



## Design and Implementation of a Social Media Complaint Management System

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### ABSTRACT

*This research explores the integration of complaint management systems with social media platforms, adopting a hybrid strategy that combines server-side and client-side processing for optimal efficiency and user engagement. The study emphasizes the development of a user-friendly complaint filing system with a focus on administrative control, social media integration, security, and compliance. Findings, derived from group focus interviews and rigorous validation testing, underscore the significance of user-friendly interfaces and the seamless integration of popular social media channels. Real-world challenges, including technical constraints and scalability concerns, are effectively addressed, leading to practical solutions. The successful incorporation of social media platforms as complaint channels exemplifies an innovative approach to collecting and addressing feedback in the digital era. The research provides essential view for software developers and organizations seeking to enhance their complaint management systems. It highlights the paramount importance of user-centric design, social media integration, and stringent security measures. The study's implications extend to stakeholders, including researchers, practitioners, and organizations, offering actionable insights into improving complaint management procedures, elevating user experiences, and fostering heightened customer satisfaction. The recommendations emphasize scalability planning, administrator training, and a continuous improvement mindset. Future studies are suggested to explore security and compliance frameworks, scalability optimization, and integration with Customer Relationship Management (CRM) systems. Overall, this study contributes significantly to advancing complaint management practices in the digital age, aligning them with contemporary trends and technology-driven solutions.*

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### INTRODUCTION

Having an effective complaint management system or process is very important for organizations and institutions to retain and grow their customers need. Because in today's era, customers are not only concerned about how the service delivery process is or will be, but also becoming more sensitive or concerned about the complaint handling process in an organizations

and institutions. Therefore, it is necessary for organizations and institutions to focus or put more effort on process and system improvement rather than just on recovering individual failure (Parasauraman & Michel 2019). Social media provides customers with the means to freely express, discuss, and share their thoughts about several business practices. And the customers' feedback is an important resource used for many

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purposes, such as monitoring or observing their own and competitors' performance, engaging in continuous process and system improvement, and responding to customers' needs, requirements, expectations, and complaints.

### STATEMENT OF THE PROBLEM

In today's business environment, consumers are becoming more vocal about their dissatisfaction or unfavorable experience with organizations and institutions and are willing to tone out their complaints (Folkes, 2020). The ways in which customers express, share, and discuss their complaints differ based on whether they made their purchases offline or online (Chang et al., 2021). Notably, the volume of customer complaints is higher in the area of online business compared to traditional business areas. With the arrival of the technological era, customers now have access to new channels through which they can communicate, discuss, express, and share their dissatisfaction and unfavorable experiences through social media platforms (Peeroo, 2017).

Therefore, when these complaints are made on social media platforms, the negative comments and responses can easily and quickly spread to a wide audience, possibly causing serious harm to the reputations of organizations and institutions (Melancon & Dalakas 2022). This emphasizes the significance of excellent service recovery in today's increasingly complicated multichannel retail market. Existing systems lack or fail to effectively address customer complaints, especially those that involve third parties. So far, only a small number of complaints have been taken into consideration, disregarding or ignoring the impression of the numerous customer needs. In the study of Mary et al. (2020), the study focused on voicing out complaints to the organizations only, where there are other complaint options such as exit or complaining to third parties.

### Aim and Objectives of the Study

The aim of this study is to design a social media complaint management system that captures third party engagement. Specific objective of this study is to:

1. Design and implement a social media complaints management system that captures both the firm and other third parties.
2. Evaluate the design of the social media complaints management system based on review of group focused expert.

### Scope of the Study

It is imperative to know that this study focus mainly on the design, implementation and evaluation of social media complaint management system. The scope of this research is limited to Eco bank Bauchi main branch; as such the study focuses on providing a quicker solution to services rendered by the institution, this will work vigorously by evaluating what social media platform suits the institution then making a design as well as implementing it as a social media complaint management system that captures third party engagement.

### Conceptual Review

#### Social Media

Boshoff et al. (2019) define social media as an internet based tool that allows people to share ideas, views, and information by forming virtual networks and communities. Social media is an internet based by design and provides users with rapid electronic content communication (Cooper et al, 2019). Personal information, documents, films, and photographs are examples of content. Users interact with social media using web based software or applications on a computer, tablet, or Smartphone. (Murray et al, 2020).

#### Types of social media

A variety of technologically-enabled activities can take the form of social media. This area includes photo sharing, blogging, social gaming, social networks, video sharing, business networks, virtual worlds, reviews, and other activities. Social media is also used by governments and politicians to communicate with citizens and voters. Individuals use social media to communicate with friends and extended relatives. Some people will use social media apps

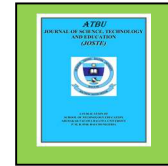
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to network for career opportunities, find people with similar interests all around the world, and share their ideas, sentiments, insights, and emotions. These participants are members of a virtual social network (Melancon & Dalakas 2022).

### Benefits of social media

Social media has transformed the way we all communicate with one another online. It has enabled us to discover what is occurring in the world in real time, to connect with each other and stay in contact with long distance friends, and to have access to an infinite quantity of information at our fingertips. In many ways, social media has helped many people discover common ground with others online, making the globe seem more approachable. According to a Pew Research Center poll, using social media is associated with having more friends and more diversified personal networks, particularly in emerging nations. Friendships can begin virtually for many youngsters, with 57% of kids meeting a friend online. Businesses are also utilizing social media (Lo, 2022)

### Gaps in the Literature

Based on the literature reviewed related to this study, it is clear that a lot has been done on social media complaint management systems. The literature on complaint management systems and customer relations provides a variety of methodologies and ideas. Some studies suggest that CRM be transformed into social CRM, with a focus on customer experience management, whereas others investigate negative sentiment in social media and the relationship between operational risk management and customer complaints. Other research focuses on valid and fraudulent consumer complaints, managing internet reviews, and using similarity-based approaches.

However, these studies have shortcomings, such as a lack of precision in issues such as identifying and computing measures, ignoring complaint channels and shopper categories, and failing to examine new complaint channels or social media platform differentiation. Overall, these studies provide important insights

into complaint management systems, but they also point to areas that need further investigation and development. Therefore, this study intends to develop a social media complaint management system that captures third-party engagement for the Eco Bank Bauchi main branch.

