The Impact of Technological System Usability on Customer Relationship Management Practices in Telecommunication Companies in Benadir Region, Mogadishu, Somalia

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A B S T R A C T S

This study explored how the usability of technological systems affects Customer Relationship Management (CRM) practices in the telecommunications industry in the Benadir Region, Mogadishu, Somalia. A descriptive research design with quantitative methods was employed. Data were collected from 100 employees in the telecommunications sector. The study employed questionnaires distributed through Google Forms to assess the impact of user-friendly CRM interfaces on adoption and usage, evaluate the training duration required for proficiency, and examine how system speed and functionality influence productivity. The results showed that 80% of users found the CRM interface intuitive and easy to learn, 28% were neutral, and 9% were dissatisfied with the clarity of error messages. Furthermore, 55% of users had less than a year of CRM experience, emphasizing the necessity of role-specific training. Although 71% of participants praised real-time analytics and 80% found automation beneficial, only 57% believed that CRM improved overall productivity, suggesting contextual challenges in achieving efficiency improvements. The predominantly young (65% aged 26-45), male (67%), and inexperienced user group highlights the need for inclusive design and phased onboarding. The recommendations include redesigning error messages, implementing tiered training, and enhancing mobile functionality for low-bandwidth settings. This study adds to CRM usability research by combining human-centered design principles with technology acceptance frameworks and identifying a "usability-proficiency gap" in fragile economies. The practical implications for telecom managers involve actionable strategies to boost CRM adoption and effectiveness within Somalia's unique infrastructure and workforce context.

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1. INTRODUCTION

The shift towards digitalization in business operations has significantly influenced customer relationship management across various industries, particularly telecommunications (Salesforce, 2022). CRM systems have become essential for telecom companies, aiding in better service delivery, increased customer satisfaction, and enhanced operational efficiency These systems allow organizations to handle customer interactions more efficiently, streamline sales processes, and employ data-driven marketing strategies using advanced analytics and

automation (PMC, 2021). In globally, The development of Customer Relationship Management (CRM) systems has evolved them from simple contact management tools into sophisticated platforms that incorporate artificial intelligence, machine learning, and big data analytics (Ozay et al., 2024). In mature telecommunications markets, these advanced systems allow companies to examine customer behavior patterns, forecast churn rates, and tailor marketing campaigns with remarkable accuracy. The success of these systems largely hinges on their usability, particularly the ability of employees to efficiently navigate interfaces, accurately input data, and extract actionable insights without requiring extensive training (PMC, 2021). In Africa, CRM adoption varies significantly across the African continent, with notable differences between regions and markets (World Bank, 2024). South Africa has become the leading country in CRM implementation on the continent, with businesses increasingly turning to cloud-based solutions to improve customer interactions and break down organizational data silos (Salesforce 2022). However, several challenges continue to impede widespread adoption in other African markets, such as high implementation costs, limited Internet access, and resistance to digital transformation within organizations (BCG, 2020).

Despite these hurdles, new and creative solutions are being developed to tackle the unique issues encountered by African markets. In nations such as Kenya and Nigeria, mobile-based Customer Relationship Management (CRM) applications have become increasingly popular, allowing small enterprises to track customer interactions using cost-effective and easily accessible technology (Built Africa, 2024). These innovations demonstrate the potential of technologies tailored to specific contexts to overcome infrastructure challenges and promote digital transformation in developing regions. In Somalia, particularly in Mogadishu, the implementation of Customer Relationship Management (CRM) systems is still in its nascent phase (Dhaqane et al., 2024). The telecommunications industry, which is considered one of the most developed sectors in the nation, faces obstacles such as unstable Internet connections, a lack of technical skills, and a limited understanding of CRM's advantages (International Journal of Development Research, 2025).

Despite CRM's growing importance in the global and African telecom sectors, poor system usability remains a major barrier to effective CRM adoption in Mogadishu. This study explores how key aspects of system usability, such as ease of use, learnability, and efficiency, affect CRM practices in the telecommunications sector of the Benadir Region. The specific objectives is to analyze the impact of user-friendly customer relationship management (CRM) system interfaces on employee adoption and routine use in Mogadishu's telecommunications industry; to evaluate the duration and training necessary for employees to become proficient in using CRM systems effectively; and to examine how the speed and capabilities of CRM systems affect workflow efficiency and customer service responsiveness. This study is important because it offers empirical evidence on how improving CRM usability can enhance customer relationship management in Somalia's telecommunications sector. The results will help telecom companies in the Benadir Region optimize CRM training programs, choose user-friendly systems, and improve service delivery.

