue resolution.

Hypothesis Testing

The study tested the null hypothesis:

H₀: There is no significant relationship between managing customer relationships and student satisfaction with examinations management in universities in Kenya.

The regression results in Table 4 show that the overall model is statistically significant ($F = 47.311$, $p = 0.000$). The coefficient of determination ($R^2 = 0.635$) indicates that 63.5% of the variation in student satisfaction is explained by customer relationship management variables. The model also shows a strong positive relationship ($R = 0.797$), indicating a high association between managing customer relationships and student satisfaction in examinations management. Therefore, because the overall model is significant ($p = 0.000$) and several CRM dimensions significantly predict student satisfaction, the study concludes that: H_0 , the null hypothesis is rejected. This means that there is a statistically significant relationship between managing customer relationships and student satisfaction with examinations management in universities in Kenya.

The results indicate that customer relationship management practices significantly influence student satisfaction in examinations management. Key significant predictors include support platforms ($p = 0.002$), staff approachability ($p = 0.007$), issue resolution mechanisms ($p = 0.000$), technology use ($p = 0.001$), information access ($p = 0.002$), and timely response ($p = 0.011$). These findings suggest that universities that provide accessible communication channels, responsive staff, efficient digital systems, and effective problem-resolution mechanisms tend to achieve higher student satisfaction levels.

However, some variables were not statistically significant, including CRM mechanism ($p = 0.738$), support assistance ($p = 0.797$), student priority ($p = 0.501$), and data security ($p = 0.915$). This implies that while

these elements exist in universities, they do not independently contribute significantly to student satisfaction in examinations management, possibly due to weak implementation or low student awareness.

The findings are consistent with CRM and service quality literature. The strong influence of support platforms, responsiveness, and issue resolution aligns with Mohammed & Bin Rashid (2012) and Indrayani & Pardiyo (2019), who argue that CRM improves satisfaction by closing expectation–experience gaps through structured service delivery. Similarly, the significance of responsiveness and communication supports Guilbault (2018), who emphasizes that student satisfaction depends on institutional responsiveness and engagement.

The results also agree with empirical findings by Mater et al. (2024) and Mayanja & Tibaingana (2020), who established that system quality, responsiveness, and technological infrastructure significantly influence student satisfaction. The significance of technology use and information access in this study reinforces their conclusion that digital systems enhance service delivery and trust in higher education institutions.

Further agreement is observed with Dibek (2025) and Konstantinides et al. (2025), who found that structured feedback systems and quality management practices improve satisfaction. The significant effect of issue resolution in this study supports their argument that effective complaint-handling mechanisms are central to customer satisfaction.

However, the findings partially disagree with studies emphasizing that CRM is universally significant across all dimensions. In this study, variables such as CRM mechanism, support assistance, and data security were not significant. This contrasts with Grunwald et al. (2026) and Mater et al. (2024), who suggest that integrated CRM systems broadly enhance institutional satisfaction. The inconsistency implies that in Kenyan universities, CRM effectiveness is selective rather than holistic, with stronger effects observed in visible service areas (communication, responsiveness, and technology) compared to structural or back-end systems.

The findings strongly align with examinations management literature, which emphasizes that efficiency, transparency, and responsiveness are critical to student satisfaction. Karn and Mishra (2026) and Lynch (2022) highlight that delays, errors, and weak communication in examination systems reduce student satisfaction. This directly supports the significance of issue resolution, timely response, and technology use found in this study. Similarly, Rossiter et al. (2021) and French et al. (2023) argue that examinations define institutional credibility, meaning that any weakness in examination processes directly affects student perception. The strong effects of support platforms and communication systems in this study confirm their argument that examination management is a key determinant of institutional trust. However, the non-significance of some CRM variables suggests a divergence from studies that assume all CRM components equally improve academic service delivery. This indicates that in Kenyan universities, examination-related satisfaction is driven more by operational responsiveness than by formal CRM structures alone.