### Gaps model of service quality

The GAPs Model of Service Quality, developed by Parasuraman and Michel (2019), is a valuable model that offers managers tools to help improve the service quality levels provided by companies that provide services. (Zeithaml, 2020) explained that the GAPs Model provides insights into potential gaps, which then influence consumers' perceptions of the quality of service obtained throughout service delivery. The model is built around five gaps (Zeithaml, 2020; Boshoff & Du, 2019; Srinivasan, 2019):

1. **Listening Gap:** the gap between customers' service expectations and service institutions' perceptions of these expectations
2. **Service Design and Standard Gap:** the gap between management's knowledge of customer expectations and the development of service designs and standards.
3. **Service Performance Gap:** the difference between developing customer-driven service standards and actual service performance by workers
4. **Communication Gap:** the gap between the service offered to consumers and the essential information about that service; and
5. **Consumer Gap:** the gap between customer expectations and service perception, this gap is defined by the size and direction of the four gaps connected with service quality delivery on the marketer's side

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**Customer**

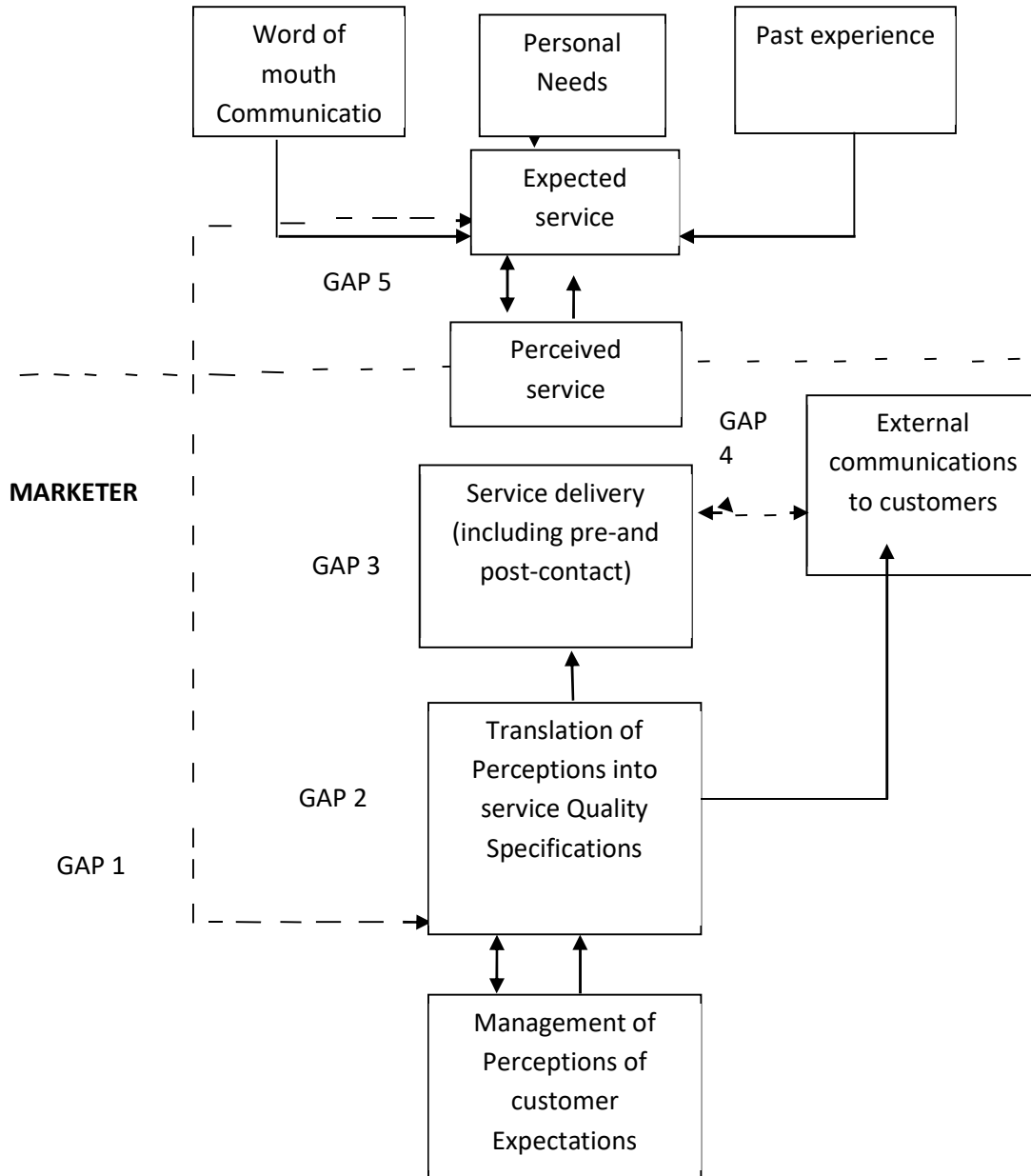


Figure 1: Gaps Analysis Model. (Source: Zeithaml, 2020)

## METHODOLOGY

This chapter covers methodology which guided the research thesis. It also provides an account of how the research will be carried out. It will explain the processes, through which the researcher intends to collect data, system analysis and Design a new system. This application will be developed using the concept of software development. It consists of the following headings: research design and proposed framework.

### Research Design

Research design means the structuring of investigation aimed at identifying variables and their relationship to one another. It constitutes the blue print for the collection, measurement and analysis of data. It is used for the purpose of obtaining data to enable the researcher to answer research questions. The research employs a "real experiment" approach, which involves deploying the system in a real-world setting to expose it to the complexities of the environment. This method involves dealing with real users, data, and operational difficulties, aiming to evaluate the system's performance under real-world conditions.

### Sampling Technique and Sample Size

The sampling methodology employed in this research utilizes a simple random sampling technique, whereby a group of selected individuals will undergo interviews conducted through a group-focused discussion format. This study adheres to the principles of simple random sampling, where a subset of subjects (the sample) is drawn from the entirety of the population under investigation.

### Data Collection Technique

The data collection that was employed by the researcher involved a group focus discussion. Three personnel were interviewed to gather accurate information about existing system and the requirements for the new system.

### Instrument Design

A group focuses discussion interview questions that will be answered by the personnel

to help in the development of the new system. It involved open-ended and close ended questions. A questionnaire was prepared in formal structured interview where respondents were asked about the existing system.