2. LITERATURE REVIEW

1. Concept of Technological System Usability

Usability in technological systems refers to how well users can engage with a system to achieve their goals effectively, efficiently, and satisfactorily (Vlachogianni & Tselios, 2022). The System Usability Scale (SUS), developed by Brooke in 1986, remains a popular tool for assessing usability, providing a standardized method for evaluating the user-friendliness of digital products (Goundar et al., 2024). Usability involves not only ease of use but also factors such as learnability, memorability, error prevention, and user satisfaction, ensuring that systems meet user requirements and fit into their workflows (Bartlett et al., 2023). Poor usability can lead to frustration, reduced productivity, and safety hazards, especially in critical settings such as healthcare (Gupta & Sahoo, 2020). Human-centered design (UCD) has played a crucial role in shaping usability by emphasizing iterative testing and involving stakeholders to improve interfaces (Bayor et al., 2025). By employing comparative evaluations, such as the CIUE methodology, organizations can identify their strengths and weaknesses compared to their competitors (Gyönyörová et al., 2023). Recent studies underscore the vital role of accessibility in usability design, especially for vulnerable groups, such as the elderly and those with cognitive challenges (Monnet et al., 2024). For instance, features such as simplicity, customization, and audio assistance are crucial for users with dementia (Alzheimer Europe, 2020). As digital systems become more widespread, there is a demand for comprehensive frameworks that harmonize innovation with practicality to promote inclusivity (World Health Org., 2022).

2. Theories Related to Technological System Usability and Customer Relationship Management (CRM) Practices

Several theoretical frameworks underpin the usability of technological systems in Customer Relationship Management (CRM), clarifying the connections between system design, user perception, and successful implementation. This study focuses on three main theories that are especially relevant:

1. *Technology* Acceptance Model (TAM)

   The Technology Acceptance Model (TAM), introduced by Fred Davis, serves as a foundational framework for analyzing the elements that affect user acceptance and use of technology. This model identifies two key factors that influence user adoption: Perceived Usefulness (PU), which refers to the degree to which a person believes that using a system will improve their job performance, and Perceived Ease of Use (PEOU), which is the degree to which a person believes that the system will be easy to use (Pal & Vanijja, 2020). This theoretical model is directly relevant to the current study's focus on ease of use and its effect on employee adoption, a part of the dependent variable. TAM suggests that an intuitive interface, marked by high PEOU, will lead to greater acceptance, which is essential for successful Customer Relationship Management (CRM) practices.

2. *Task-Technology Fit (TTF) Theory*

   According to the Task-Technology Fit (TTF) theory developed by Goodhue and Thompson (1995), a technology must be well-suited to the tasks it is meant to support in order to positively impact individual performance. This theory goes beyond just the adoption of technology, focusing instead on its effect on performance. This idea is especially relevant to the current study, which examines how efficiency speed, functionality, automation influences workflow productivity and the responsiveness of customer service . Even if a system is easy to use, as indicated by the Technology Acceptance Model (TAM), its features, such as real-time analytics and mobile access, need to be compatible with the specific tasks and workflows of telecom employees in Mogadishu to achieve the desired improvements in Customer Relationship Management (CRM) practices.

3. *Cognitive Load Theory (CLT)*

   Cognitive Load Theory (CLT), developed by John Sweller, focuses on enhancing learning by carefully designing instructional materials and interfaces to effectively manage the user's working memory capacity. The theory distinguishes between intrinsic load (the task's inherent complexity), extraneous load (how information is presented), and germane load (the cognitive effort aimed at building schemas). This framework provides a solid foundation for analyzing the variable of training time required in this study. A poorly designed, complex Customer Relationship Management (CRM) system can create a high extraneous cognitive load, making the learning process more difficult and prolonging the time needed to become proficient. Conversely, an intuitive design combined with effective training materials reduces this load, enabling faster mastery and more efficient use of the CRM system, ultimately improving overall CRM practices.