Overall, the study establishes that managing customer relationships has a strong and statistically significant effect on student satisfaction with examinations management in Kenyan universities. The findings confirm that CRM practices—especially responsiveness, communication platforms, technology use, and issue resolution—are critical in shaping student experiences. While some CRM components were not significant, the overall evidence supports the rejection of the null hypothesis and reinforces the importance of customer-focused strategies in improving examination management systems within ISO 9001:2015 certified universities. This suggests that students value visible, practical, and responsive service delivery mechanisms more than structural or background CRM features. Therefore, universities should prioritize strengthening responsive communication systems, efficient problem resolution, and accessible digital platforms to enhance student satisfaction in examinations management.

V. Conclusion and Recommendations

5.1 Conclusions

The study concludes that managing customer relationships in ISO 9001:2015 certified universities in Kenya is moderately effective in supporting student satisfaction with examinations management. The findings indicate that universities have established key customer relationship structures such as student support platforms, digital communication channels, and administrative service points, which provide students with multiple avenues for accessing examination-related assistance. However, the effectiveness of these systems is uneven, with notable variations in staff responsiveness, consistency of service delivery, and timeliness of support. While students generally acknowledge the existence of functional support systems, their experiences suggest that the mere presence of these structures does not guarantee high-quality service outcomes. This points to a gap between institutional frameworks and actual service delivery practices, particularly in how consistently and efficiently student concerns are addressed.

The study further concludes that student satisfaction with examination management is positively influenced by customer relationship management practices, although the level of satisfaction remains moderate rather than optimal. Key strengths include improved access to examination information, the availability of technology-enabled systems, and reasonably structured support platforms that enhance communication and

service accessibility. However, persistent weaknesses in responsiveness, dispute resolution, and timeliness of feedback—especially in areas such as grading, missing marks, and communication delays—continue to undermine overall satisfaction levels. The regression results confirm that managing customer relationships significantly predicts student satisfaction, with issue resolution, technology use, staff approachability, timely response, and information access emerging as the most influential factors. This demonstrates that student satisfaction is driven more by the quality and responsiveness of interactions than by the mere existence of institutional systems.

The study also concludes that while ISO 9001:2015 certification has facilitated the establishment of structured quality management systems in universities, full realization of customer-focused service delivery remains incomplete. Universities demonstrate compliance with procedural requirements such as feedback collection, system documentation, and quality assurance mechanisms; however, the translation of these processes into consistent, student-centered outcomes is limited. In particular, weaknesses in feedback utilization and visible corrective action reduce student confidence in institutional responsiveness. Overall, the findings suggest that universities are progressing toward customer-oriented examination management systems, but significant improvements are still required to ensure that policies are consistently implemented and that student experiences reflect the intended standards of ISO 9001:2015.

5.2 Recommendations

The study recommends that universities enhance the effectiveness of customer relationship management systems by focusing on responsiveness, consistency, and visible service improvements rather than merely maintaining support structures. Institutions should ensure that student support platforms are well-staffed, actively monitored, and capable of resolving examination-related issues promptly, particularly in areas such as grading disputes, missing marks, and delayed results. Universities should strengthen feedback utilization by systematically analyzing student concerns and ensuring that corrective actions are clearly communicated to build trust and transparency. Greater investment in integrated and user-friendly digital systems is also necessary to improve access to information, automate examination processes, and enhance communication efficiency. Additionally, staff training should be prioritized to improve customer service skills, including communication, empathy, and problem-solving. Finally, universities should continuously monitor satisfaction trends to guide evidence-based improvements in examination management practices.