### Proposed Framework

The proposed model intends to improve the e-complaint system, which will involve third-party participants. The distribution of various services provided by the subsidiary starts off the cycle. Those services were provided to various people based on their needs. Those services may not be used efficiently due to a variety of obstacles. As a result, a system that tracks down and detects user problems and offers appropriate feedback has become necessary. This system can manage complaints by recording information and delivering comments for each complaint raised. The research simplifies the concept for several aspects of the services, such as website design. The Rational Unified Process (RUP) was used as guidance for how to use the Unified Modeling Language (UML) efficiently.

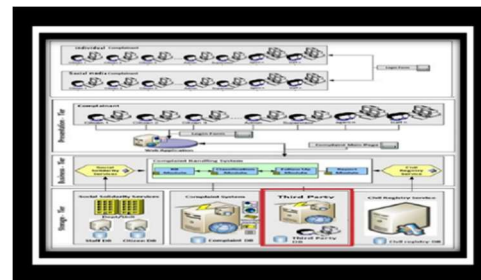


Figure 2: Proposed Framework

### Entity-Relationship (ER) Diagram: Unveiling Data Relationships

One of the cornerstones of our system model design is the Entity-Relationship (ER) diagram. This diagram provides a clear and concise visualization of the relationships between different entities within the system. In the context of the Complaint Management System, the ER diagram elucidates the connections between vital elements such as users, complaints, feedback, and administrative roles. It serves as a roadmap

for establishing data relationships and defining how information flows throughout the system.

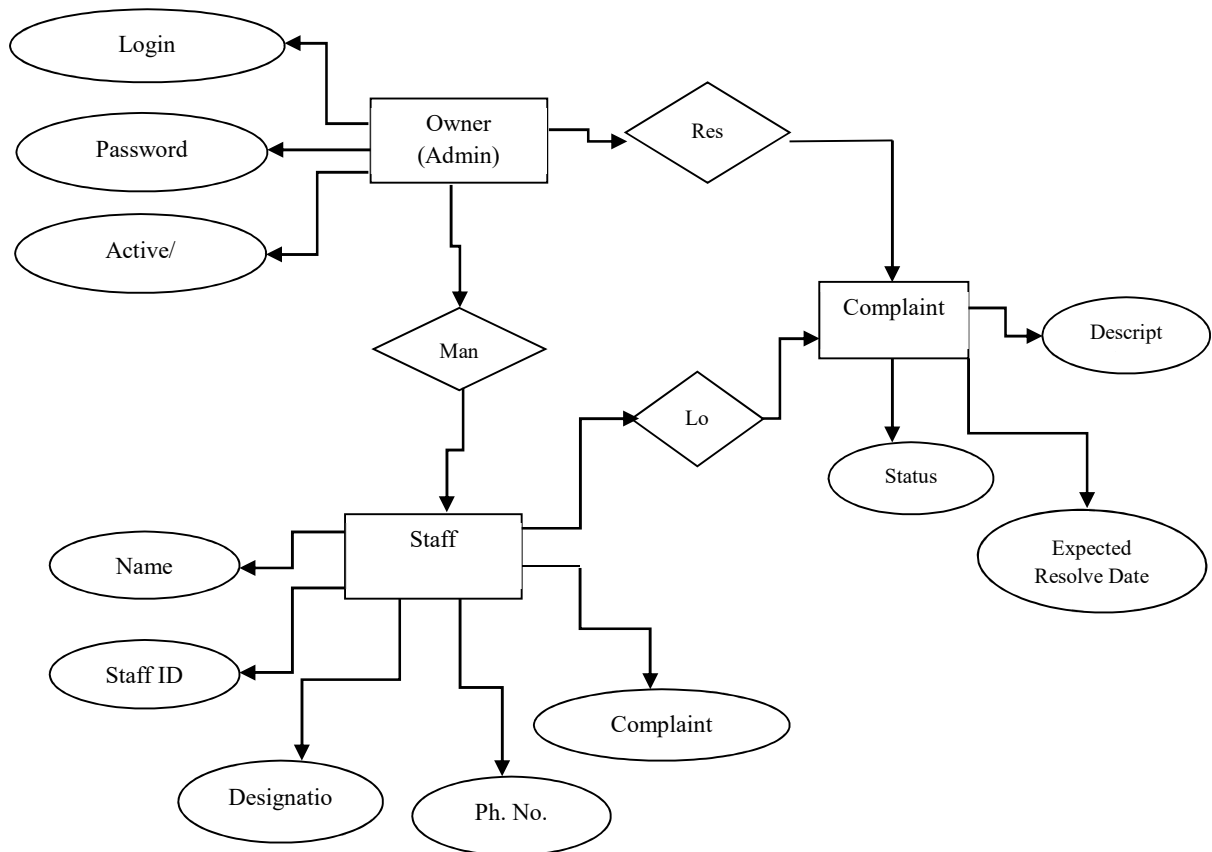


Figure 3: Entity-Relationship (ER) Diagram

**Use Case Diagram: Defining User Scenarios**

Use Case Diagrams are instrumental in outlining the various scenarios and interactions that users and administrators will have with the system. These diagrams encapsulate user actions, system responses, and the underlying functionalities that empower users to interact with the system effectively. They serve as a blueprint for designing user interfaces and system features that align with user needs.

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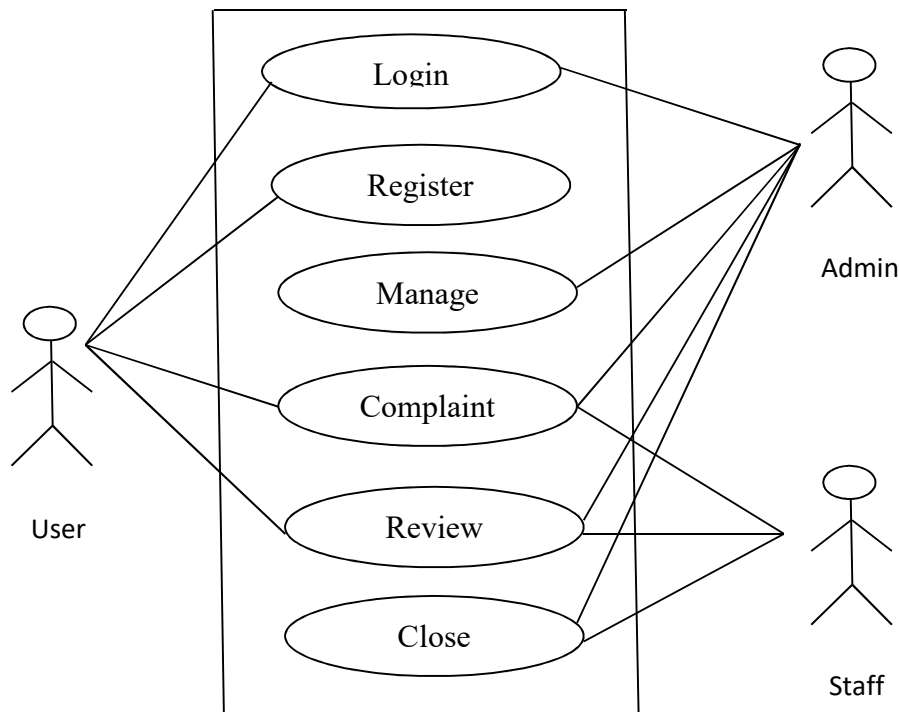