3. *Ease of Use and Customer Relationship Management (CRM) Practices*

An easy-to-use CRM interface reduces mental effort and speeds up user skill development, which in turn boosts adoption rates. Studies have shown that CRM systems featuring streamlined dashboards, intuitive navigation, and no-code customization experience greater user engagement, as individuals can complete tasks without needing extensive training (Patrício et al., 2025); SuperAGI, 2025). For example, NetHunt CRM utilizes native Gmail integration to improve user-friendliness, enabling sales teams to handle leads effortlessly within familiar processes (NetHunt CRM 2025). Research also indicates that a straightforward design is linked to quicker onboarding and fewer data-entry mistakes, highlighting the significance of reducing complexity in CRM interfaces (Ledro et al., 2023).

4. *Training Time Required and Customer Relationship Management (CRM) Practices*

The time and resources required for CRM training vary significantly based on the complexity of the system. While simple CRMs (e.g., NetHunt, Streak) require minimal training due to their intuitive designs, advanced platforms like Salesforce demand structured programs, including role-based modules and hands-on sandbox environments (Deloitte, 2025; Salesforce, 2025). Best practices suggest blended learning approaches, combining live sessions, e-learning, and in-app guidance to accommodate diverse learning styles (Whatfix, 2025). Additionally, ongoing support, such as internal "CRM champions" and refresher courses, ensures sustained proficiency and mitigates skill decay over time (Gartner, 2025; Portotheme, 2025).

5. *Efficiency and Customer Relationship Management CRM Practices*

The effectiveness of Customer Relationship Management (CRM) systems is assessed by how quickly tasks are completed and their functional strength, which encompasses automation and integration features. Systems that include automated lead capture, deal progression, and reporting functions greatly minimize manual work, thus improving sales cycle times by as much as 300% (Zamri and Kotte, 2024; SuperAGI, 2025). For example, AI-powered CRMs use predictive analytics to prioritize leads with high potential, thereby boosting the efficiency of sales teams (Monday.com 2025). Moreover, real-time dashboards and multichannel integrations, such as Voice

over Internet Protocol (VoIP) and social media, enhance workflows by offering quick access to vital customer information (Alzheimer Europe, 2020; Interaction Design Foundation, 2025).

6. Research Gap

While significant progress has been made in Customer Relationship Management (CRM) technologies, several research gaps remain in fully understanding their overall impact on organizational performance and customer relationships. One major gap is the lack of comprehensive studies on the long-term effects of AI-driven CRM systems, especially in terms of ethical issues, data privacy, and balancing automation with human interaction (Monnet et al., 2024; Zamri and Kotte, 2024). Although AI-powered CRMs, such as Salesforce Einstein and HubSpot AI, are widely used, research often fails to explore how these systems influence employee morale, customer trust, and decision-making biases across different industries (Gartner, 2025; Super AGI, 2025). Additionally, there is a gap in understanding the cross-cultural applicability of CRM frameworks, as most research focuses on Western markets and overlooks how cultural differences in communication, trust-building, and technology adoption affect CRM success in emerging economies (Portotheme 2025). Moreover, despite the trend of hyper-personalization, there is limited empirical evidence on its scalability for small and medium-sized enterprises (SMEs) or its impact on customer fatigue due to excessive personalization (Salesforce, 2025; Monday.com, 2025).The impact of AI-driven CRM systems extends beyond immediate operational efficiencies, raising complex questions about their long-term effects on organizational dynamics and customer relationships. While these systems offer powerful capabilities for data analysis and personalization, they also introduce challenges related to ethical considerations, data privacy, and the delicate balance between automated processes and human interaction. The lack of comprehensive studies in these areas highlights a critical need for research that examines the multifaceted consequences of AI-powered CRMs across various industries and organizational contexts. Furthermore, the research gap in cross-cultural CRM applicability underscores the importance of understanding how cultural nuances influence the effectiveness of CRM strategies. As global markets become increasingly interconnected, the ability to adapt CRM frameworks to diverse cultural settings becomes crucial for organizational success. This gap also points to the need for more inclusive research that considers the unique challenges and opportunities presented by emerging economies in the context of CRM implementation and customer relationship building. Additionally, the limited empirical evidence on the scalability of hyper-personalization for SMEs and its potential to cause customer fatigue highlights an important area for future investigation, as businesses strive to find the optimal balance between personalized experiences and customer preferences.

