ASHESI UNIVERSITY

THE STATE OF CUSTOMER RELATIONSHIP MANAGEMENT IN THE

GHANAIAN E-COMMERCE ECOSYSTEM: CASE MANAGEMENT.

THESIS

B.Sc. Management Information Systems

Dionne N.M Adoteye & Rachel Osei-Asamoah

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THESIS PROJECT

Thesis submitted to the Department of Computer Science and Information Systems,

Ashesi University in partial fulfillment of the requirements for the award of Bachelor of

Science degree in Management Information Systems

Dionne N.M Adoteye & Rachel Osei-Asamoah

April 2022

DECLARATION

We hereby declare that this thesis is the result of our original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature (s):

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Candidate's Name(s):

....

Date:

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We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of the thesis laid down by Ashesi University.

Supervisor's Signature:

....

 Supervisor's Name:

....

 Date:

....

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Abstract

Over the past decade, Ghanaian online businesses have increased in number. These business owners have taken tremendous strides to ensure that their businesses stay on top of their game, especially sales and customer service. However, customer management and retention are issues that seems to creep up, especially since the market for e-commerce keeps widening. According to Arnett and Badrinarayanan, managing relationships with customers is challenging for many firms because they engage in many different types of transactions, and their customers vary considerably as to their wants and needs [9]. Due to these complexities, there is a need for a solution that caters to effective customer service and retention. A good case management system that caters to the queries of customer is hence the key that unlocks the door to business success, relationship building, and management [5]. This project aims to understand the state of CRM in the e-commerce ecosystem in Ghana and recommend CRM vendors based on the current needs of e-commerce businesses in the Ghanaian ecosystem. To successfully implement this solution, research will be based on "The current state of Customer Relationship Management (CRM) in the Ghanaian e-commerce ecosystem. This research topic will explore the use of CRM, its limitations, and suggestions to improve these systems. We plan to sample a few online businesses such as Jumia, Jiji, and Swoove for our research and case studies.

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Chapter 1: Introduction

1.1 Introduction

Ghana's e-commerce boom has received a lot of media attention. There has never been a greater desire for a stress-free and convenient shopping experience [1]. To accommodate their busy consumers who prefer to purchase online, many brick-and-mortar establishments are opening online stores. Online marketplaces, such as Tonaton and Jumia, have become hugely popular in Ghana, with shoppers able to buy anything from a toothbrush to a lawnmower [1]. Research shows that many Ghanaian businesses and individuals employ the Internet and e-commerce to enhance their businesses and remain competitive [1]. With this development, more Ghanaian e-commerce businesses need to ensure that their customers receive the best service.

Unfortunately, studies show that 39.3% of customers of e-commerce businesses in Ghana complain of poor customer service [1]. According to Wopedigital, a Ghanaian website development company that has a portfolio of over 450 works and has completed the most extensive study on e-commerce in Ghana, many customer complaints have to do with businesses not picking up their calls, not returning their calls, not responding to emails or agents being rude or unhelpful [1]. Therefore, this issue needs to be addressed, mainly because the Ghanaian e-commerce market keeps widening. As of 2020, the e-commerce industry was estimated to have received about **GHS 2.5 billion** in revenue and is expected to be almost double by 2024 [1].

A solution to this issue of poor customer service could be customer relationship management, more specifically, the use of case management. A case management system allows a company to collect and organize customer service interactions on any channel. According to expert market, an American website who have helped over 250,000

professionals make business decisions with confidence, Amazon developing its CRM strategy has helped them retain customers and tailor its service around the individual [2]. Amazon is a world-known e-commerce giant that sells products to millions of customers worldwide. Over the last 20 years, Amazon has continually demonstrated its ability to execute a world-class CRM strategy. Despite stiff competition, Amazon has remained the favored online shopping destination for millions of devoted customers. Therefore, one can say that Amazon's success lies with its robust Amazon CRM strategy, which ensures that customer interaction and service quality are treated with high importance [2]. If this strategy is also implemented in the Ghanaian e-commerce ecosystem, there could be a significant shift in the industry.

1.2 Problem Statement and Motivation of Study

The increase in poor customer service, and the inability to adequately handle customer basic queries and complaints, is a problem that, if not urgently addressed, will lead to poor brand image, a decrease in profitability, and the potential collapse of a business. The motivation for this study is to find out ways by which the e-commerce ecosystem in Ghana can do better in its business processes. The e-commerce market, as stated earlier, has gained much recognition in Ghana. Therefore, the ecosystem must be doing its best to cater to customers' needs. There has not been much research done on the state of CRM in the Ghanaian e-commerce ecosystem, hence the main objective of this study.

1.3 Research Questions

This study seeks to find answers to the following research questions:

1. Is case management being adopted in the Ghanaian e-commerce sector?

2. Does the use of case management CRM correlate to quality customer service.?

1.4 Hypothesis

By the end of the study, these are the hypothesis to be tested:

1. The current state of case management in the e-commerce ecosystem in Ghana is poor

2. Poor customer service can be attributed to the non-usage of case management tools in the e-commerce ecosystem.

Chapter 2: Literature Review

2.1 E-commerce

Electronic commerce, popularly referred to as e-commerce, has come to gain more recognition as an alternative model for many businesses today. Traditionally, electronic commerce (e-commerce) is a form of business model, or subdivision of a bigger business model, that allows a firm or individual to transact business over an electronic network, typically the internet [3]. E-commerce has also been defined as the "sharing of business information, maintaining business relationships, and conducting business transactions using telecommunications networks" [4]. Also, it can be argued that depending on the type of technology involved and the extent of integration into the business processes in the value chain, e-commerce may constitute part of the business processes or the entire processes. It may also embrace several forms of transactions (including information exchange)

• Between businesses (B2B)

• Between customers (C2C)

• Between businesses and customers (B2C)

• Between governments to businesses (G2B).

E-commerce has evolved to become a widely used technology these days. It started as a period of rapid growth and innovation, with many companies pursuing the first-mover advantage. From 2004 through 2009, there was a global expansion of electronic commerce driven by improvements on the Internet and Web technologies, which was termed the second wave [8]. An increasing number of companies use a smart-follower strategy, which is the act of modeling after the market leader in a particular industry rather than pursuing a first-mover advantage [8]. The third wave of electronic commerce began in 2010 and is currently exploiting the use of social networking online [8]. It also considers the

sophisticated analysis of the substantial amounts of data generated by electronic commerce activities and the increased integration of tracking technologies into business operations [8].

2.2 Customer Relationship Management

According to Godsway, Customer Relationship Management (CRM) is seen as the marketing platform that manages customer information to comprehend better and serve them. With CRM, the customer is placed at the organization's center [5]. It can also be considered a strategic and action-oriented view of the relationship between the customer and a company [6]. CRM is a customer-oriented business strategy to maximize company profits and customer satisfaction. CRM is defined as integrating coordinated sales, marketing, and service strategies [7]. According to Laudon and Traver in the book E-Commerce, CRM is storing customer information and recording all contacts that occur between customers and companies, as well as creating customer profiles for company staff who need information about these customers [8]. These various definitions of CRM prove that it is an essential strategy that businesses can use to retain and improve customer service. There are three main types of CRM. They are the following:

• operational,

• analytical and

• collaborative

CRM systems [17]. The operational CRMs use sales, marketing, and service automation to streamline business growth. Analytical CRMs focus on gathering and analyzing customer data to improve their experience. Collaborative CRMs facilitate information sharing between business units such as the sales, marketing, technical, and support teams [18]. The benefits of CRM are countless. Firstly, CRM systems enable more timely and precise customer tracking, which helps the business better understand their customers' needs. Also,

CRMs aid in the automation of business internal and external processes, which is necessary for being more efficient. However, there are a few disadvantages to CRM. CRM systems are costly [18]. The implementation of CRM systems requires huge costs. Also, for the proper functioning of CRM systems, there needs to be adequate training provided to staff which can also be costly. Lastly, just like most technological weaknesses, there is the issue of security or privacy. Since all information is stored at one centralized location, there is the possibility of data being lost or the company being hacked.

There are many CRM vendors. Among them are Salesforce, Zendesk, HubSpot, Adobe, and Oracle. These different vendors have various packages that clients can purchase. CRM systems range from $12 to $300 per month depending on the size of the business, features available on each design, and the amount of data storage available.

2.3 CRM in e-commerce

From the third wave of e-commerce, there have been massive efforts to analyze substantial amounts of data generated by electronic commerce activities using powerful technology such as CRM tools [6]. These have helped online businesses generate information about their customers and identify trends and patterns. Beyond that, CRM tools have helped e-commerce through the fields of service quality and sales strategy.

According to Mohammad, Electronic Customer Relationship Management (E-CRM) is a marketing strategy, sales, and online services integrated and can play a role in identifying, acquiring, and retaining customers [10]. This improves and increases communication between the company and customers by creating and enhancing customer relationships through modern technology. Electronic CRM software provides profiles and a history of contact with customers. In today's world, organizations communicate with leads through various communication channels such as the World Wide Web, call centers, finding

a market, vendors, and partners. CRM systems enable enterprises to have a customer-oriented front-end tool based on e-commerce which should be more prominent in terms of speed, accuracy, efficiency, and personalized customer needs [11]. E-CRM systems will encourage customers to do business with the organization and provide a way to receive a product from any channel and any language that would be effective and clear to the customer [11]. Due to this purpose of uniqueness, they feel comfortable. E-CRM systems provide a central repository for recording and storing information about customers and are placed in the computer system of employees, with each employee having access to customer information at any time.

2.4 Case Management in CRM

A case management system allows a company to collect and organize customer service on any channel [13]. A case management system can be considered a subgroup of operational CRMs, which help in service automation. According to Salesforce, a robust case management system enables a seamless procedure from start to finish for both the customer and the service agent, regardless of the communication medium [13]. It integrates the entire service organization and provides agents with everything they need to settle a case, such as activity history, following best actions, and critical client data [13].

The way a case management system works is simple. The system receives an email regarding any issue. Cases are then automatically created from email messages. The case now goes through a queuing process, where other cases wait in line. The case is then assigned to a specific customer service representative based on the contents of the case. The representative makes further communications with the customer, and then after the issue is resolved, a notification is sent to confirm the resolution of the case. This process of case management is relevant to the problem of customer service because 91% of customers say

good customer service makes them more likely to make another purchase [13]. The different vendors of case management systems are Salesforce Service Hub, SuiteCRM, Creatio, Amazon Connect, Zendesk, Zoho, Odoo, Kedebah, and HubSpot. Below are some of these systems and their benefits:

HubSpot

HubSpot has gained popularity over the years because it's extremely quick to learn, with a friendly, simple, easy-to-navigate layout, even for those who are not tech-savvy. There are a ton of built-in templates and tools that can help one get started growing their business, even if one is an absolute beginner. HubSpot CRM empowers enterprises to build engaging, enduring relationships with their customers and promote productive conversations. This capability, in turn, helps those businesses improve their revenues using crucial information provided by customer data flowing in from such communication channels as phone calls, website visits, and social media interactions.

Some features of HubSpot are that it has a free CRM version that provides numerous functions that help one get started and acquainted with their platform. It also has website integration and communication tracking features. HubSpot allows one to connect their website with its CRM, which helps with lead management and marketing strategies. It also allows one to document information about prospective customers and creates a pipeline for one to send emails directly from HubSpot's platform.