Figure 4: Use Case Diagram

#### Sequence Diagram: Capturing Interactions

The Sequence Diagram is a dynamic representation of how various components or actors within the system interact over time. In the Complaint Management System, it captures the sequence of interactions between users, administrators, and the system itself. This diagram is invaluable in illustrating the flow of actions and communication between different elements, ensuring that the complaint management process unfolds seamlessly.

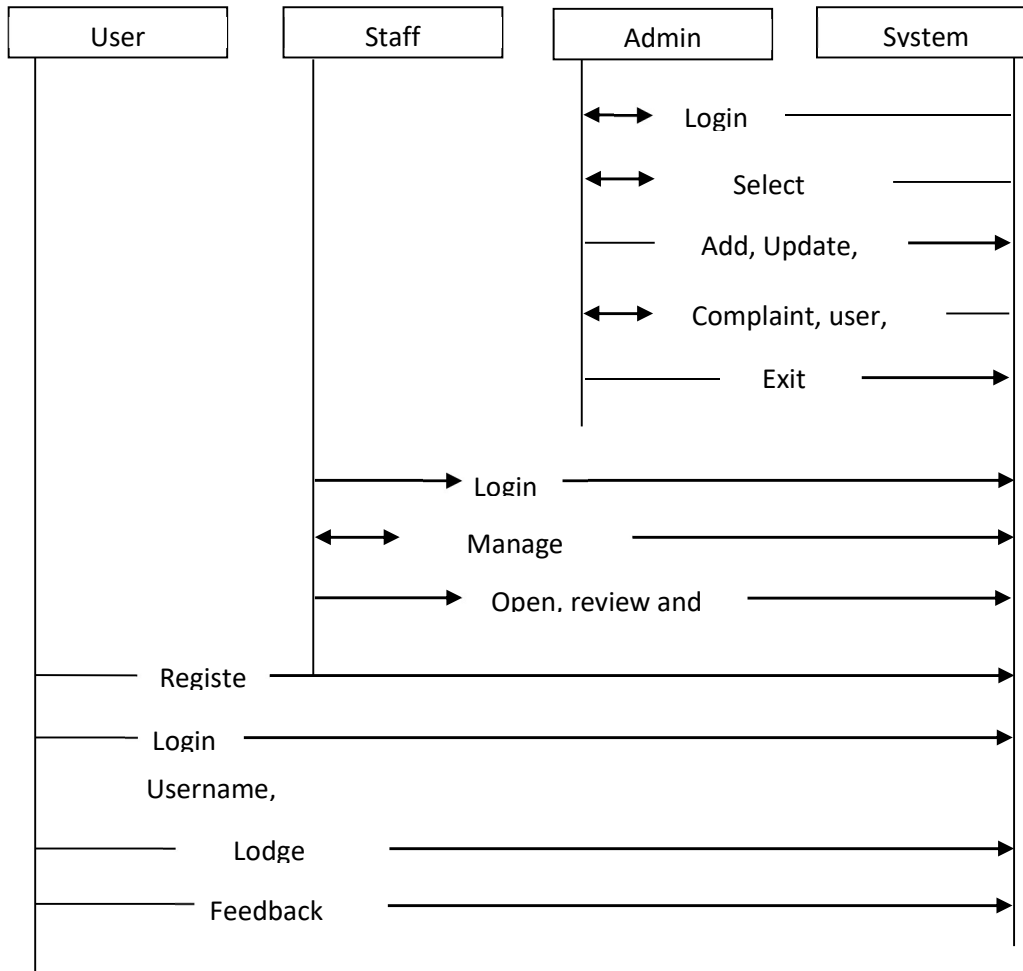


Figure 5: Sequence Diagram

### Class Diagram

In the realm of system modeling and design, the Class Diagram serves as a fundamental blueprint for structuring the components and relationships within a software system. For the Complaint Management System, the Class Diagram plays a pivotal role in visualizing the system's architecture and defining the classes, attributes, methods, and associations that constitute the system.