7. Concept of Customer Relationship Management (CRM)

Customer Relationship Management (CRM) practices have evolved significantly in recent years, becoming a cornerstone of successful business operations. These practices go beyond simple customer data management, encompassing a holistic approach to understanding and meeting customer needs. CRM systems now leverage advanced technologies such as artificial intelligence and machine learning to predict customer behavior, personalize interactions, and optimize marketing strategies. This technological integration allows businesses to create more meaningful and targeted customer experiences, ultimately driving loyalty and revenue growth.

The implementation of CRM practices extends across various departments within an organization, including sales, marketing, and customer service. By centralizing customer data and providing real-time insights, CRM systems enable teams to collaborate more effectively and make data-driven decisions. Data-Driven Decision-Making: CRM systems employ predictive analytics and machine learning to forecast customer actions, categorize target groups, and customize marketing strategies (Ledro et al., 2023). Omnichannel Integration: Companies connect various interaction points, such as e-mail, social media, and IoT devices, to provide seamless customer experiences (Whatfix, 2025; NetHunt CRM, 2025). Automation and Efficiency: Routine activities, such as follow-ups and lead scoring, are automated, enabling teams to focus on building customer relationships (Korpi, 2024).

8. Conceptual Framework

This research is based on a conceptual framework that suggests a direct link between the main aspects of Technological System Usability, which acts as the Independent Variable (IV), and the effectiveness of Customer Relationship Management (CRM) Practices, identified as the Dependent Variable (DV). The IV is defined through three key constructs from usability literature: Ease of Use related to the intuitiveness and learnability of the interface, Training Time Required regarding the time and adequacy of instruction needed for proficiency, and Efficiency concerning system speed, functionality, and automation capabilities. The framework proposes that these usability constructs have a direct impact on essential elements of CRM practices in the telecommunications industry, such as employee adoption rates, daily usage patterns, workflow productivity, and customer service responsiveness. It is proposed that improvements in system usability like a more intuitive design, effective training that shortens the time to proficiency, and enhanced functional efficiency will result in more successful and impactful CRM implementation and outcomes. This framework serves as the foundational structure for exploring

the main research question of how technological system usability affects CRM practices in the specific context of Mogadishu's telecom industry

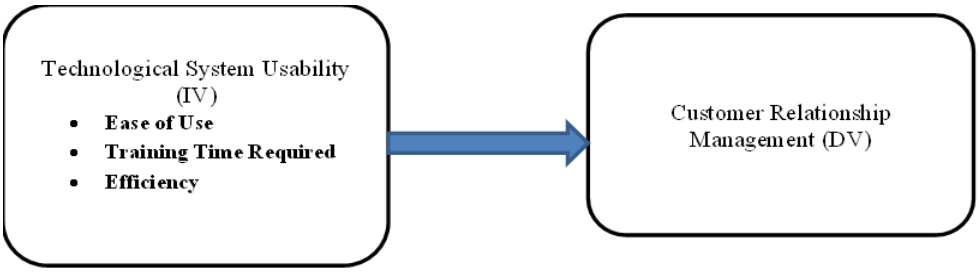

FIG 1. Conceptual framework, SOURCE: Developed by researchers (2025)

3. MATERIAL AND METHODS

This study adopted a descriptive approach, focusing on quantitative methods. Numerical data with measurable variables were used in the quantitative research, as this method aligned with the study's goals. This approach is suitable for investigating how the usability of technological systems affects customer relationship management (CRM) practices in the telecommunications industry in the Benadir Region, Mogadishu, Somalia. The study employed frequencies, tables, percentages, and measures of central tendency to explore the research question: "What is the impact of technological system usability on customer relationship management (CRM) practices in telecommunication in the Benadir Region, Mogadishu, Somalia?" To gather data from employees of telecommunications companies in this area, the researchers crafted questions based on a literature review, using Likert scales (3=Agree, 2=Neutral, 1=Disagree) through Google Forms.