Odoo

Odoo is a suite of open-source business applications covering all company needs: CRM, eCommerce, accounting, inventory, point of sale, and project management. Odoo's unique value proposition is to be, at the same time, extremely easy to use and fully integrated

[24]. Seven million users grow their businesses with Odoo. Their pricing ranges from $4.00 per month to $32.00 per month. Some features of Odoo are their excellent user interface and their ability to provide more intelligent self-service by linking training videos and presentations of their functionalities.

Zoho

Zoho CRM is built from the ground up to work seamlessly with the most popular help desk software – Zendesk, Salesforce Desk, and Zoho Desk [25]. With the two-way help desk CRM integration, all customer tickets are synchronized with relevant sales data and accessible to customer-facing teams, providing a consistent customer experience [25]. Zoho's CRM subscriptions range from $14.00 per month to $40.00 per month. A feature of Zoho is its ability to provide a 360-degree view to its clients. A 360-degree view means that customer information can be easily accessed since all data is stored in one place.

2.5 Related Work: Case Management in e-commerce

There are many case management applications in different e-commerce businesses around the world. Amazon is a leading user of case management in its business processes [14]. It uses an intelligent case management system called Amazon Connect [14]. Amazon Connect is a cloud contact center that helps companies provide superior customer service at a lower cost [14]. In addition to Amazon Connect, Amazon uses Salesforce's service cloud, which drives the customer service functionality. With these two components, cases are resolved with and at ease. Another company that uses case management is Wayfair [15]. Wayfair is keen on customer service and, as such, has created a case management team within their specialized services department to oversee complex customer issues. Using their case management CRM tool, they can quickly sort out customer needs [15]. Lastly,

Alibaba, a Chinese multinational technology company specializing in e-commerce, uses case management systems in its operations. Alibaba operates a suite CRM which has a case management setup for handling customer service cases. The company also introduced a powered AI chatbot in 2016 to help field customer queries [16]. During Alibaba's biggest sales day in 2017, the chatbot handled more than 95% of customer questions, responding to some 3.5 million consumers (about twice the population of Nebraska) [16].

From the related works, it was realized that these case management systems are customized to suite Alibaba and Amazon's operations making them very expensive technologies. Looking at the Ghanaian e-commerce ecosystem, these systems are not readily available in the market. Therefore, there is a need to investigate what system will work best in the Ghanaian e-commerce industry taking into consideration certain criteria such as price and functionalities.

2.5 Case management in the e-commerce ecosystem in Ghana

Regarding this section, less research has been done in this area in Ghana. Most of the Ghanaian-based findings were concerning the banking sector. This is a gap researchers have identified, and researchers hope to provide more data tailored towards the use of case management in CRM in the e-commerce ecosystem in Ghana.

2.6 Requirement Analysis

An initial survey was conducted using Google Forms to find out the experiences customers have had using e-commerce sites in Ghana. For this study to be headed in the right direction, researchers needed to capture what customers had to say regarding these businesses' customer service online. Through secondary research, researchers found out that poor customer service is a major complaint from customers of e-commerce sites [1]. To

solidify that analysis, researchers believed that some primary data could be retrieved. With that being the focus, questions were tailored towards these areas:

• If customers have had issues with the sites

• If their complaints were addressed

• How long it took for their complaints to be addressed

• If their overall customer experience was good

• If CRM tools could go a long way to curb the issue of poor customer service

A total of 16 questions were asked. They included multiple-choice questions, paragraph-type questions, and checkboxes. In all, 43 participants partook in this exercise. Below are the responses generated from the survey:
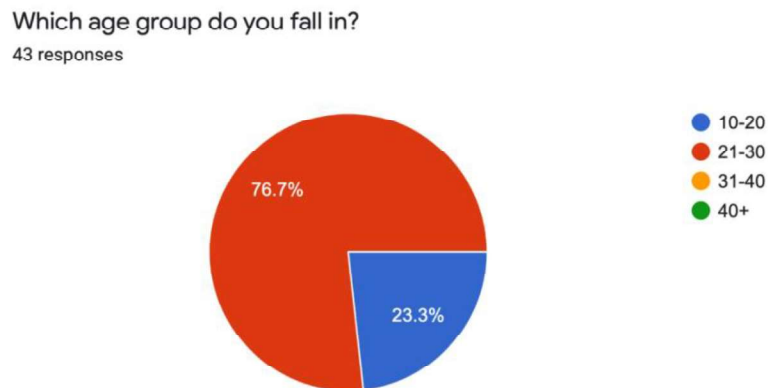
Figure 2.1: Age group

What is your level of education?
43 responses

- Basic
- Secondary
- Tertiary

100%
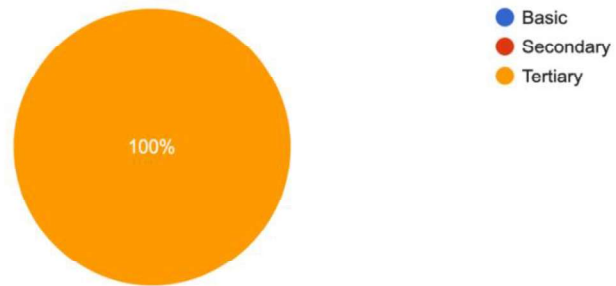
Figure 2.1: Educational Status

Have you purchased from a Ghanaian e-commerce site before? (Eg: Jumia, Tonaton)
43 responses

- Yes
- No

18.6%

81.4%
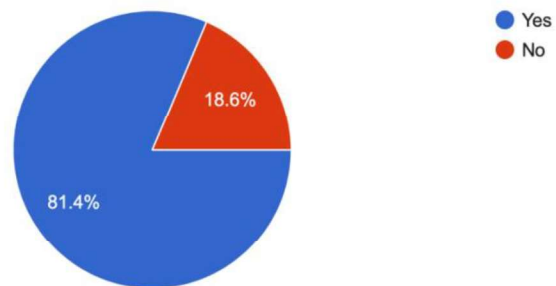
Figure 2.2: E-commerce site purchase

What e-commerce site(s) have you purchased from in Ghana?
43 responses
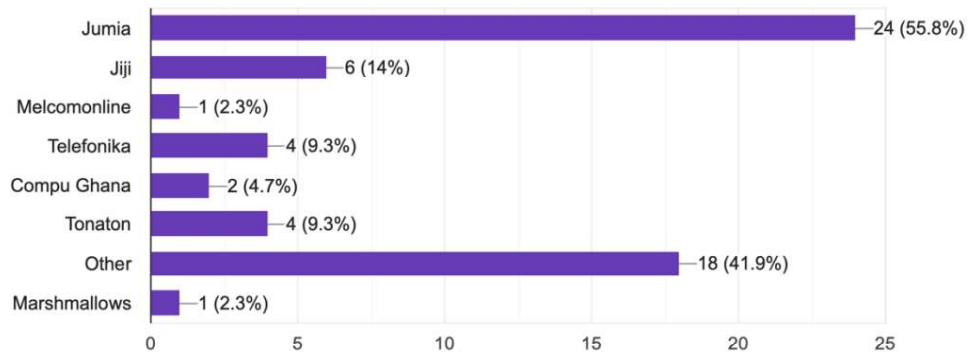
Figure 2. 3:. E-commerce sites used

What medium do you often use in accessing these sites?
43 responses
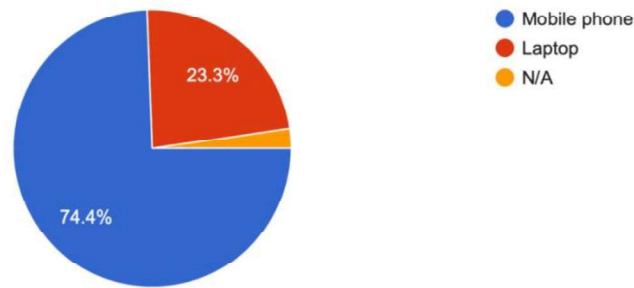
Figure 2. 4: Medium used to access e-commerce sites

Have you had issues with any e-commerce site?
43 responses
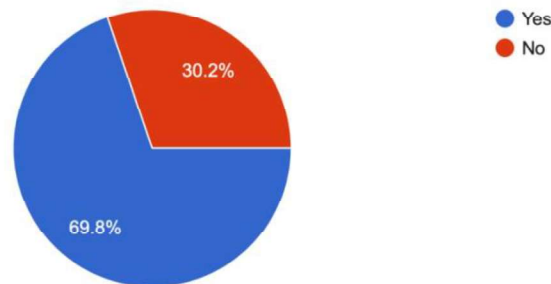
Figure 2. 5: Percentage of respondents who had issues while using e-commerce sites

If yes, what issues have you had with the e-commerce site?
30 responses
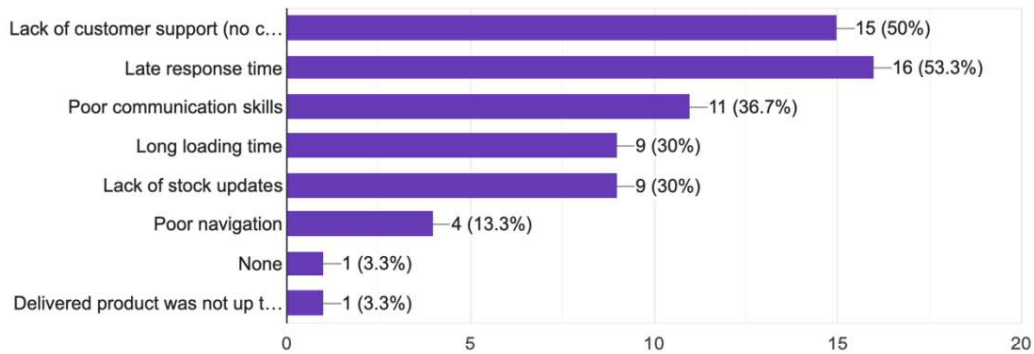
Figure 2.6: Issues associated with the use of e-commerce sites

Through what means or medium did you reach out to the e-commerce service provider the last time you had an issue with their service? e.g phone calls, etc
31 responses
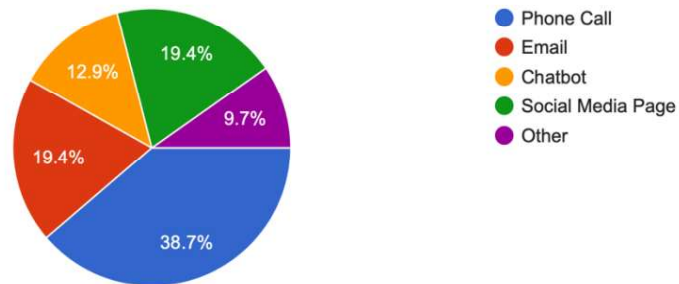
Figure 2.7: Medium for customer complaint/query

Did they address your complaint or issue?
30 responses

- Yes
- No

40%

60%
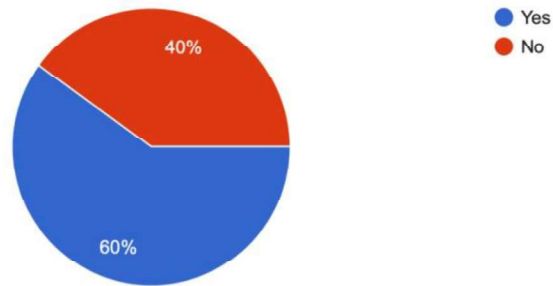
Figure 2.8. Percentage of addressed issues