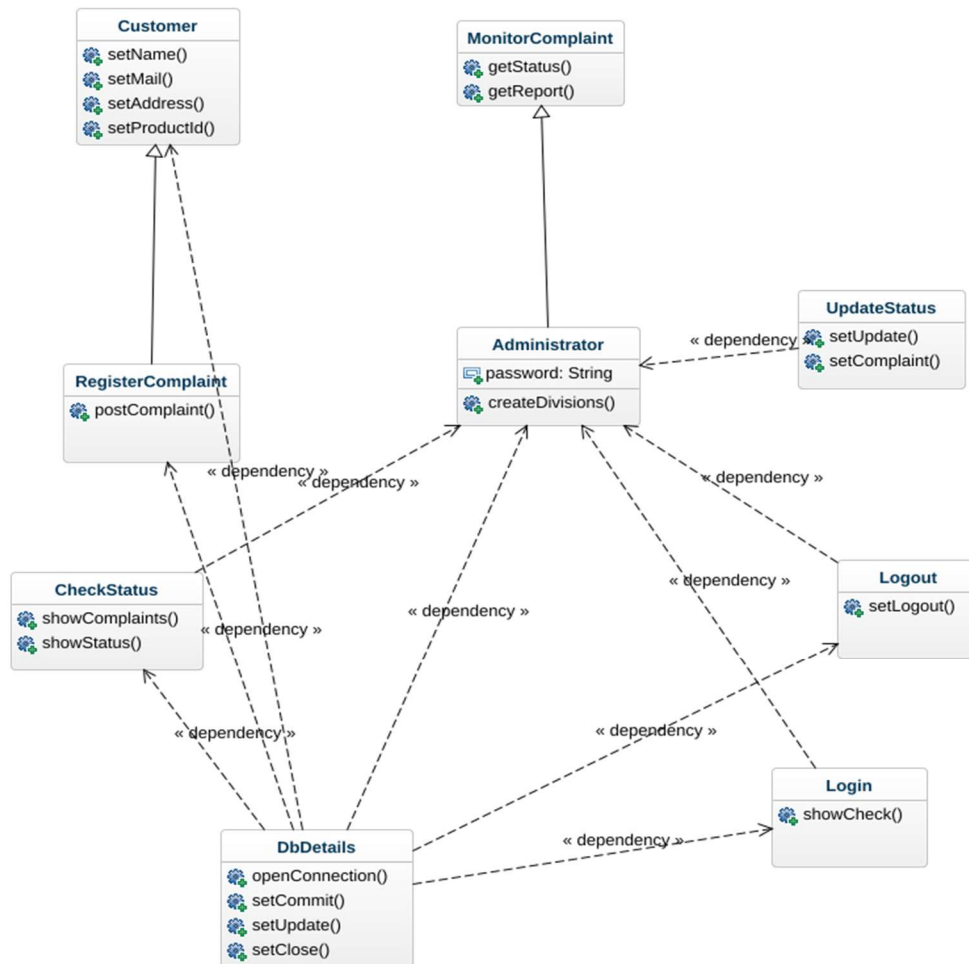


Figure 6: Class Diagram

### Database specification

A database is an organized electronic collection of similar records. The data are typically organized to model relevant aspects of reality in a way that supports processes requiring this information.

### Hardware Requirements

The following hardware components are necessary to support the complaint management system:

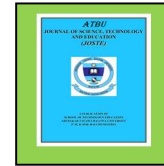
1. Intranet Connection: An intranet connection is essential to ensure seamless communication between client workstations and the server.
2. PC/Desktop Computer: Users will access the system using personal computers or desktop workstations.
3. Processor 2.5 GHz: A processor with a speed of at least 2.5 GHz ensures efficient execution of the software.
4. 1014 MB RAM: Sufficient RAM is required for smooth system operation, especially when dealing with large volumes of data.

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### Software Requirements

The complaint management system project relies on specific software components to function effectively:

1. Database Server (XAMP): The database server is crucial for data storage, retrieval, and management. XAMPP, a popular choice, provides a comprehensive environment for running web applications.
2. Windows Server: The system can be hosted on Windows Server 2008, Windows 2003 Server, or Windows 2000 Server, depending on the organization's infrastructure.
3. SQL Server: The project requires SQL Server 2008, SQL Server 2005, or SQL Server 2000 (or SQL Server Express) for database management.
4. Operating System: The system is platform-agnostic and can run on

various operating systems, including Microsoft Windows, Mac OS, and Linux.

5. Web Browsers: Users can access the system through a variety of web browsers, including Safari, Firefox, Google Chrome, Internet Explorer, and Opera.

### Choice of Experiment Approach

In the context of this research and system implementation, the chosen experiment approach is a "real experiment." This approach involves the actual implementation of the system in a real-world setting, allowing for practical testing, data collection, and evaluation. A real experiment approach ensures that the system's functionality and performance are assessed under real conditions, providing valuable insights for further refinement and optimization.

**Table 1:** Comparison between a traditional Complaint Management System (CMS) and a Social Media Complaint Management System

Features	Traditional CMS	Social Media CMS
<b>Channel of Complaints</b>	Typically through direct contact, phone calls, emails, or website forms.	Primarily through social media platforms like Twitter, Facebook, Instagram, etc.
<b>Data Source</b>	Limited to specific channels where the system is implemented.	Aggregates complaints from various social media platforms.
<b>Speed of Communication</b>	Relatively slower, as responses may depend on manual processes.	Requires quicker response times due to the real-time nature of social media.
<b>Public Visibility</b>	Generally private between the customer and the company.	Publicly visible to other users on the platform, impacting brand image.
<b>Volume of Data</b>	Moderate volume of complaints.	Potentially higher volume due to the widespread use of social media.
<b>Automation</b>	Automation is limited; responses may rely on manual intervention.	Automation is crucial for timely responses, using tools to filter and categorize complaints.
<b>Monitoring Tools</b>	Monitoring tools are usually integrated with CRM systems.	Specialized tools are required to monitor social media mentions and trends.
<b>Integration with CRM</b>	Integration with CRM for a holistic view of customer interactions.	Integration with CRM, but with a focus on social media interactions.
<b>Customer Reach</b>	Limited to customers who choose specific communication channels.	Reaches a broader audience through social media platforms.

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Features	Traditional CMS	Social Media CMS
<b>Feedback Mechanism</b>	Feedback is often collected through post-resolution surveys.	Feedback is immediate and often visible to the public.
<b>Brand Image Impact</b>	Impact is contained within the customer and company relationship.	Immediate impact on brand image due to public visibility.
<b>Trend Analysis</b>	Trend analysis is generally performed on historical data.	Real-time trend analysis is essential to address emerging issues.
<b>Proactive Engagement</b>	Proactive engagement is possible but may not be as dynamic.	Requires proactive monitoring and engagement to address issues as they arise.
<b>Scalability</b>	Can be scaled based on the volume of complaints through system upgrades.	Needs to be highly scalable to handle the dynamic nature and potential surge in social media complaints.

## RESULTS

### Group Focus Interview Response 1st Respondents

#### **Can you describe the primary goal or objective of the software project?**

"The primary goal objective of the subject project is to ensure that our staff, our client and our respective customers have access to a system where they can easily lay their complaint. That is, we are thinking of a system where even though they are on a social media platform like facebook which we really use, they will be able to have access to lay complaint on the facebook where we will be able to see on our own system dashboard their complaint and we will be able to provide necessary feedback".

#### **Who are the primary stakeholders for this project?**

"The primary stakeholders for this project will be customers, staff who will be helping to review the complaint then the admin or another director who will be monitoring the project".

#### **What are the essential features or functionalities you envision for the software?**

"Envision, admin should able to control most of the activities, and also people that want to become part of the organization can also register to lay their complaint and drop in their key issues. Then those on the social media plat forms like

facebook if it can be added it will be very useful. Then those on the social media let say we use facebook, instagram and twitter if it can be added it will be very nice for us also".