This method improves efficiency, minimizes Manal errors, and simplifies the process of data cleaning and export to statistical software. Data collection will be conducted in March and April 2025. Surveys were distributed directly, with the help of telecommunications managers, to collect information from the staff of these companies in the Banadir region of Mogadishu, Somalia. The researchers ensured that the questionnaires were filled out at times that did not interfere with the respondents' official work hours and obtained special permission from the telecommunications managers. Data analysis was performed after cleaning and verifying the surveys.

This study focuses on telecommunication workers in Benadir-Mogadishu, specifically targeting a group of 135 professionals from different sectors. The study's framework includes all employees who use CRM systems, excluding those without CRM experience, to maintain relevance. A simple random sampling method, a type of probability sampling, was used to select participants, ensuring that each participant had an equal chance of representing the target group. Questionnaires were distributed to 100 telecommunications employees using CRM systems in Mogadishu, Somalia, to gather data. Slovene's formula was used to calculate the sample size, allowing for a maximum error margin of 5%. The formula is represented as n= 135/1+105 (0.05)2=100, where n is the sample size, N is the population, and a is the acceptable error. This formula was selected for its effectiveness in sampling a population with the desired accuracy.

The extent of the measurement error significantly influences the validity of the research instrument. Generally, the validity of each question or set of questions is determined by its ability to convey accurate data that aligns with the information anticipated from respondents. This alignment is contingent on the respondent's comprehension of the question as intended by the researcher. The reliability of an instrument pertains to its stability and consistency. In the context of questionnaire pretesting, revisions and further testing can enhance reliability. Prior to the distribution of the questionnaire, the researcher consulted with experts, including individuals with doctoral degrees, who were fully engaged in the questionnaire distribution and all study-related activities. Primary data were collected using Google Form surveys, subsequently downloaded into Excel, and verified for completeness. The data were then directly transferred to the SPSSV20 program for quantitative analysis. Descriptive statistics were employed to organize, summarize, and present the data in tables as frequencies, percentages, means, and standard deviations, which measure central tendency and dispersion.

4. RESULTS AND DISCUSSION

1. Demographic Information

According to Table 4.1, the demographic breakdown of the 100 participants reveals a workforce that is largely young and somewhat inexperienced. A significant portion, 65%, falls within the 26 to 45 age range, indicating employees in their peak working years. There is a clear gender disparity, with males making up 67% of the respondents. Job roles are spread across major departments, with Sales Representatives (22%) and IT/System

Administrators (20%) being the most common. Notably, more than half of the users (55%) have less than a year of experience with the CRM system, pointing to a user group in the early phases of adoption. This demographic makeup highlights the essential need for user-friendly system design, thorough onboarding, and training tailored to specific roles to ensure successful CRM implementation.

TABEL 1. Demographic Information

Item	Category	Frequency	Percentage
Age	Under 25	15	15%
	26-35	35	35%
	36-45	30	30%
	46-55	15	15%
	56+	5	5%
Gender	Male	67	67%
	Female	33	33%
Job Role	Sales Representative	22	22%
	Marketing Professional	18	18%
	Customer Support	15	15%
	IT/System Admin	20	20%
	Manager/Director	15	15%
	Other	10	10%
CRM Usage Duration	Less than 6 months	25	25%
	6 months to 1 year	30	30%
	1–3 years	28	28%
	More than 3 years	17	17%

Source: developed by researchers (2025)

The demographic survey involving 100 participants offered valuable insights into the user demographics of the CRM system. The results reveal that the workforce predominantly consists of young to middle-aged individuals, with 35% aged 26–35 and 30% aged 36–45, suggesting that nearly two-thirds are in their prime working years. In contrast, only 15% were under 25, while the older age brackets (46-55 and 56+) accounted for 15% and 5%, respectively. This indicates a relatively youthful user base with a notable gender imbalance (67% male versus 33% female), which could influence the user experience design and training strategies. Job roles are distributed evenly across key functions, with Sales Representatives making up the largest group (22%), followed by IT/System Administrators (20%), Marketing Professionals (18%), Customer Support staff (15%), managers/directors (15%), and others (10%). This distribution highlights the diversity of departments, underscoring the need for role-specific customization and training to suit different workflows. Experience levels indicate that most users are relatively new to the CRM system, with 55% having less than a year of experience (25% under 6 months, 30% between 6-12 months), 28% with 1-3 years of experience, and only 17% being long-term users (over 3 years). The combination of a young, predominantly male workforce with limited CRM experience highlights the importance of intuitive design, comprehensive training programs, and role-specific support to ensure effective system use throughout the organization.