If yes, through what means did they get back to you?
22 responses

- Phone Call
- Email
- Chatbot
- Social Media Page
- Other

13.6%

22.7%

13.6%

45.5%
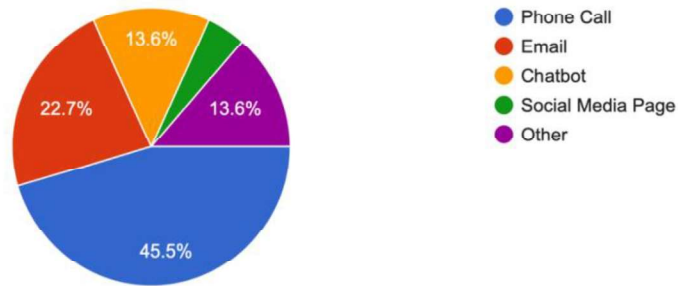
Figure 2.9: Medium of query response

If yes, approximately how long did it take?
19 responses
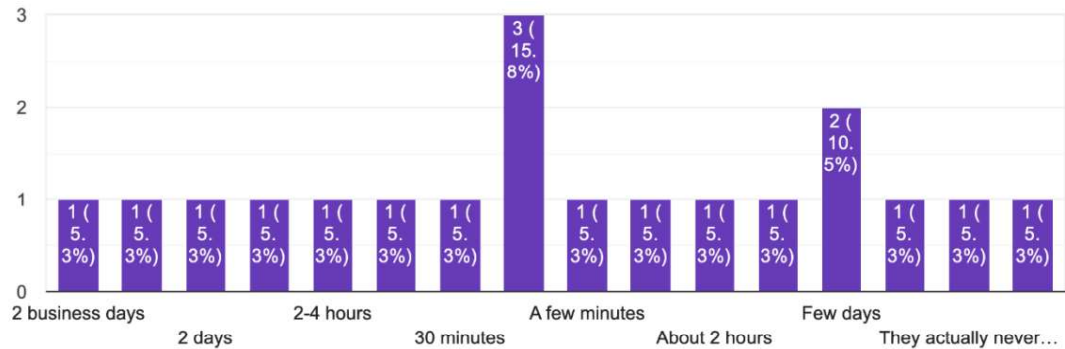
Figure 2.10: Duration of response

Do you believe customer feedback is prioritized by these e-commerce sites?
43 responses

- ● Yes
- ● No
- ● Maybe

48.8%

11.6%

39.5%
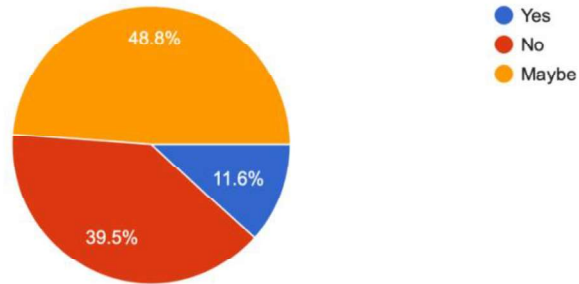
Figure 2.11: Percentage of priority given to customer complaints

Most companies don't come back to check on their customers after they buy a product from their site. They do not research into home to improve their services through their customers.

Because the late responses shouldn't be common if the complaints are prioritized

I think that for the sake of branding and public awareness, some e-commerce sites like jumia could prioritise customer feedback but on a larger scale, they would be more focused on creating internal profits than satisfying the customer

Most people just want to sell and don't really care about feedback

Haven't usually used the site, just used the site to check prices

I do not see much work done about my feedback

Occasionally they do not address the direct complaint but however give generic responses and assume the client will let it slide. The assumption that there are many other customers hinders them from taking the initiative to improve on their services.

Figure 2.12: Respondents' opinions on customer service

Kindly rate your overall customer experience
43 responses
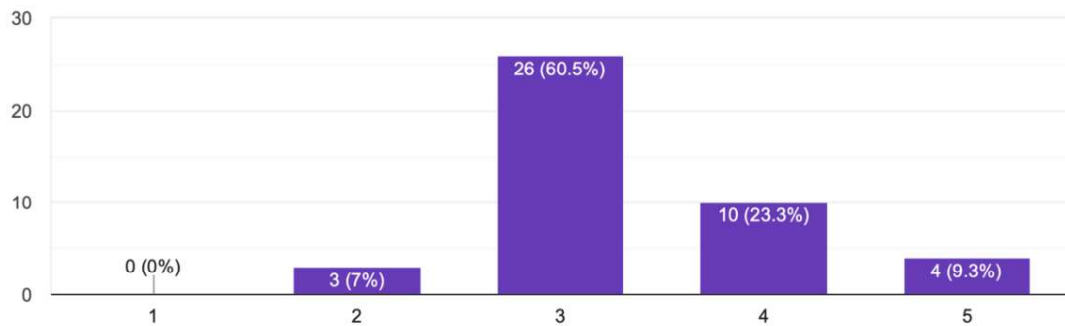
Figure 2.13: Rating of customer service experience

Do you believe customer service is something these e-commerce sites should pay attention to?
43 responses

- Yes
- No
- Maybe

95.3%
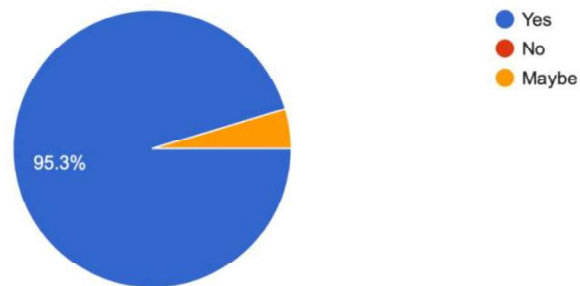
Figure 2.14: Percentage of priority that must be given to customer service by e-commerce companies

Customer relationship management (CRM) is the combination of practices, strategies, and technologies that companies use to manage and an... to curb this problem of poor customer service?
43 responses

- Yes
- No
- Maybe

9.3%

90.7%
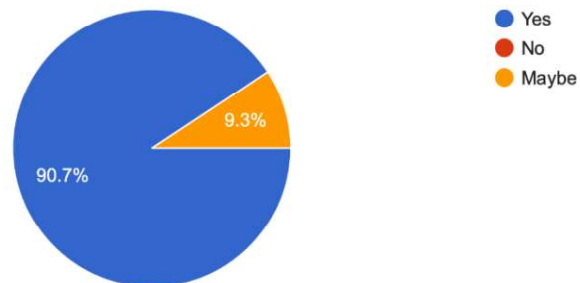
Figure 2.15: Percentage of the use of CRM to provide better customer service
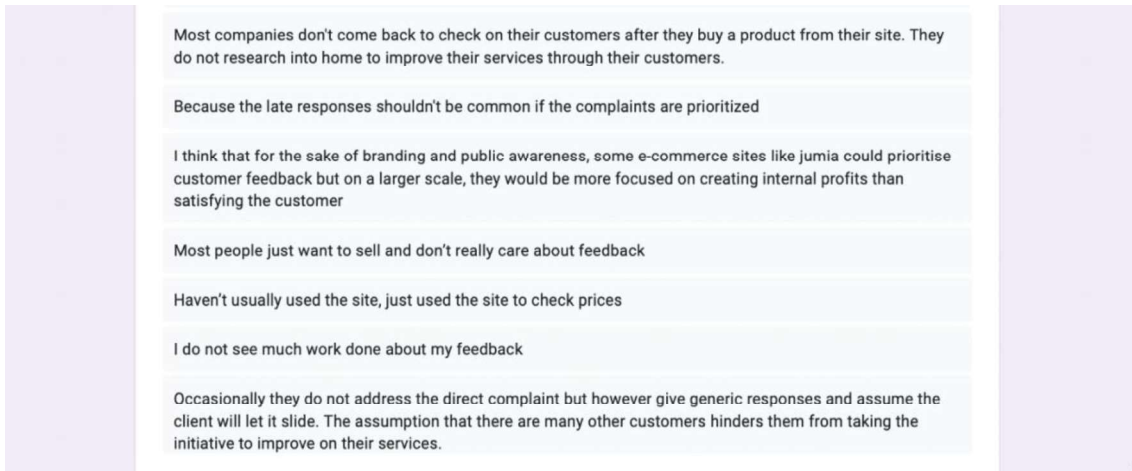
Analysis

From the responses generated, 81.4% of the respondents had purchased from an e-commerce site before. This meant that out of the 43 responses, we had 35 of them who had purchased from an e-commerce site before. This confirms that there is indeed an increase in the patronage of online businesses. Another interesting finding from the responses was that 30 out of 43 (69.8%) respondents had issues while using these e-commerce sites. The most prominent issues raised were lack of customer support and long response time. This proved

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to the researchers that most of these e-commerce companies do not perform well in customer service. To further confirm this customer service problem, 78.9% of the respondents that had issues stated that it took them either a few days, weeks, or months to get a response from these businesses. The respondents (60.5%) rated their overall customer experience as average. Some respondents explained why they felt these businesses do not prioritize customer feedback. 95.3% of them also stated that more attention must be paid to customer service. Finally, 90.7% of them believed that CRM could be used as a solution to curb the problem of poor customer service. To assess the survey sent out, visit this link; https://bit.ly/3yOKZY5.

From the responses generated and the percentages given, it is safe to conclude that (i) Ghanaian e-commerce sites do not prioritize customer service in their operations. Also, this survey paves the way for the assumption that the non-usage of CRM tools in the e-commerce ecosystem could cause poor customer service in business operations. Therefore, there is a need to confirm this assumption and, if necessary, provide a suitable solution to curb the issue of poor customer service in Ghanaian e-commerce businesses.

Chapter 3: Research Methodology and System Architecture and Design

3.1 Research Proposal

The primary focus of this research was to investigate a few e-commerce elements that indicate the application of case management in business and the general use across the e-commerce ecosystem. Data was collected from chosen e-commerce enterprises, Swoove, Jiji, and Jumia, to evaluate the above premise. The information gathered was used to recommend CRM tools to e-commerce businesses. Alongside the recommendations, a demonstration of how CRM technologies, particularly HubSpot, was presented to show their fulfillment with client demands. This section outlines the methodology, sampling, data collection tools, and data analysis tools of this study.

3.2 Research Methodology

3.2.1 Research Design

According to Burns & Grove, a research design is "a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings" [12]. Several research approaches have been identified, namely mixed methods and qualitative and quantitative techniques. A quantitative study was employed for this study. Some designs under the quantitative approach are experimental, non-experimental, quasi-experimental research, correlation research, and cross-sectional surveys. This study adopted a cross-sectional survey since data was sent and retrieved from respondents within a particular period.

3.2.2 Population of the Study

Population is a universal set of all elements within a defined location [23]. Therefore, the population for this study comprises e-commerce businesses and their customers based

in Ghana. The justification of the use of the customers was to help examine whether customer relationship management, especially service quality, influences e-commerce businesses. The rationale for using e-commerce businesses was to help understand the state of CRM in the e-commerce system in Ghana. These helped drive home the objectives of this study.

3.3 Sampling Techniques and Participants

Sampling techniques are population reduction methods used to restrict data collection to a subgroup of a population since it is almost impossible to collect data from every single individual or unit within a population in most cases [23]. This study used a non-probability sampling particularly convenience sampling technique to achieve the set objectives.