#### **Are there any specific technical constraints or preferences that need to be considered?**

"They are specific technical constraint that needs to be considered basically the major one is that social media, particular I think that facebook or instagram will need to be added so that whenever they lay complaint we will be able to have access to those complaint".

#### **2nd Respondent**

#### **Can you describe the primary goal or objective of the software project?**

"The primary objective is to ensure that we develop system software where our staff and our respective customers will have access to a system where they can easily lay their complaint. Using a social media plat form like facebook and others, they will be able to have access to lay their complaint on the social media plat form where we will be able to see on our own system dashboard their complaint and we will able to provide necessary feedback".

#### **Who are the primary stakeholders for this project?**

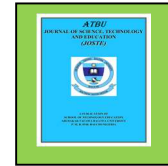
"The primary stakeholders for this project will be the admin, customer and staff, who

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will be helping to review the complaint and monitoring the project”.

**What are the essential features or functionalities you envision for the software?**

“The functionalities of the software is that, admin will able to control most of the activities, and also people like customers that want to become part of the organization can also register to lay their complaint and drop in their key issues”.

**Are there any specific technical constraints or preferences that need to be considered**

“The specific technical constraints that need to be considered is that social media, particular the facebook or instagram will need to be added so that whenever customers lay their complaint we will be able to have access to those complaint, review the complaint and provide the necessary feedback”.

**3rd Respondents**

**Can you describe the primary goal or objective of the software project?**

“The primary goal of the project is to enable our staff, our client and our respective customers to have software where they can always lay their complaint. That is, to have a system where even though they are on a social media platform like facebook they can have access to lay complaint on the facebook where we will be able to see on our own system dashboard their complaint and we will able to provide necessary feedback”.

**Who are the primary stakeholders for this project?**

“The primary stakeholders for this project will be customers, staff who will be helping to review the complaint then the admin or another director who will be monitoring the project and other third parties’.

**What are the essential features or functionalities you envision for the software?**

“Admin should able to control most of the activities, the functionalities of the software is

that, admin will be able to control most of the activities and also people that want to become part of the organization can also register to lay their complaint and drop in their key issues. Then those on the social media like facebook, instagram and twitter if it can be added it will be very nice for us also”.

**Primary Objective of the Software Project:**

All users agree that the primary objective of the software project is to facilitate the submission of complaints by staff, clients, and customers.

They emphasize the importance of enabling complaint submission via social media platforms, especially Facebook.

**Primary Stakeholders:**

The primary stakeholders identified across all interviews include customers, staff members responsible for reviewing complaints, and administrators or directors overseeing the project.

User three also mentions the involvement of other third parties as stakeholders.

**Essential Features and Functionalities:**

The envisioned functionalities include administrative control, customer registration, and complaint submission.

Integration with popular social media platforms like Facebook, Instagram, and Twitter is highlighted as a desirable feature.

**Expected Scale and User Load:**

Respondents express expectations that the system will attract a broad user base, particularly via social media.

They stress the importance of adding popular social media platforms like Facebook to cater to changing user preferences.

**Security and Compliance Requirements:**

User one and User three emphasize the importance of administrators or directors managing the software to handle errors and ensure compliance.



No specific security or compliance requirements are detailed in the responses.

#### **User Experience and Interface:**

Users mention the need for a simple, easy-to-navigate interface. User one specifically suggests a shared login page for administrators and users to avoid complications.

User three highlights the importance of enabling customer registration for identity verification and feedback collection.

#### **DISCUSSION OF THE FINDINGS**

This study reviews literature on social media complaint management systems, focusing on customer experience management, negative sentiment, operational risk management, and similarity-based approaches. However, these studies have shortcomings, such as lack of precision in measuring measures, ignoring complaint channels, and not examining new channels or platforms. The study aims to develop a system for Eco Bank Bauchi's main branch to capture third-party engagement. In conclusion, the thematic analysis offers a well-rounded understanding of the software project's objectives and initial requirements. While technical constraints are mentioned, specific security and compliance requirements are not detailed. User experience and interface considerations emphasize simplicity and user-friendliness. Overall, the analysis provides a clear overview of the project's objectives and key considerations for its development. It provides a solid foundation for project planning and development, while also highlighting areas, such as security and compliance that may require more detailed consideration as the project progresses.

#### **Result Validation**

The implementation of this project has proven to be highly successful, with rigorous testing by three users affirming that the system meets the necessary requirements as defined. The primary objective of this project is to establish a user-friendly platform that enables efficient complaint submissions for staff, clients, and customers. A significant focus has been placed on

the seamless integration of popular social media platforms, such as Facebook, to streamline this process. The key stakeholders encompass individuals submitting complaints, staff members participating in the review processes, and project administrators, with the possibility of engagement from third-party entities. User testing has played a pivotal role in validating the system's efficacy. Three users, representing different perspectives and roles within the platform, were selected to rigorously assess the software's functionality, usability, and overall performance. The software was rigorously assessed for vulnerabilities and compliance with relevant regulations.

#### **Choice of Implementation**

The implementation phase of the project involves translating the proposed design into a functional system. The choice of implementation for the complaint management project involves a hybrid approach that combines both server-side and client-side processing technologies. This hybrid approach ensures efficient processing and seamless user interaction. The success of any software project hinges on a well-thought-out choice of implementation. In the case of the complaint management system, the implementation phase represents the pivotal moment when the conceptualized design transforms into a functional and operational system. It is at this juncture that the underlying architecture and technologies are selected to deliver an effective solution to address the complexities of managing complaints.

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**Sample output**

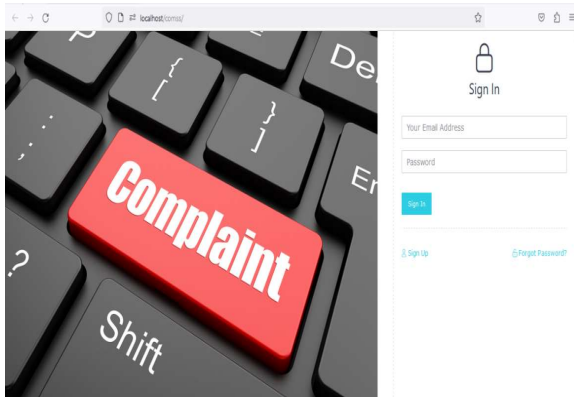


Figure 7: Admin login page

Upon login, administrators gain access to a comprehensive dashboard that provides a real-time overview of incoming complaints, their status, and other pertinent information. The admin login page enables the Director or the Admin to login into the system using their user name and password provided by the institution in order to access the system and check feedbacks, updates, new complaints laughed by customers.

login to the system using their user name and password, whenever they want to lay complaints, follow up on the previous complaints, or to see the status of the complaints laid early.