2. Intuitive CRM system interfaces of employee adoption and daily usage in Mogadishu

TABEL 2. intuitive CRM system interfaces influence employee adoption and daily usage

	Statements		SA	A	N	D	SD	Mean	Std
1.	The CRM interface is intuitive and easy to navigate.	F	55	25	15	4	1	1.76	0.89
		%	55.0	25.0	15.0	4.0	1.0		
2.	can perform tasks without extensive training.	F	52	28	16	3	1	1.81	0.87
		%	52.0	28.0	16.0	3.0	1.0		
3.	The system provides clear error messages when issues occur.	F	35	28	28	7	2	2.18	1.05
		%	35.0	28.0	28.0	7.0	2.0		
4.	The CRM integrates well with other tools we use.	F	46	26	16	7	5	2.03	1.12
		%	46.0	26.0	16.0	7.0	5.0		
5.	Overall, the CRM requires minimal technical support to use effectively.	F	35	28	18	13	6	2.32	1.21
		%	35.0	28.0	18.0	13.0	6.0		

source: developed by researchers (2025)

Based on the CRM usability feedback table, most respondents shared positive experiences with the system's main interface and ease of learning, although some functional areas were noted for potential enhancement. A

significant majority (80% combined) found the CRM interface intuitive and easy to use (Statement 1.1:55% strongly agreed, 25% agreed, mean 1.76), and similarly, 80% felt they could perform tasks without needing extensive training (Statement 1.2:52% strongly agreed, 28% agreed, mean 1.81). However, opinions were more mixed regarding system feedback and integration: only 63% agreed that the system provided clear error messages (Statement 1.3:35% strongly agree, 28% agree), with 28% neutral and 9% negative, resulting in a higher mean of 2.18. Integration with other tools was positively rated by 72% (Statement 1.4:46% strongly agree, 26% agree, mean 2.03), although disagreement was higher here (12%) than for the core usability items. The most critical feedback concerned technical support needs (Statement 1.5), where only 63% agreed that the CRM required minimal support (35% strongly agreed, 28% agreed), 18% were neutral, and a notable 19% disagreed (13% disagreed, 6% strongly disagreed), leading to the lowest mean score (2.32) and highest standard deviation (1.21), indicating the greatest variance in user experience. Overall, while users found the system fundamentally usable and easy to learn, areas such as error message clarity and reduced reliance on technical support present key opportunities for improvement.

3. Training time required for employees to become proficient in using CRM systems effectively

TABEL 3. Training time required to become proficient in using CRM systems effectively

	Statements		SA	A	N	D	SD	mean	Std
1.	The initial CRM training was sufficient for my role.	F	23	52	13	8	4	2.20	0.98
		%	23.0	52.0	13.0	8.0	4.0		
2.	Ongoing training sessions are provided to address updates/new features.	F	44	26	18	10	2	2.00	1.02
		%	44.0	26.0	18.0	10.0	2.0		
3.	The CRM vendor offers helpful resources	F	32	31	27	7	3	2.18	0.97
		%	32.0	31.0	27.0	7 .0	3.0		
4.	I feel confident using advanced CRM features without assistance.	F	44	30	14	9	3	1.97	1.04
		%	44.0	30.0	14.0	9.0	3.0		
5.	The time invested in training was proportional to the system's complexity.	F	33	32	17	14	4	2.24	1.10
		%	33.0	32.0	17.0	14.0	4.0		

Source: developed by researchers (2025)

Feedback on CRM training and resource adequacy (IV2) generally indicated that users had positive experiences with ongoing support and felt confident in using advanced features, although initial training and resource proportionality were viewed less favorably. A large majority (70%) agreed that ongoing training sessions were available for updates and new features (Statement 2.2:44% strongly agree, 26% agree, mean 2.00), and 74% felt confident using advanced CRM features independently (Statement 2.4:44% strongly agree, 30% agree, mean 1.97). Vendor resources, such as tutorials and FAQs, received moderate approval, with 63% agreement (Statement 2.3:32% strongly agree, 31% agree, mean 2.18). However, while 75% believed the initial training was adequate (Statement 2.1:23% strongly agree, 52% agree), the higher mean (2.20) and notable disagreement (12%) suggest that some users had concerns about its adequacy. The most significant criticism was about the time invested in training: only 65% agreed that it matched the system's complexity (Statement 2.5:33% strongly agree, 32% agree), with 18% disagreeing (14% disagree, 4% strongly disagree) and the lowest mean score (2.24), indicating a perceived mismatch between effort and system demands. Overall, while ongoing support and confidence in using features are strengths, improving initial onboarding and adjusting the training duration are key areas for enhancement.