References

- [1]. Abd Rahim, A. S., & Mohd Asaad, M. N. (2018). The Implementation of ISO 9001: 2015 to Improve Quality of Service at Pusat Kesihatan University (PKU), Universiti Utara Malaysia (UUM). *Journal of Technology and Operations Management*, 13(2), 67–77.
- [2]. Abdullah, F. (2006). Measuring service quality in higher education: HEDPERF versus SERVPERF. *Marketing Intelligence & Planning*, 24(1), 31–47.
- [3]. Agrawal, N. M. (2019). Modeling Deming's quality principles to improve performance using interpretive structural modeling and MICMAC analysis. *International Journal of Quality & Reliability Management*, 36(7), 1159–1180.
- [4]. Aikins, D.E. (2019). Effective Management of University Examinations. *International Journal of Research and Innovation in Social Science*, 3(11), 1 – 19.
- [5]. Amoako, G., Ampom, G., Gabrah, A., Heer, F., & Adjei, A. (2023). Service quality affecting student satisfaction in higher education institutions in Ghana. *Cogent Education*, 10(2). <https://doi.org/10.1080/2331186X.2023.2238468>.
- [6]. Andiva, Z. K. (2019). *Influence of ISO 9001: 2008 Quality Management System on Academic Staff's Service Delivery in Public Universities in Kenya* (Doctoral dissertation, Maseno University).
- [7]. Anttila, J., & Jussila, K. (2017). ISO 9001:2015 – a questionable reform. What should the implementing organisations understand and do? *Total Quality Management and Business Excellence* 28(9-10), 1090–105.
- [8]. Anyango, K. E., Ngui, T., Mulili, B., & Achuora, J. (2018). Effect of Total Quality Management Practices on Student Satisfaction in Public Universities in Kenya. *Global Scientific Journals*, 6(8), 554–572.
- [9]. Bailey, C. M., & Schmidt, D. M. (2022). *Social media is about people*. Business Expert Press.
- [10]. Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human relations*, 61(8), 1139–1160.
- [11]. Boiyon, E. K. (2022). *Relationship between ISO 9001 Certification and Customer Satisfaction in Public Universities in Kenya* [Doctoral Thesis]. University of Kabianga.
- [12]. Chumba, P., Kirui, J., Sang, H., & Kibett, J. (2019). Relationship between ISO 9001 certification and quality of service delivery in selected public universities in Kenya. *International Journal of Economics, Commerce and Management*, 7(10), 433–453.
- [13]. Creswell, J., & Creswell, D. (2023). *Research design: Qualitative, quantitative and mixed methods approaches*. Sage Publications Ltd.
- [14]. Deming, W. E. (1986). *Out of the crisis*. MIT Press.
- [15]. Demir, A., & Guven, S. (2017). The Influence of ISO Certificate on Quality Evaluation of Students: A Case Study at Ishik University. *Advances in Social Sciences Research Journal*, 4(3), 171–180.
- [16]. Dibaba, G. A. (2021). *Influence of ISO 9001: 2015 on Customer Satisfaction: The Case of Ethiopian Textile Industry Development Institute* [Master's Thesis]. St Mary's University.
- [17]. Dibek, M. T. (2025). ISO 10002 Applications in Higher Education: The Contribution of Customer Satisfaction Management Systems to Institutional Development and Continuous Improvement. *Excellence, Performance and Innovation in Quality*, 1(1), 17–30.
- [18]. Fowler Jr, F. J. (2013). *Survey research methods*. Sage publications.
- [19]. French, S., Dickerson, A., & Mulder, R. (2023). A review of the benefits and drawbacks of high-stakes final examinations in higher education. *Higher Education*, 88, 893–918. <https://doi.org/10.1007/s10734-023-01148-z>.