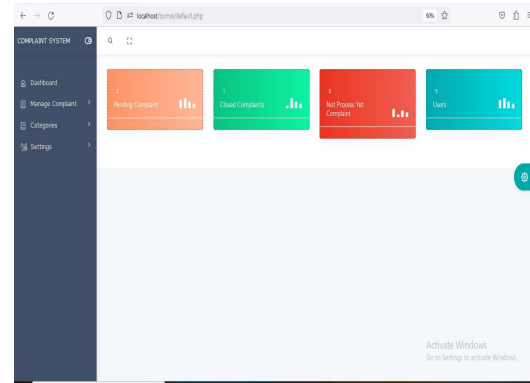


Figure 9: Dashbord page

The Dashboard page serves as the central hub of the system, providing a comprehensive overview for administrators and customers upon successful login. It empowers administrators to efficiently manage pending, closed, and unprocessed complaints, while also presenting a real-time count of system users or customers. This centralized view enhances the user experience, enabling quick and informed decision-making.

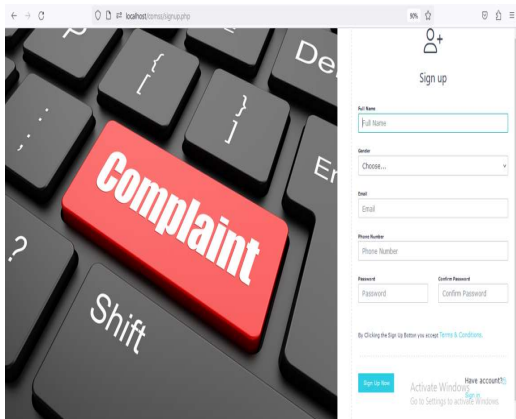


Figure 8: User login page

The login portal offers a user-friendly platform for handling and resolving client complaints, providing a personalized dashboard with real-time updates. It ensures transparency and accountability throughout the resolution process, allowing easy submission and status updates. The user login page enable customers to

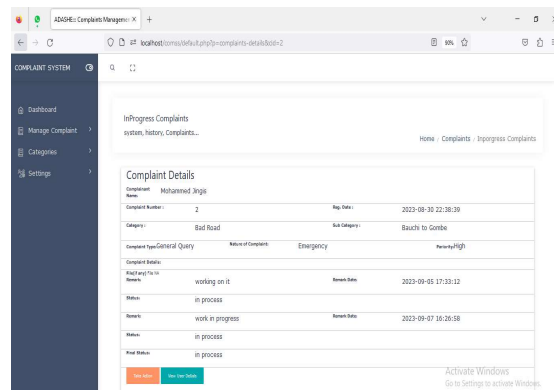


Figure 10: Complaint detail page

The complaint detail page is a centralized platform for administrators to manage and address customer complaints. It provides

detailed information on each complaint, tracking its status and progress. The page tracks chronological updates, actions taken, and the process of resolution. It also allows administrators to process complaints, assigning them to relevant departments for further investigation. The feedback loop is a crucial feature, allowing administrators to provide constructive feedback to customers, enhancing customer satisfaction. This tool fosters a customer-centric approach within the organization.

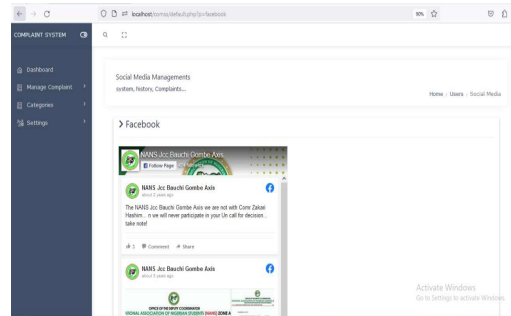


Figure 12: social media page

The social media page enables customers to monitor and interact with an institution's response to complaints, promoting transparency, trust, and public visibility. It displays response time data, encourages customer participation, and functions as a feedback system, enhancing customer service initiatives and brand image. The social media page is a powerful tool for institutions to showcase their commitment to customer satisfaction, transparency, and accountability. It provides a public-facing platform where customers can track complaint resolutions.

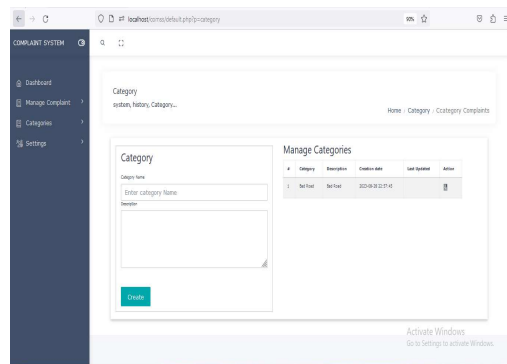


Figure 11: Category page

The category page provides complainants with an easy way to categorize their issues. This feature aims to simplify the complaint filing process by allowing users to categorize their concerns, resulting in a more systematic and organized approach to dealing with various types of challenges. The category page plays an important role in optimizing the complaint handling process. It empowers complainants to efficiently communicate the nature of their concerns, while also providing administrators with valuable tools for organizing, prioritizing, and resolving complaints in a systematic manner.

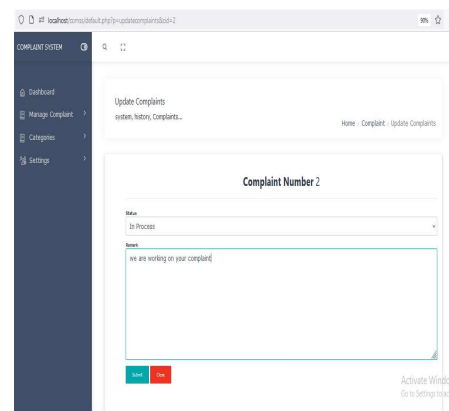


Figure 13: complaint update page

The complaint update page functions as a single center for administrators to efficiently monitor and manage the most recent updates from consumers regarding their complaints. This feature is meant to simplify communications,

increase transparency, and enable a proactive approach to addressing consumer complaints.