3.4 Research Instruments/ Data Collection

In-depth research of field study and interviews were the key research instruments employed in this project. The rationale for the interviews with experts in the field of e-commerce was to obtain a better knowledge of how they use and view case management.

3.5 Data Analysis

Graphs created from the Google forms were used to assess the preliminary research results and findings. After the feedback gotten from the interviews conducted with the selected businesses and the interactions and observations made, recommendations were made to improve the relationship between the businesses and their customers.

3.6 System Overview

The case management system integrates several component systems that allow users' expectations to be satisfied through complete evaluation, communication, and rapid case resolution by connecting customers to business representatives for user satisfaction. The case management system centralizes all case information into a single repository, allowing for a reliable point of up-to-date case information. As a result, HubSpot, a CRM application, was utilized to demonstrate the efficacy of case management as a critical instrument for the resolution of cases.

Through this CRM tool, which is constructed with a form for responding to complaints or reports from users, the system that was developed will handle customer needs and sustain customer relationships. An embedded code was used to connect this to the website. There was the need to include this code on the website's contact page as it will aid the two systems, the CRM tool and the E-commerce site interacting with each other. A layered architecture is used to enable the inclusion of new features in the event of unanticipated changes and display a breakdown of the system's components and internal operation.

To provide a complete comprehensive assessment of the layered architecture, the subsequent paragraph offers an in-depth overview of the construction and flow throughout the entire system in interaction with each other.

3.6.1 Layered Architecture of the Case Management System

There is an integration of various component systems in these frameworks, including an E-commerce site, an embedded code, and a CRM tool. In *Figure 3.1*, there is a depiction of the E-commerce website's internal functionality and the primary technologies employed to create it. The integration which is the embedded code serves as a middleware for connecting the E-commerce site and the CRM tool to fulfill the project's goal. With the use

of the CRM tool, one can store customer and prospect contact information, record service complications, and maintain client relationships.
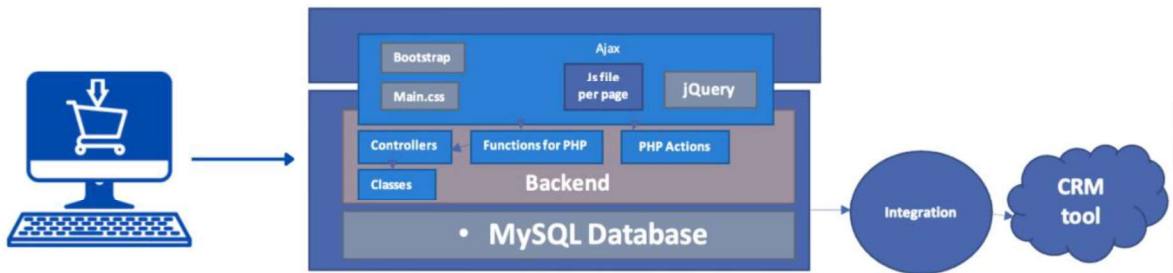
Figure 3.1: Layered architectural design of the case management system

The next section enumerates an illustration of a flowchart diagram which portrays the processes involved in the resolution of cases on the site.

3.6.2 Flowchart Diagram

This illustrates a case management flowchart that captures how customer reports will be processed. The user will first log on to the company's website, then views products on the page that appeals to them. When a user encounters a problem while using the site, a form is available for reporting or filing complaints while navigating the site. The case management system receives an email describing the issue when the report is submitted through the portal. Cases are generated automatically from email reports, and the system responds to the user with an automated message. A case ID is generated for the query that has been sent in. The case is then assigned to a specific customer expert based on the issue's content. Afterward, the representative proceeds to communicate with the customer. If the case is not resolved, it is reassigned to another representative; nevertheless, the admin terminates the case if the problem is fixed. Finally, the case is removed from the queueing list.
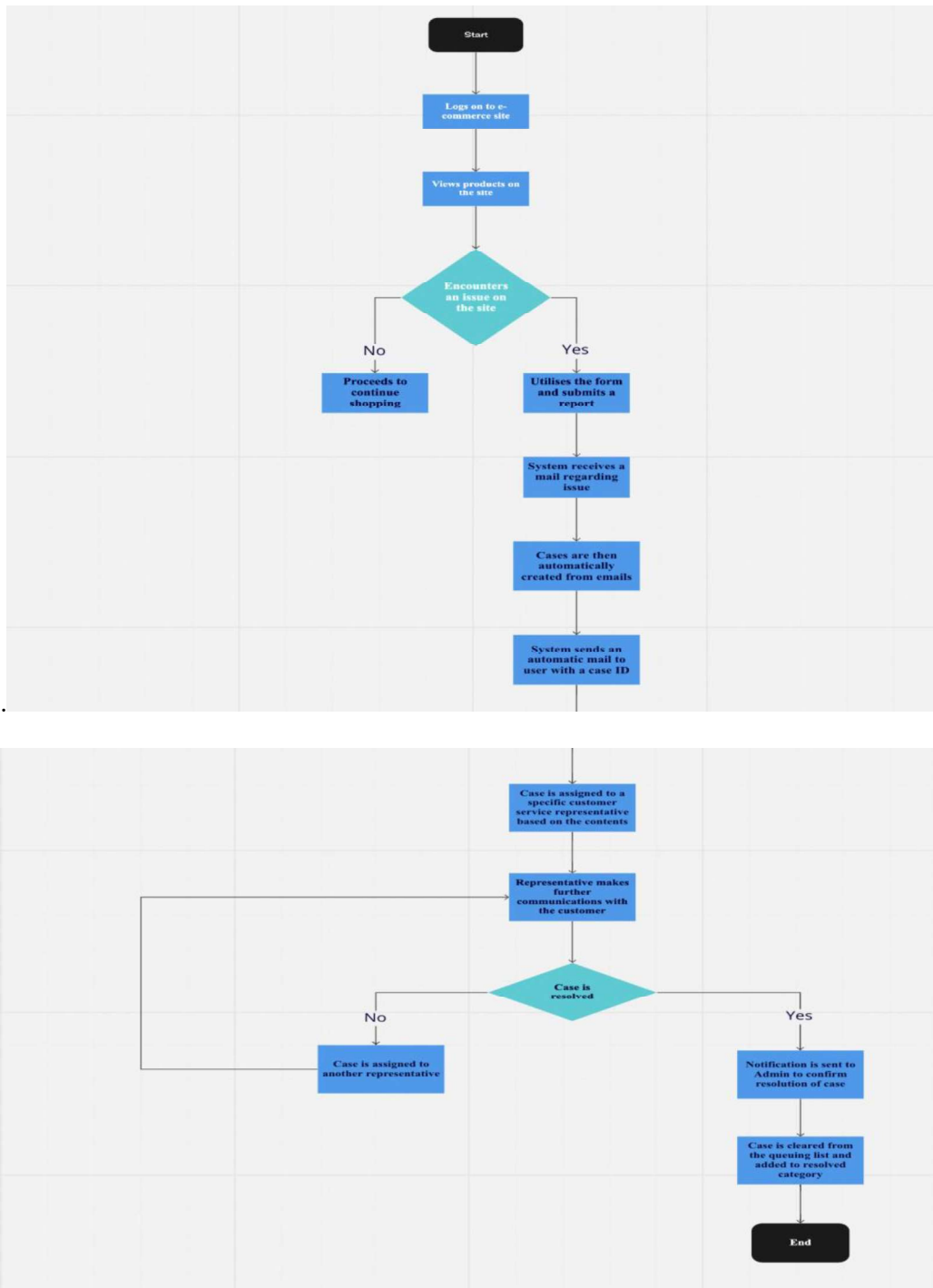
Figure 3.2: Flowchart diagram of the case management system

3.7 Tools and Technology

To enable future changes to the overall system, the system typically uses the Model View Controller (MVC). The system implements each of the modules independently,

without generating dependencies between the system's other components. In addition, the backend uses a web service design. This software system enables interoperable machine-to-machine communication via the internet and reduces significant system failures while adding more services in the future [24]. The Model-View-Controller (MVC) is an architectural pattern that separates an application into three logical components: the model, the view, and the controller [26]. These components are built to handle specific development aspects of an application, such as the case management system [26]. Found below are the details of these elements.

3.7.1 Application Interface

The system employs an interface which is adaptable on the web or mobile application to access the case management's underlying functionalities via a web service. This interface has been modified to incorporate an embedded code that connects the CRM tool (HubSpot) to an e-commerce site as a middleware.

3.7.2 Web Service

To administer all system components and assure communication between clients or end-users and servers, the system used a web service architecture, which explains how to instantiate the elements and implement the operations in a compatible way [27]. This implies that the web service managed requests and responses between the application interfaces and the core case management system.

The following tools were used for the application development to integrate the CRM tool with the e-commerce site successfully.

• HubSpot – This is a complete and easy-to-use CRM platform with all the tools and integrations that aid a company in growing better in terms of increasing leads, accelerating sales, and streamlining customer service.

• Embedded Code – This code was placed in the backend script of the website. This code aims to create a form designed by the CRM vendor. When the form is filled, its details are sent to the CRM's database and reflected on the selected view page of the CRM tool.

3.8 Use Case Scenario

The Case Management system has been designed to impact two distinct groups of people. The system's users are the first group to be influenced by this system. The process offers a complete experience to users by improving their lifestyle and user-friendliness by mitigating challenges faced. The e-commerce businesses in Ghana are the second group this system aims to reach. This solution allows for remote access to data that is managed centrally. It also provides real-time updates, rapid information access, and successful case resolution through teamwork. Finally, this project may be helpful to other students who want to develop an automation system or implement case resolution systems.

3.8.1 Use Case Diagram

This use case representation below was generated by Lucid which serves as a visual board for drawing charts and diagrams. This graphic depicts the different ways that a user or actor might engage with the system from the perspective of both the customer and admin. This also applies to the many activities taken to achieve the project's purpose.
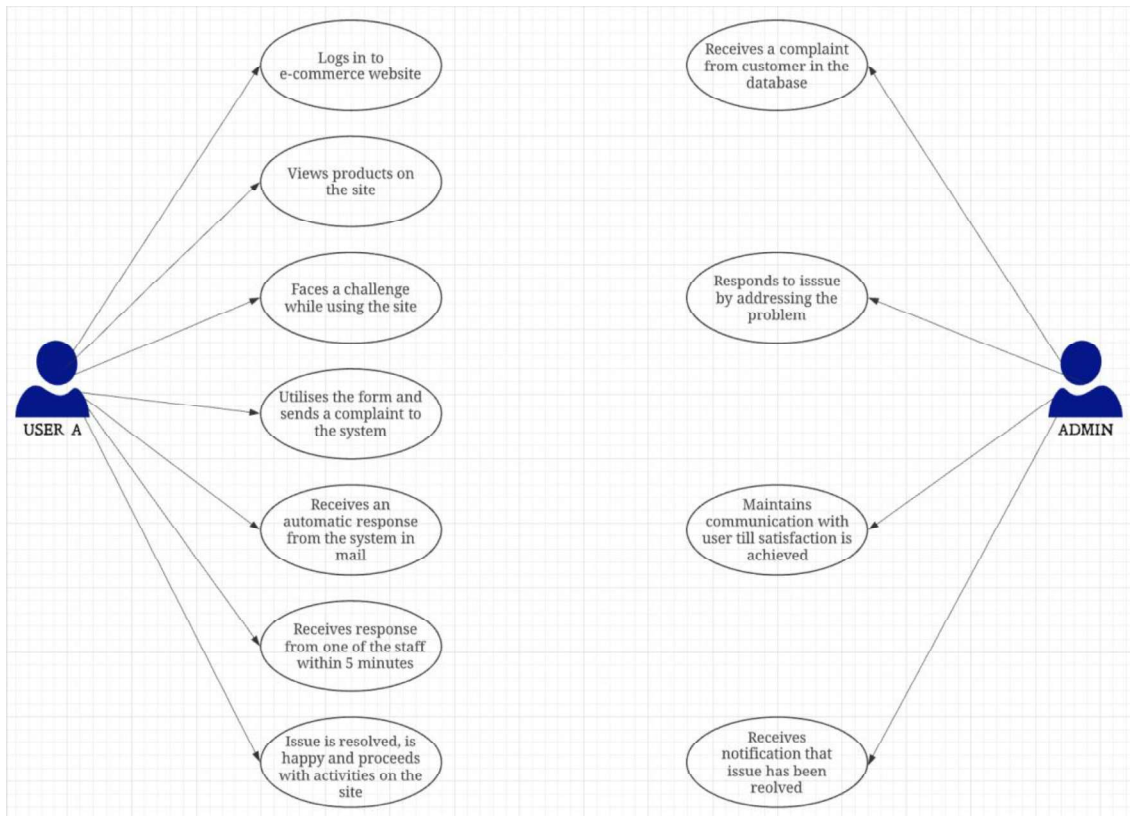
Figure 3.3: A use case diagram of the case management system