4. CRM system speed and functionality impact workflow productivity and customer service responsiveness.

TABEL 4. CRM system speed and functionality impact workflow productivity and customer service responsiveness

Statements		SA	A	N	D	SD	mean	Std
1. The CRM automates repetitive tasks effectively.	F	32	48	10	6	4	2.02	0.98
	%	32	48	10	6	4		
2. Real-time analytics help me make data-driven decisions quickly.	F	54	17	19	7	3	1.88	1.02
	%	54	17	19	7	3		
3. Mobile access allows me to work efficiently from anywhere.	F	47	10	28	11	4	2.14	1.12
	%	47	10	28	11	4		
4. The CRM reduces manual data entry errors.	F	21	49	18	9	3	2.24	0.95
	%	21	49	18	9	3		
5. 5 Overall, the CRM improves my team's productivity.	F	14	43	30	8	5	2.37	0.99
	%	14	43	30	8	5		

source: developed by researchers (2025)

Feedback regarding the functional advantages of CRM revealed that users strongly appreciated certain efficiency features, although their views on the overall effect on productivity were somewhat moderate. Real-time analytics received the highest praise, with 71% of participants agreeing (54% strongly agreed, 17% agreed) that it supports swift data-driven decision-making (mean 1.88). Task automation was also well received, with 80% of the respondents agreeing (32% strongly agreed, 48% agreed) that it efficiently handled repetitive tasks (mean 2.02). However, opinions on mobile access were mixed: while 47% strongly agreed that it facilitates effective remote work, 28% were neutral, and 15% disagreed (mean score 2.14). Views on error reduction were moderately positive, with 70% agreement (mean 2.24), although 18% remained neutral. Most notably, the overall impact on productivity had the least agreement: only 57% agreed (14% strongly agree, 43% agree) that the CRM boosts team productivity, while 30% were neutral and 13% disagreed (mean 2.37 the highest/weakest in this group). This indicates that while key features such as analytics and automation are appreciated, converting these into tangible productivity improvements may require further refinement or contextual adaptation.

5. Discussion of findings

The study's results provide valuable insights into the effectiveness of Customer Relationship Management (CRM) systems in the telecommunications industry in Mogadishu. First, the high levels of satisfaction with the system's intuitive interface (80% agreement) and ease of learning (80%) suggest that key usability factors are well addressed, aligning with the Technology Acceptance Model's (TAM) focus on perceived ease of use as a key factor in adoption. Nevertheless, the varied responses regarding the clarity of error messages (63% agreement, 28% neutral) and the dependence on technical support (19% disagreement) highlight the shortcomings in the system's feedback mechanisms, which are essential for sustaining user engagement over time. Additionally, while ongoing training received strong support (70% agreement), the adequacy of initial training (75% agreement but with a higher mean score) and the perceived inefficiency of training duration (18% disagreement) indicate that onboarding programs might lack customization for specific roles, especially for new employees, who comprise 55% of users with less than a year of experience. Furthermore, the gap between the efficiency of specific features (e.g., 71% approval for real-time analytics) and the overall impact on productivity (57% agreement) suggests that the system's advantages are not fully translated into tangible workflow improvements. This could be due to insufficient integration with local operational contexts or resistance to changing processes. The findings also align with Somalia's initial phase of CRM adoption, where usability obstacles worsen existing issues, including a lack of technical skills in CRM use.