- [20]. Goel, K. (2026). Impact of service quality dimensions on student satisfaction, academic achievement and self-perceived employability in business schools: a HEDQUAL approach. *Journal of International Education in Business*, 1-21.
- [21]. Grunwald, G., Kara, A., & Shrivastava, P. (2026). Fundamentals and Principles of Relationship Quality Management in the Sustainability Transformation of Higher Education Institutions. In *Sustainability Transformation of Higher Education Institutions: A Relationship Quality Management Perspective* (pp. 21-50). Cham: Springer Nature Switzerland.
- [22]. Guilbault, M. (2018). Students as customers in higher education: The (controversial) debate needs to end. *Journal of Retailing and Consumer Services*, 40, 295-298.
- [23]. Ikram, M., & Kenayathulla, H. B. (2023). Education Quality and Student Satisfaction Nexus Using Instructional Material, Support, Classroom Facilities, Equipment and Growth: Higher Education Perspective of Pakistan. *Frontiers in Education*, 8(1140971), 1–15.
- [24]. Indrayani, R. and Pardiyo, R. (2019). Impact of Customer Relationship Management and Quality of Service on Student Loyalty in Private Higher Education in Bandung, Indonesia. *Advances in Health Sciences Research*, volume 27 Proceedings of the 1st International Conference on Science, Health, Economics, Education and Technology (ICoSHEET 2019)
- [25]. Kandie, H. K. (2019). *Role of Quality Management System Implementation on Students' Satisfaction in ISO 9001: 2008 Certified Universities in Kenya* [Doctoral Dissertation] JKUAT-COHRED.
- [26]. Kanori, E.N., Kimani, G.N., & Kalai, J.M., (2020). Service tangibility, teaching and learning, and Students' satisfaction at the university of Nairobi, Kenya. *Journal of Pedagogy, Andragogy and Heutagogy in Academic Practice*, 1(2), 16-28
- [27]. Kanwar, A., & Sanjeeva, M., (2022). Student satisfaction survey: a key for quality improvement in the higher education institution. *Journal of Innovation and Entrepreneurship* (2022) 11:27 <https://doi.org/10.1186/s13731-022-00196-6>
- [28]. Karn, D. K., & Mishra, A. K. (2026). Examination Management in Higher Education in Nepal: A Review of Practices and Challenges. *Poornaprajna International Journal of Management, Education & Social Science (PIJMESS)*, 3(2), 82-91.
- [29]. Kegoro, H. O., & Anyango, J. A. (2020). Continuous Improvement on Operational Performance of Selected Public Universities in Kenya. *The International Journal of Humanities & Social Studies*, 8(3).
- [30]. Kenya Bureau of Standards [KEBS] (2024). *ISO 9001:2015 certified organizations in Kenya* (Report). Kenya Bureau of Standards.
- [31]. Khattab, F. (2019). *Investigating the service quality dimensions and their impact on university students' satisfaction in a private higher education institution in Lebanon*. [Doctoral Dissertation] Staffordshire University.
- [32]. Kiarie, N. (2020). Challenges and prospects of implementation of ISO 9001:2015 in TVET institutions: The case of Nkabune Technical Training Institute. *Africa Journal of Technical & Vocational Education & Training*, 5(1), 84- 95.
- [33]. Kimaita, J. N., Kabue, H., Ochola, P., & Kiriinya, S. N. (2023). Effect of Service Quality Dimensions on Students' Satisfaction in Selected Chartered Universities in Kenya: A Multinomial Regression Application. *Innovare Journal of Education*, 11(5), 27–32.
- [34]. Konstantinides, D., Athanasoula-Reppa, A., & Chatzimichailidou, P. (2025). Total Quality Management (TQM): A Linkage to Customer Satisfaction through Academic Quality Services. In *Security and Strategy Models for Key-Solving Institutional Frameworks* (pp. 303-326). IGI Global Scientific Publishing.
- [35]. Lynch, S. (2022). Adapting paper-based tests for computer administration: Lessons learned from 30 years of mode effects studies in education. *Practical Assessment, Research & Evaluation*, 27(22), 1–22.
- [36]. Mackatiani, C. I. (2017). Influence of examinations oriented approaches on quality education in primary schools in Kenya. *Journal of Education and Practice*.