3.9 Requirement Specifications

A requirement is a written description of how a system operates. It specifies requirements for the overall system's performance and functioning. Functional Requirement and Non-functional Requirement are the two types of functionalities that can be characterized.

3.9.1 Functional Requirements

These define the product's features, how the system will operate in terms of behavior under specific conditions focusing on user requirements.

The system's functional requirements for users are as follows:

- The embedded code for connecting HubSpot's database should be able to connect to the website after a successful sync.

- The system should be able to prevent unauthorized users from entering the system.

- Users should be able to receive an email with access code or case ID.

- The system should integrate the complete service organization and provide agents with everything they need to settle a case, such as activity history, next best actions, and key client data.

3.9.2 Non-functional Requirements

These focus on user expectations and explain the product's properties, how a system should behave, and what constraints there are on its functionality.

The system's non-functional requirements are as follows:

- Performance: Fast response time within a second for the general use of the system to prevent users from waiting too long.

- Extensibility: Application feature must work on the mobile phone and web.

- Availability: The system should be available 24/7.

- Usability: The system should be designed for ease of use, learnability by users and reduces the number of steps required to complete a task.

- Reliability: The system must provide high accuracy and be able to manage faults such as wrong data format.

- Adaptability: The application must not consume a lot of resources so that it can run on several computing environments, especially for devices that that are constrained such as mobile phones.

- Security: The application ensures the privacy of its users from external attacks and data leakage, especially user conversations and financial data.

- Maintainability: The system must be easy to maintain, modify or update to ensure the scalability of the system.

Chapter 4: Implementation and Data Analysis

4.1 Introduction

Researchers reviewed HubSpot's CRM system for this study to highlight the technologies and tools that make up a typical case management system. Also, HubSpot's system was used to test how case management systems and e-commerce sites integrate and how issues are resolved from a company's end.

4.1.1 Case Management and Customer Portals

A case management system is like a customer portal where conversations between a client and a firm are held. Within some CRMs, the customer portal is where cases or queries are resolved. As such, they have similar features and functionalities.

4.1.2 HubSpot's Customer Portal

HubSpot's customer portal provides a home base for customers to interact with a company's support and services teams. The platform gives customers a secure place to track and manage all their open and closed support tickets — or file a new ticket — to move issues along at their own pace and be reassured that their problems are being addressed. Also, HubSpot's customer portals are seamlessly connected to the HubSpot CRM platform and shared inbox, thereby reducing the risk of duplicative work from team members in the company. Within the customer portal is a conversation tab that is a shared inbox for customer conversations. With live chat, team email, Facebook Messenger integration, and an easy-to-use chatbot builder, HubSpot gives a company the inbox messaging tools and context to have unlimited, personalized conversations with prospects and customers at scale. This feature aids in the easy resolution of customer queries or cases.

4.2 Implementation of Case Management Systems: HubSpot's Customer Portal Using Conversation Tab

4.2.1 CRM Integration

HubSpot defines CRM integration as the seamless connectivity between CRM software and third-party applications [19]. These integrations result in automated actions that expand the functionality of one's software, eliminating the need to toggle back and forth between systems [19]. All integration platforms have pre-built connectors for the most common applications which complement CRM systems [20].

4.2.3 HubSpot's Integration Tools

There are many ways HubSpot carries out integration. As seen in *figure 4.1* below, HubSpot can be connected to applications, e-commerce websites and email service providers. It does these using API keys and embedded codes.
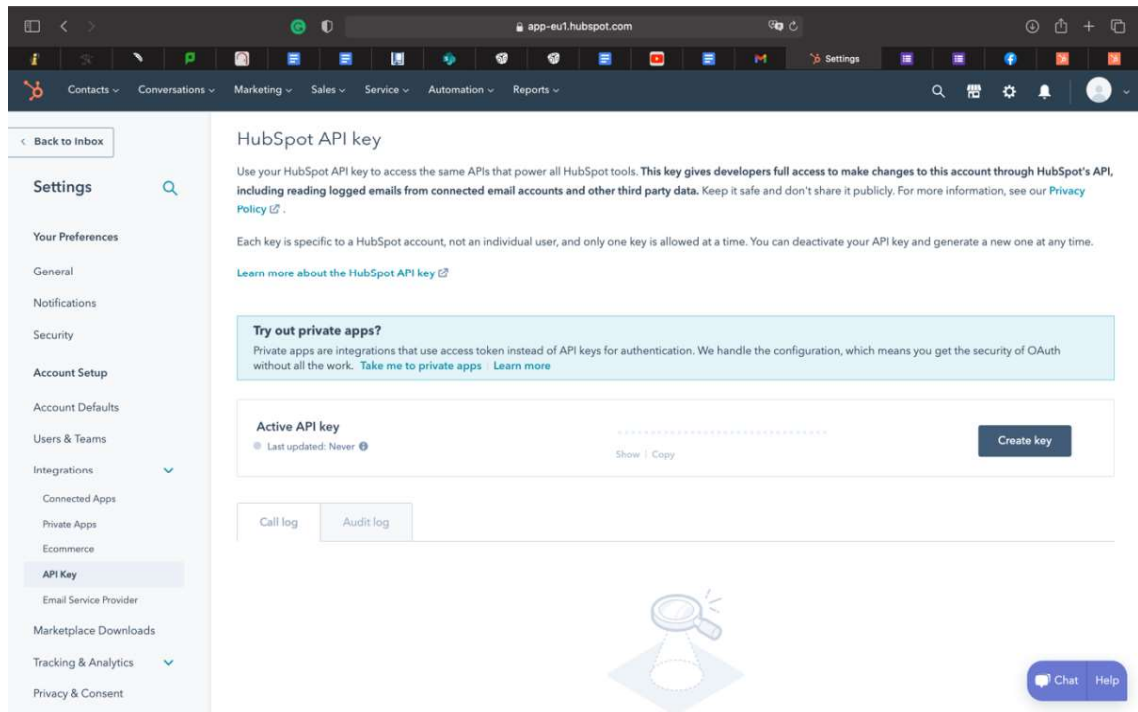

Figure 4.1: Integration options for HubSpot

4.3 The experiment: HubSpot Free CRM Tool

For this project, case management was handled using the conversation tab on HubSpot. Under the conversation tab, the inbox section was used to receive all customer queries. The first thing needed was to select the channel through which queries will be received. For this project, the form option was used. A ticket form was created through HubSpot's marketing section. The form section allows one to create their own form based on specific needs. HubSpot gives general templates such as the registration forms, support forms, and contact us forms. HubSpot also allows its users to choose a form type in creating a form. The form type can be an embedded form, a HubSpot form with its code embedded in the user's website. It can also be a standalone form, where a link will be shared and clicked on to fill in the form's details. For this project, the embedded form type was used, and the support template was tweaked to capture all properties needed for the form.

After creating the form, the form was connected to the inbox. The second step was to assign conversations. On HubSpot, conversations can be manually or automatically assigned to different team members of an organization based on issue subjects. For this experiment, the assigning was made to one member only and was done manually. After creating the form and selecting the medium through which the form responses would be viewed, there was a need to share the form either through a link or an embedded code. Since the embedded form type was used, researchers chose to share the form through an embedded code.

The second aspect of the experiment was to generate queries from customers of an e-commerce website. As such, it was necessary to integrate an e-commerce website with HubSpot. This was done through the embedded form code. There is a contact page in the backend of the e-commerce website, which the researchers created. The embedded code was added to the script on the contact page. Therefore, whenever a customer visits the contact

page to make further enquiries, the HubSpot support form would be there. When a customer

submits a query, it is stored in HubSpot's client database and is viewed in the client's inbox,

which is the Hubspot account created by the researchers of this project. When a message is

received in the inbox, it automatically generates an ID for the case. The client assigned to

that issue can either respond to the complaint via email or call. For this experiment, the

customer was required to submit an email address in addition to the complaint. Also, in the

case where the employee assigned to the case needs help in resolving the case, they can call

on a team member through the comment section. For this experiment, researchers sent a

response to the customer via email. From *figure 4.19*, it is seen that the customer received a

response from the company. After resolving the issue, the client can close the case, as shown

in *figure 4.20*.

This short experiment shows how easily an individual or a company can set up a

case management process using HubSpot's customer portal. Below are screenshots of the
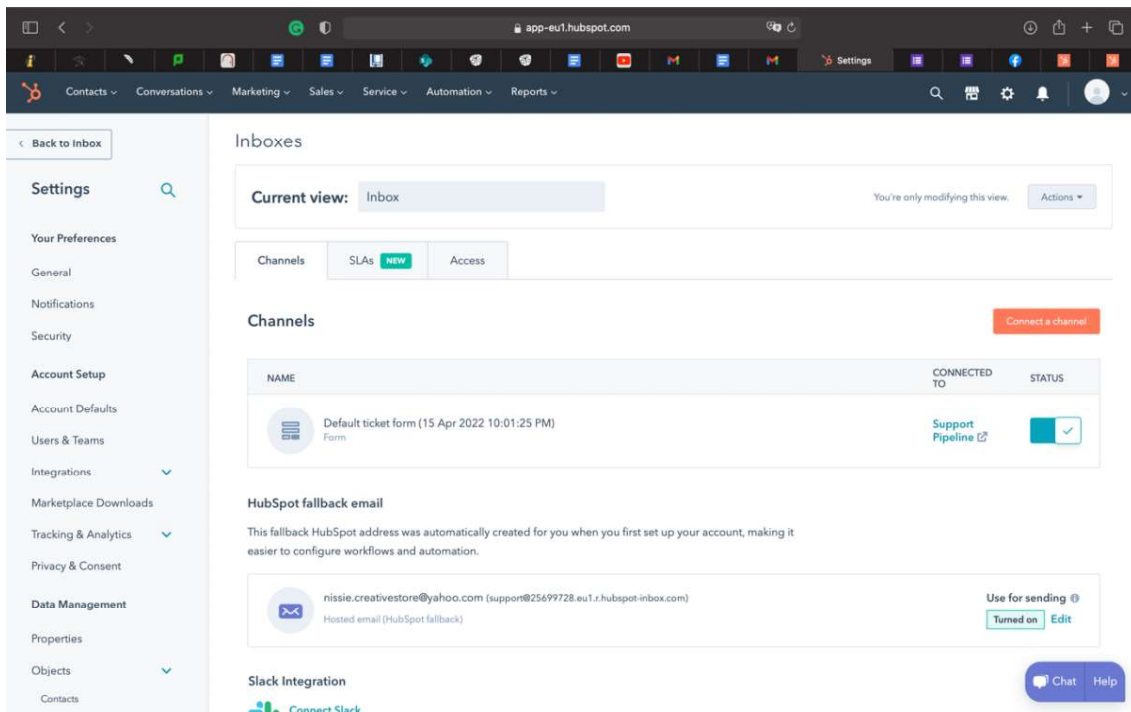
entire experiment process:

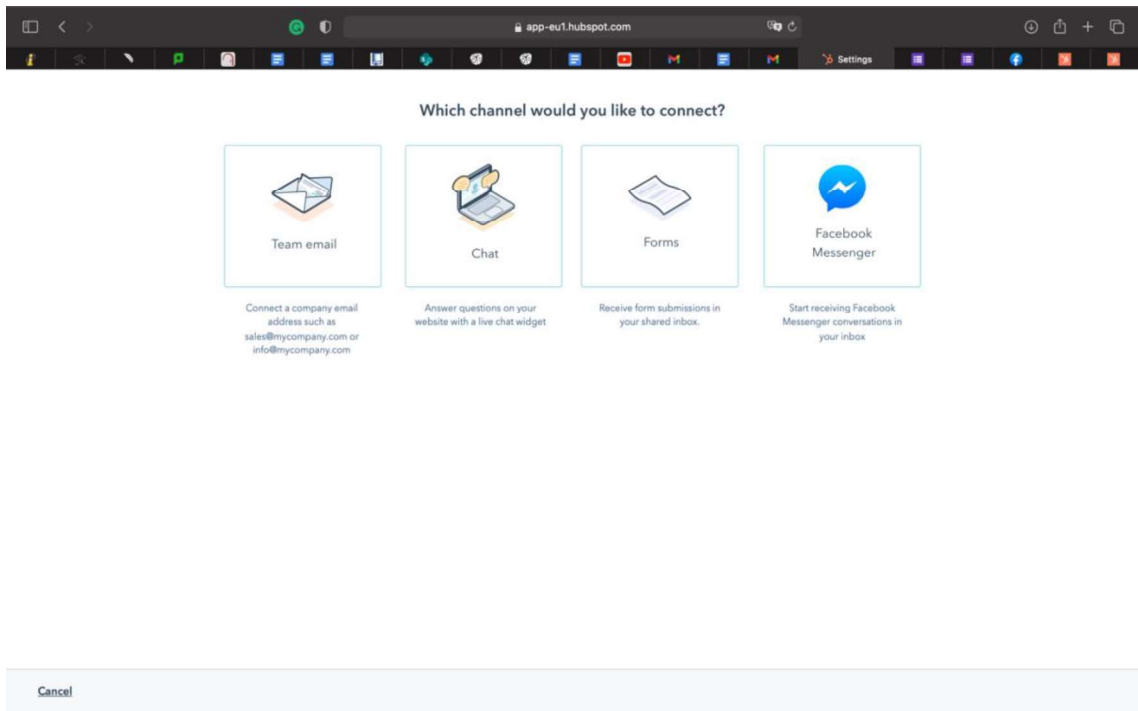*Figure 4.2: Settings of the inbox tab in HubSpot's conversation portal*

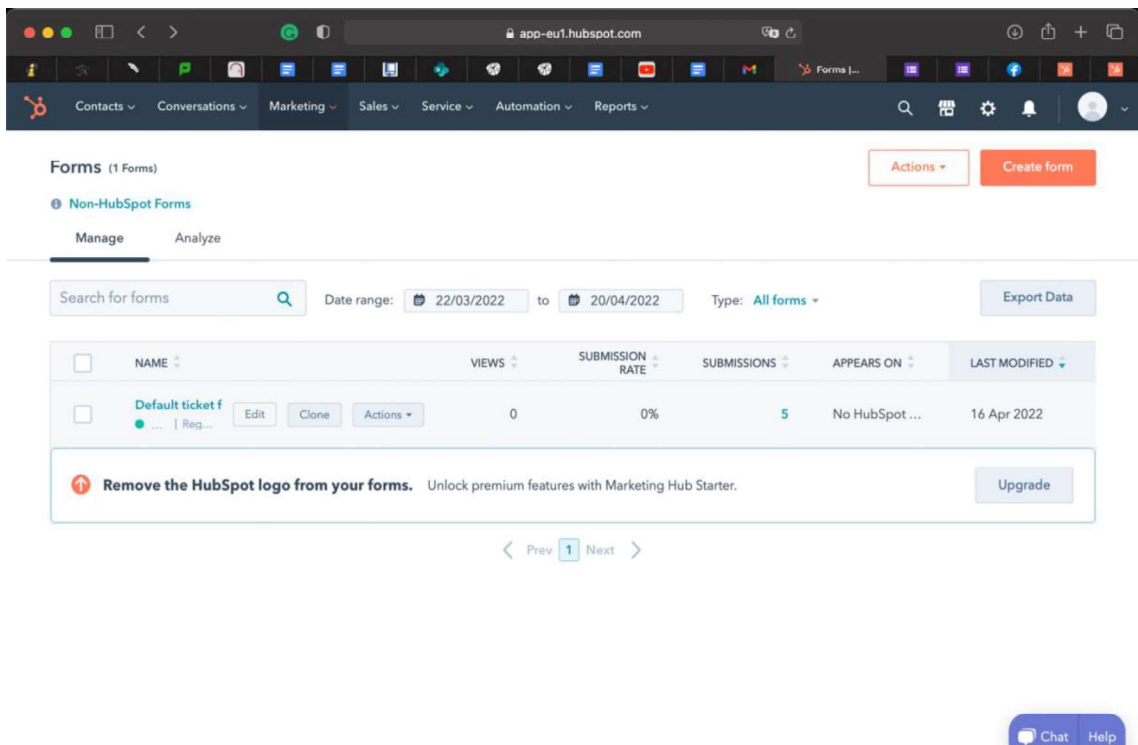*Figure 4.3: Channels through which the inbox tab can receive queries from customers*

Figure 4.4: Forms being chosen as the channel through which customers can submit their queries

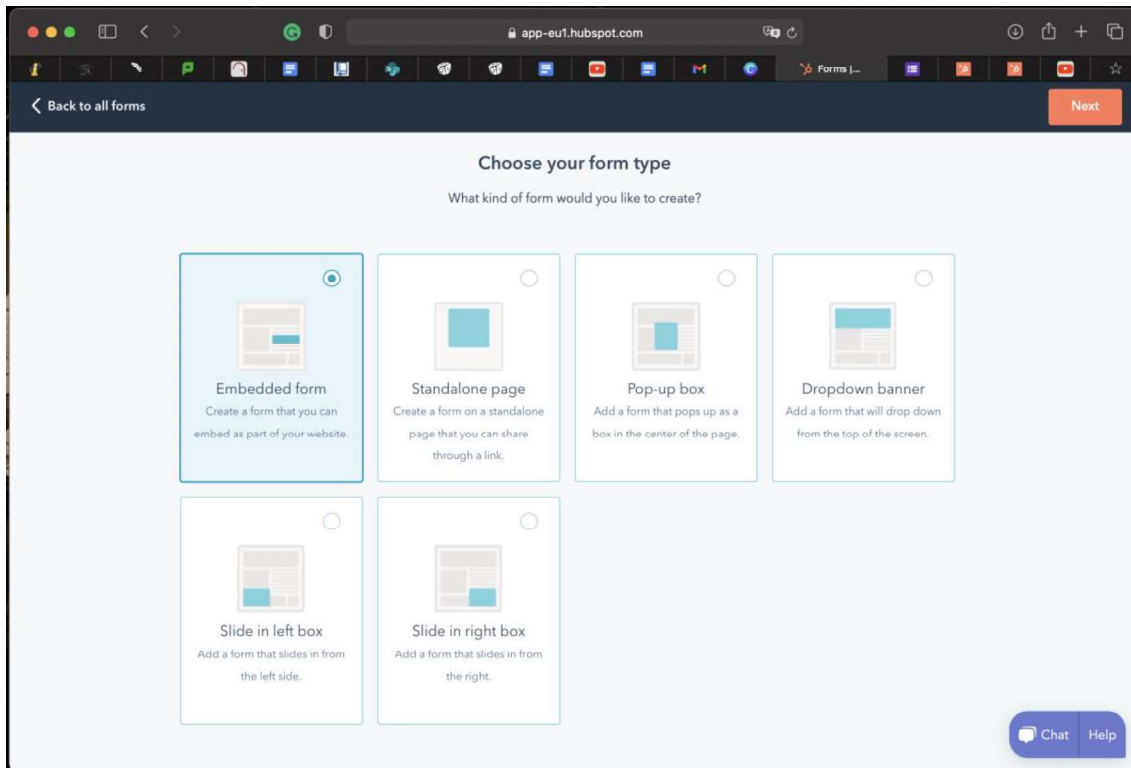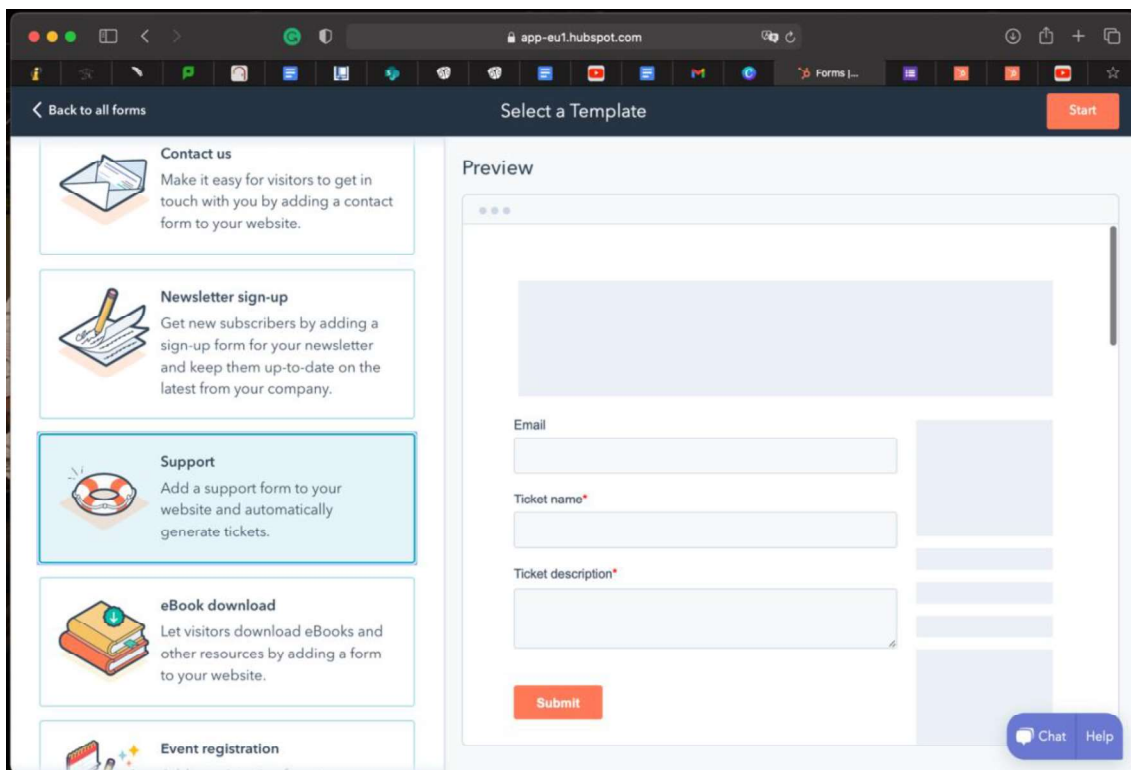*Figure 4.5: Selection of form type to be created*