5. CONCLUSIONS

This research indicates that although Customer Relationship Management (CRM) systems in Mogadishu's telecommunications industry exhibit strong basic usability, they still face notable shortcomings in error management, scalable training, and productivity improvements in context. The broad implementation of user-friendly features supports the relevance of the Technology Acceptance Model (TAM) in developing markets. Nevertheless, the gap between the efficiency of specific features and overall productivity points to issues with Task-Technology Fit, where the system's capabilities may not align perfectly with local work processes. The demographic makeup mainly young, inexperienced, and predominantly male emphasizes the need for gender-inclusive design and gradual training initiatives in the field. To improve CRM usability in the Benadir Region, a dual approach is essential: enhancing technical elements (such as clearer error messages and offline mobile capabilities) and addressing human factors (such as role-specific onboarding and change management). These strategies could unlock the system's potential to boost customer retention and operational efficiency in Somalia's competitive telecommunications industry.

1. Recommendations

Based on the study's findings, three practical recommendations are suggested. First, it is advised to improve error management and support systems by redesigning error messages to offer localized, step-by-step solutions and incorporating in-app guidance, such as chatbots, to lessen the dependence on technical support. Second, training programs should be overhauled with a blended approach: microlearning modules for new employees, especially focusing on the 55% with less than a year of experience, "CRM champion" peer mentoring for experienced users, and quarterly refreshers to cover updates. Third, enhancing mobile and offline functionality is crucial to address infrastructure issues, such as creating lightweight app versions for areas with low bandwidth and adding sync capabilities for sporadic connectivity.

2. Contribution of the Study

Empirical Contribution

This study marks the first empirical assessment of Customer Relationship Management (CRM) usability in Somalia's telecommunications industry, filling a crucial research gap related to digital transformation in fragile

economies. By measuring user experiences, such as an 80% satisfaction rate for intuitiveness compared to a 19% dissatisfaction rate with technical support, this study offers practical benchmarks for telecommunications companies in similar environments. This study enhances the body of work on CRM usability by integrating human-centered design (HCD) principles with the Technology Acceptance Model (TAM) and Task-Technology Fit (TTF) frameworks to shed light on adoption issues in Somalia. For instance, the contradiction between high satisfaction with specific features (such as 71% for analytics) and low overall productivity (57% agreement) suggests that theoretical models must account for contextual elements such as sporadic Internet access and organizational resistance. Additionally, this research introduces the concept of a "usability-proficiency gap," emphasizing that intuitive design alone cannot overcome skill deficiencies without role-specific training a detail overlooked in earlier CRM studies that focused on stable markets.

Practical Contribution

This study provides telecom managers in Mogadishu with actionable advice to improve the adoption and efficiency of Customer Relationship Management (CRM) systems. Enhancing mobile CRM functionality for low-bandwidth conditions is crucial, as 15% of the respondent's reported dissatisfaction with mobile access efficiency. These strategies are tailored to address Somalia's infrastructure challenges and workforce characteristics, ensuring practical and gradual improvements in CRM usability.

Limitations of the Study

This study has several limitations that should be considered when interpreting the findings. First, the sample was confined to telecom employees in the Benadir Region, which may restrict the generalizability of the results to other industries or rural areas in Somalia. Second, the reliance on self-reported Likert-scale responses introduces potential bias, as perceptions of usability may not accurately reflect actual system performance or productivity outcomes. Third, the cross-sectional design offers only a snapshot of CRM usability during March April 2025, thereby precluding an assessment of long-term trends or the sustained impact of training interventions. Lastly, the gender imbalance in the sample, with 67% male respondents, may underrepresent the usability needs and challenges faced by female employees in Somalia's gendered workforce, indicating a need for more inclusive research in future studies.

Further Research Studies

Future research should expand upon this study to enhance the understanding of Customer Relationship Management (CRM) usability in fragile economies such as Somalia. A longitudinal analysis tracking CRM adoption over 2–3 years could elucidate the impact of training interventions and system updates on long-term user proficiency and productivity. Cross-cultural comparisons with other fragile states, such as Yemen and Afghanistan, could help identify universal barriers to CRM adoption, as opposed to context-specific challenges. Furthermore, investigating AI-driven localization, such as Somali-language interfaces or voice-enabled CRM tools, could improve accessibility for non-technical users. Additionally, gender-inclusive design studies are necessary to explore how CRM systems can better accommodate female employees in male-dominated sectors and ensure equitable usability and adoption across all user groups. These research directions would provide valuable insights for enhancing CRM implementation in similar low-resource, high-potential markets.

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