- [37]. Maqbool, M. A., Altaf, F., & Bibi, S. (2023). Challenges Encountered by Quality Management System ISO 9001:2015 Implementation at the Universities. *Pakistan Languages and Humanities Review*, 7(3), 594–602.
- [38]. Mater, W., Aldwairi, M., Matar, N., & Mugahed Al-Rahm, W. (2024). *Developing a success model of a social student relationship management system*. Heliyon.
- [39]. Mayanja, J. & Tibaingana, A., (2020). Customer Relationship Management Perception among Students of Higher Institutions in Uganda. *LWATI: A Journal of Contemporary Research*, 17(2), 86-106.
- [40]. McCollin, C., Ograjenšek, I., Göb, R., & Ahlemeyer-Stubbe, A. (2011). SERVQUAL and the process improvement challenge. *Quality and reliability engineering international*, 27(5), 705-717.
- [41]. Mohammed, A. A., & Bin Rashid, B. (2012). Customer relationship management (CRM) in hotel industry.
- [42]. Muchai, J. (2023). *Effects of ISO 9001: 2015 Quality Management System Implementation On Post Examination Service Delivery In Public Universities In Kenya* (Doctoral dissertation, MksU Press).
- [43]. Mulongo, M.A., (2020). *Effectiveness of university examinations management strategies in mitigating exam malpractices in Kenya*. (DPhil Thesis, Karatina University, Kenya).
- [44]. Oakland, J. S. (2014). *Total quality management and operational excellence* (4th ed.). Routledge.
- [45]. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- [46]. Petrusch, A., & Vaccaro, G. L. R. (2019). Attributes valued by students in higher education services: A lean perspective. *International Journal of Lean Six Sigma*, 10(4), 862–882. <https://doi.org/10.1108/IJLSS-07-2018-0062>.
- [47]. Rahmatia, S., Basri, M., Ismail, I., Adi, S., Nasrullah, N., & Ahmad, A. (2025). Service quality in hospital inpatient care: SERVQUAL model approach. *Health SA Gesondheid*, 30, 3055.
- [48]. Rossiter, J., Abreh, M., Ali, A., & Sandefur, J. (2021). Do high-stakes exams promote consistent educational standards? (Working paper 581). Center for Global Development.
- [49]. Satapathy, S., Coraza, D. A., & López, Y. B. (2024). The PDCA (Plan-Do-Check-Act) Cycle. *Lean Manufacturing in Latin America: Concepts, Methodologies and Applications*, 409.
- [50]. Schmuck, R. (2021). Comparison of the ESG guidelines used in the European higher education sector with the principles of the ISO 9001: 2015 Quality Management Standard. *Quality- access to success*, 22(181).
- [51]. Sulaeman, N. F., Nuryadin, A., Haryanto, Z., Alifkalaila, A., & Oktaba, I. A. (2021). Analysis of Student Satisfaction in Academic Services as Part of Quality Insurance in University. *Vidya Karya*, 36(2), 84-91.
- [52]. Sultan, P., & Wong, H. Y. (2013). Antecedents and consequences of service quality in higher education. *Quality Assurance in Education*, 21(1), 70–95.
- [53]. Teeroovengadam, V., Kamalanabhan, T. J., & Seebaluck, A. K. (2019). Measuring service quality in higher education. *Quality Assurance in Education*, 27(2), 427–445.
- [54]. Umar, M., & Hasan, M. (2024). Predicting students' satisfaction with academic services at a multicultural engineering university in Bangladesh: A multiple regression analysis. *Plos one*, 19(9), e0309223.
- [55]. Wahid, R. (2019). Sustaining ISO 9001-based QMS in higher education: a reality? *The TQM Journal*, 31 (4)563-577. <https://doi.org/10.1108/TQM-12-2018- 0185>

- [56]. Wanza, L., Ntale, J. F., & Korir, M. K. (2017). Effects of quality management practices on performance of Kenyan Universities. *International Journal of Business and Management Review*, 5(8), 53–70.
- [57]. Wolniak, R. (2020). Operations in ISO 9001: 2015. *Zeszyty Naukowe. Organizacja i Zarządzanie/Politechnika Śląska*, (148), 783-794.
- [58]. Wong, W. H., & Chapman, E. (2023). Student satisfaction and interaction in higher education. *Higher education*, 85(5), 957-978.
- [59]. Zaitseva, E. V., & Goncharova, N. V. (2022). Assessment of student satisfaction with technology and organization of the learning process at the university. In *International Conference on Professional Culture of the Specialist of the Future* (pp. 370-384). Cham: Springer International Publishing.