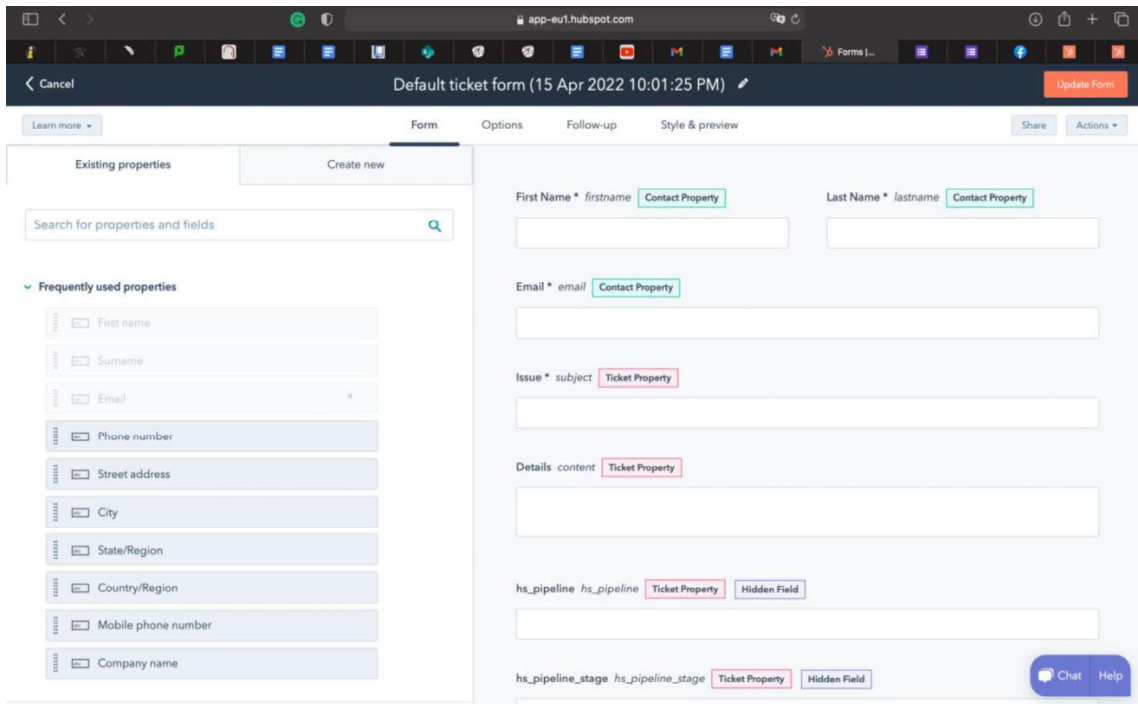*Figure 4.6: Selection of form template*

Figure 4.7: Editing of form template with necessary details
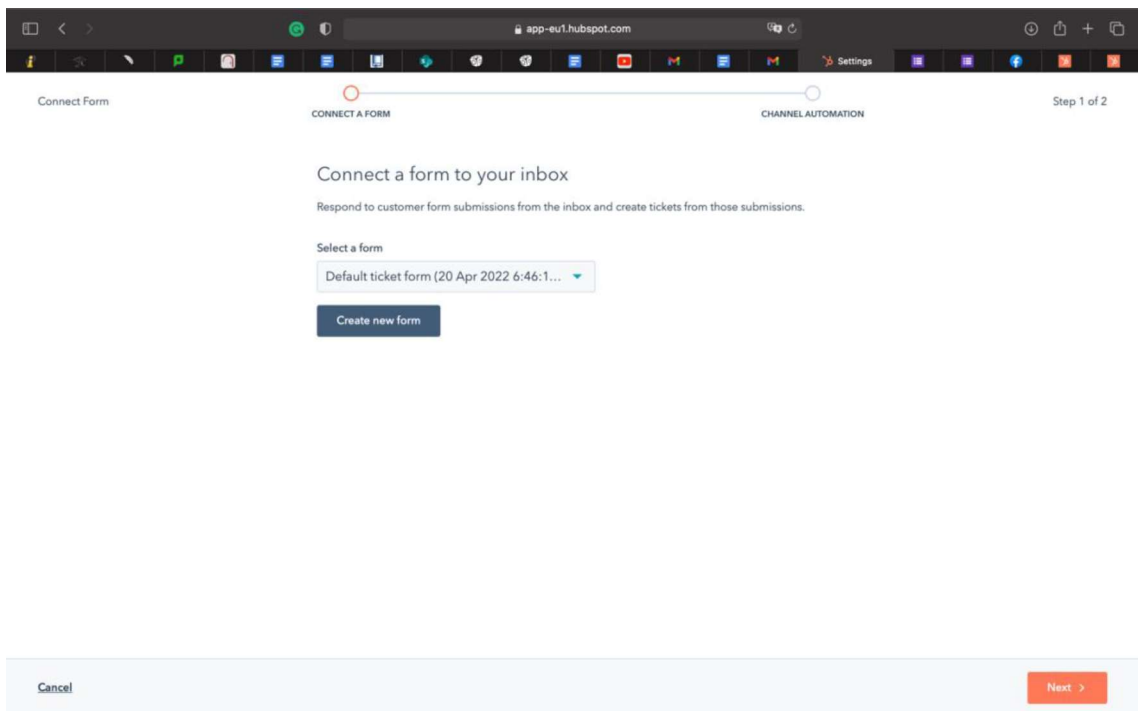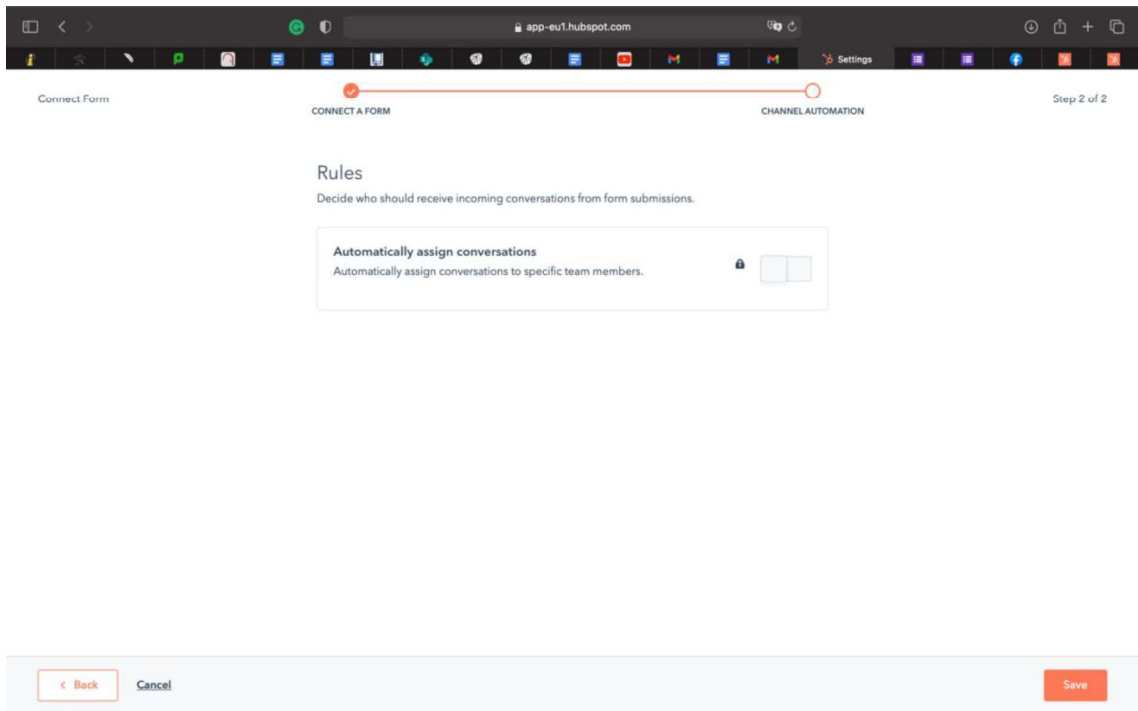

Figure 4.8: Connecting form to inbox tab

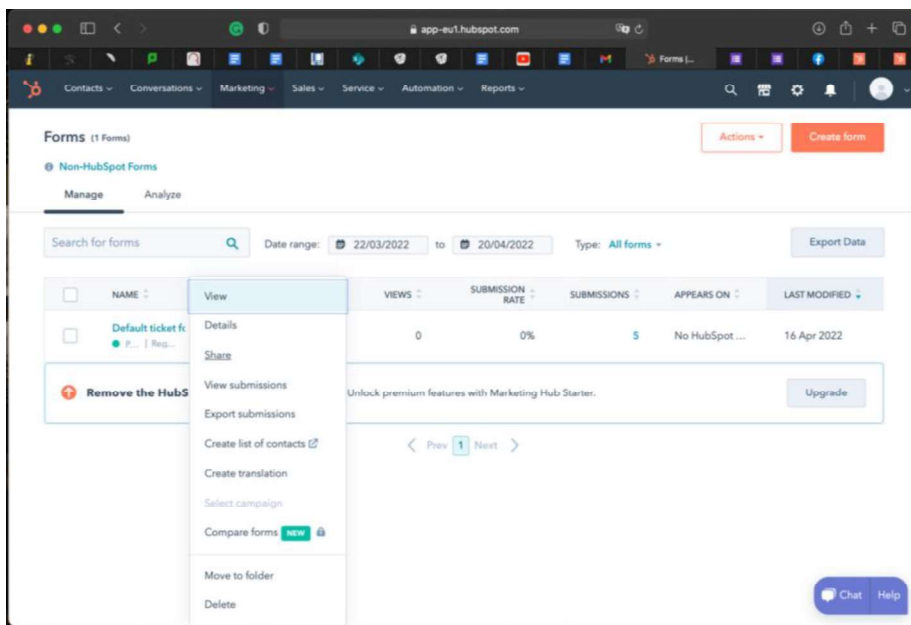*Figure 4.9: Specifying assignment of team members to conversations*