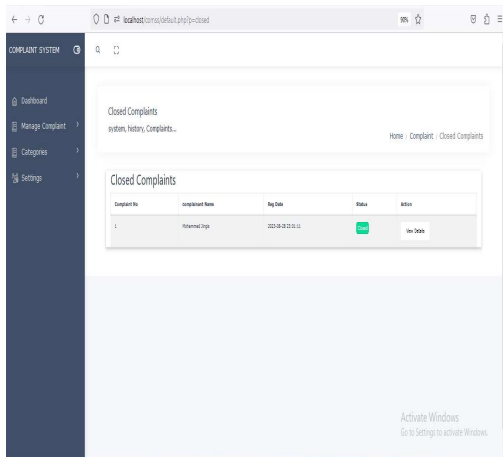


Figure 14: closed complaint page

The closed complaint page is a designated location where administrators can officially close and document the resolution of client complaints that have been successfully addressed. This feature simplifies the complaint handling process, increases organizational efficiency, and keeps a clear record of resolved concerns.

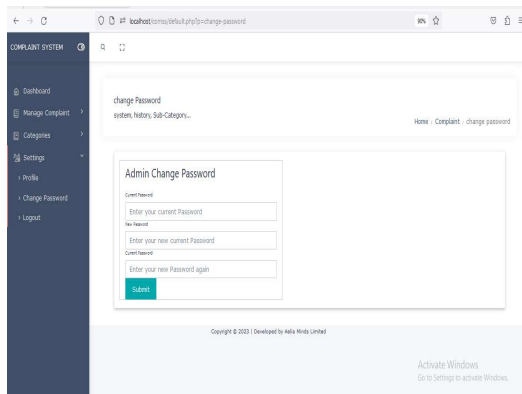


Figure 15: Settings page

The Settings page is a central hub for administrators to manage accounts and system configurations, enabling password resets, two-factor authentication, user addition, role

assignment, and access levels. It also provides audit trails, logging, customizable notification options, and system-wide configurations, with help and documentation links for administrators.

## CONCLUSION

In conclusion, this research has provided a comprehensive examination of complaint management systems, emphasizing their integration with social media platforms. The study's methodological framework, as outlined in Chapter Three, serves as a robust foundation for future research endeavors in this domain. It not only offers valuable insights but also opens up avenues for further exploration and innovation. Findings, derived from user interviews and rigorous validation testing, offer essential takeaways.

These findings underscore the paramount importance of user-friendly interfaces, the seamless integration of popular social media channels such as Facebook, and the implementation of stringent security measures. They serve as practical guidelines for software developers and organizations seeking to enhance their complaint management systems. Throughout the study, real-world challenges like technical constraints and scalability concerns were effectively addressed, yielding practical solutions and recommendations. The successful incorporation of social media platforms as complaint channels exemplifies an innovative approach to collecting and addressing feedback in the digital era.

## RECOMMENDATIONS

Based on the comprehensive study of complaint management systems and their integration with social media platforms, the following research recommendations are proposed:

- i. Scalability Planning: Given the expectation of handling a broad user base, scalability planning is crucial. Organizations should invest in scalable infrastructure and technologies to accommodate increased user traffic, especially through social media channels.

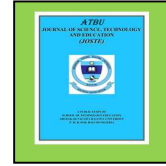
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- ii. Administrator Training: Administrators or directors responsible for managing complaint management systems should receive adequate training to handle errors, identify vulnerabilities, and make necessary corrections promptly.
- iii. Continuous Improvement: Organizations should view complaint management as an ongoing process and continuously seek ways to improve it. Feedback collected through these systems should be actively used to enhance products, services, and customer experiences.

#### RECOMMENDATION FOR FURTHER STUDIES

These research recommendations offer a roadmap for advancing the field of complaint management systems and leveraging social media integration to enhance customer experiences. Future studies in these areas can contribute to the development of more effective, efficient, and customer-centric complaint management practices as listed below:

- i. Security and Compliance Frameworks: Further exploration is needed to establish comprehensive security and compliance frameworks tailored to complaint management systems. Researchers can develop guidelines and best practices to ensure the protection of sensitive user data and compliance with relevant regulations.
- ii. Scalability and Performance Optimization: Given the growing importance of social media integration, future studies should focus on optimizing the scalability and performance of complaint management systems. This includes investigating techniques to handle increasing user loads while maintaining system responsiveness.
- iii. Integration with CRM Systems: Investigate the seamless integration of complaint management systems with Customer Relationship Management (CRM) systems. This can enhance the overall customer engagement strategy by ensuring that complaint data is effectively leveraged to improve relationships.

#### IMPLICATION OF THE STUDY

Firstly, in terms of research methodology, as elucidated in work, this study establishes a solid foundation for future investigations in the domain of complaint management systems and their integration with social media. Researchers can use the hybrid approach outlined here, which combines server-side and client-side processing, as a starting point for their own studies, enabling efficient data handling and user interaction. Secondly, the insights garnered from previous Chapters, which originate from user interviews and validation testing, offer practical guidance for professionals in the field of software development. The study's emphasis on creating user-friendly interfaces, integrating social media platforms, and implementing robust security measures serves as a valuable reference for designing complaint management systems that are both user-centric and data-secure.

Additionally, this research addresses real-world challenges, such as technical limitations and scalability concerns, laying the groundwork for more effective complaint management solutions within organizations. The successful integration of popular social media platforms, such as Facebook, introduces an innovative approach to collecting and addressing complaints, especially in our digitally interconnected world. Lastly, these implications extend to organizations seeking to enhance their complaint management procedures. The study underscores the importance of efficiently managing customer feedback and capitalizing on social media channels.

It highlights the need for proactive customer engagement and the adoption of technology-driven solutions to proficiently handle complaints. The ramifications of this study transcend the boundaries of academia, software development, organizational practices, and customer relations. By bridging these domains, it contributes to the advancement of complaint management systems, aligning them with contemporary digital trends. Researchers, practitioners, and organizations alike can utilize these insights to refine their complaint

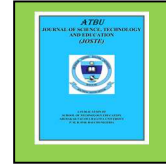
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management processes, elevate user experiences, and cultivate greater customer satisfaction.

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