Figure 4.10: Sharing form
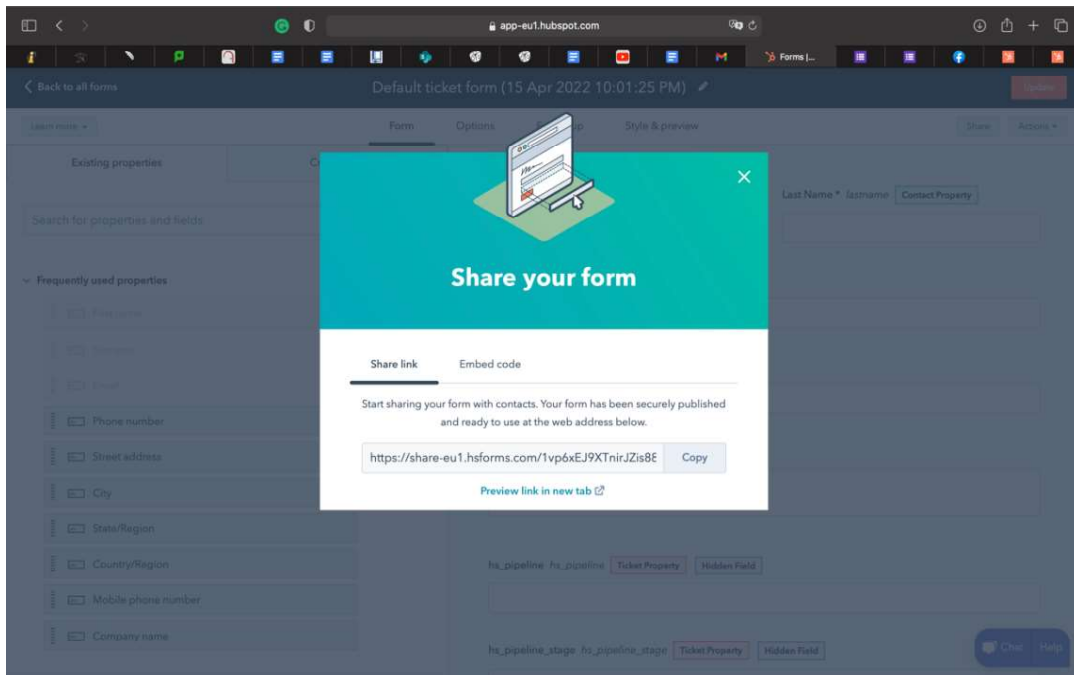
Figure 4.11: Sharing form using a link
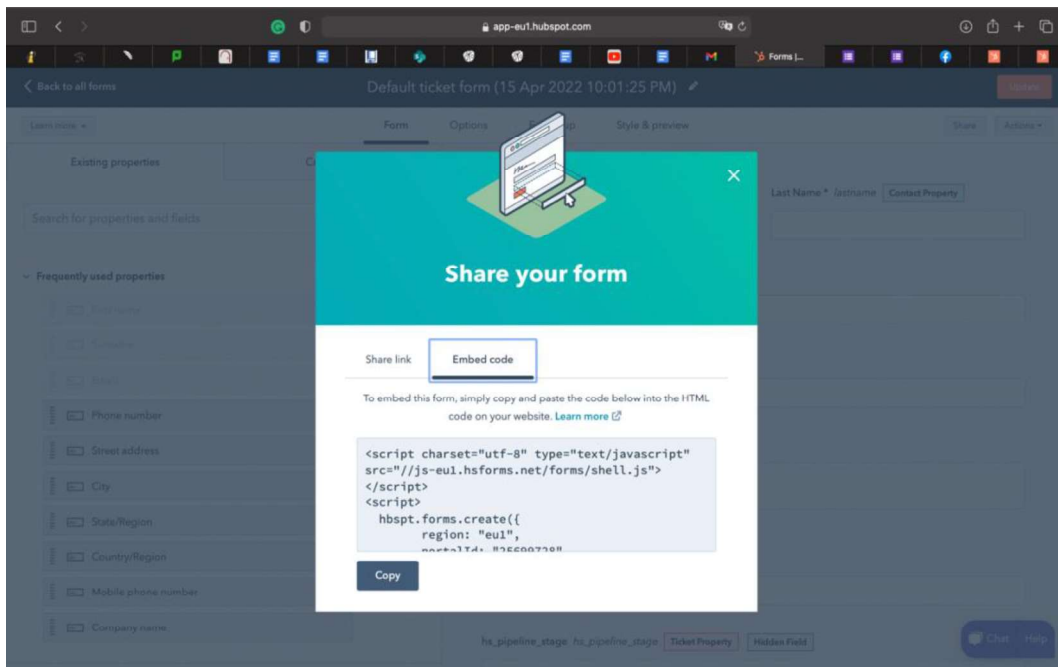
Figure 4.12: Sharing form using an embedded code

```
117
118    <!-- =============== contact section start =============== -->
119    <section class="contact-section section_padding">
120       <div class="container">
121          <div class="col-lg-4">
122             <div class="media contact-info">
123                <span class="contact-info__icon"><i class="ti-tablet"></i></span>
124                <div class="media-body">
125                   <h3>+233 55 541 5498</h3>
126                   <p>Monday to Friday: 9am to 6pm</p>
127                   <p>Saturday: 12noon to 9pm</p>
128                </div>
129             </div>
130             <div class="media contact-info">
131                <span class="contact-info__icon"><i class="ti-email"></i></span>
132                <div class="media-body">
133                   <h3>nissie.creativestore@yahoo.com</h3>
134                   <p>For purchase of souvenirs for events, kindly shoot us an email and we will sort out your needs!</p>
135                   <a href="mailto:nissiecreativestore@yahoo.com"><button type="submit" class="btn_1">Send Nissie An Email</button></a>
136                </div>
137             </div>
138             <div class="media contact-info">
139                <span class="contact-info__icon"><i class="ti-close"></i></span>
140                <div class="media-body">
141                   <h3>Have a complaint?</h3>
142                   <p>Submit your query now for a quick response!</p>
143                </div>
144          </div>
145          <script charset="utf-8" type="text/javascript" src="//js-eu1.hsforms.net/forms/shell.js"></script>
146          <script>
147            hbspt.forms.create({
148              region: "eu1",
149              portalId: "25699728",
150              formId: "be9eb110-9f57-4e78-ab25-98acf3c9aa5f"
151          });
152          </script>
153             </div>
154          </div>
155    </section>
156    <!-- =============== contact section end =============== -->
```

Figure 4.13: Inserting embedded code in backend script of an e-commerce contact page
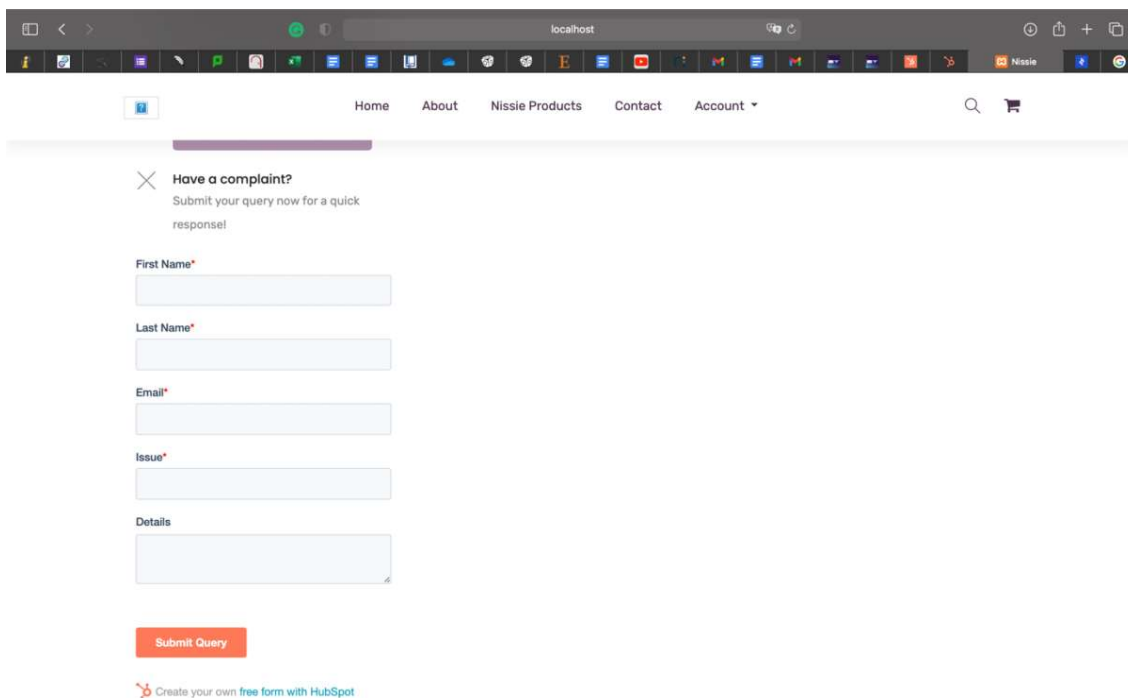
Figure 4.14: HubSpot query form being displayed in the contact page of an e-commerce site
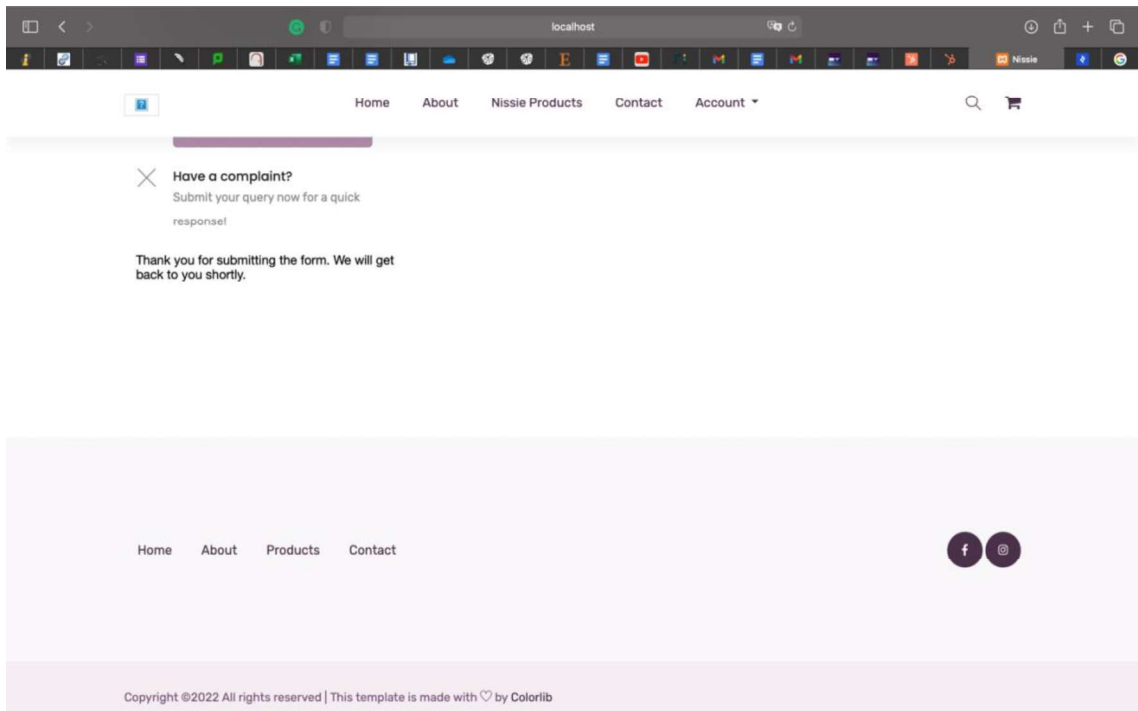
Figure 4.15: Prompt received after submitting query
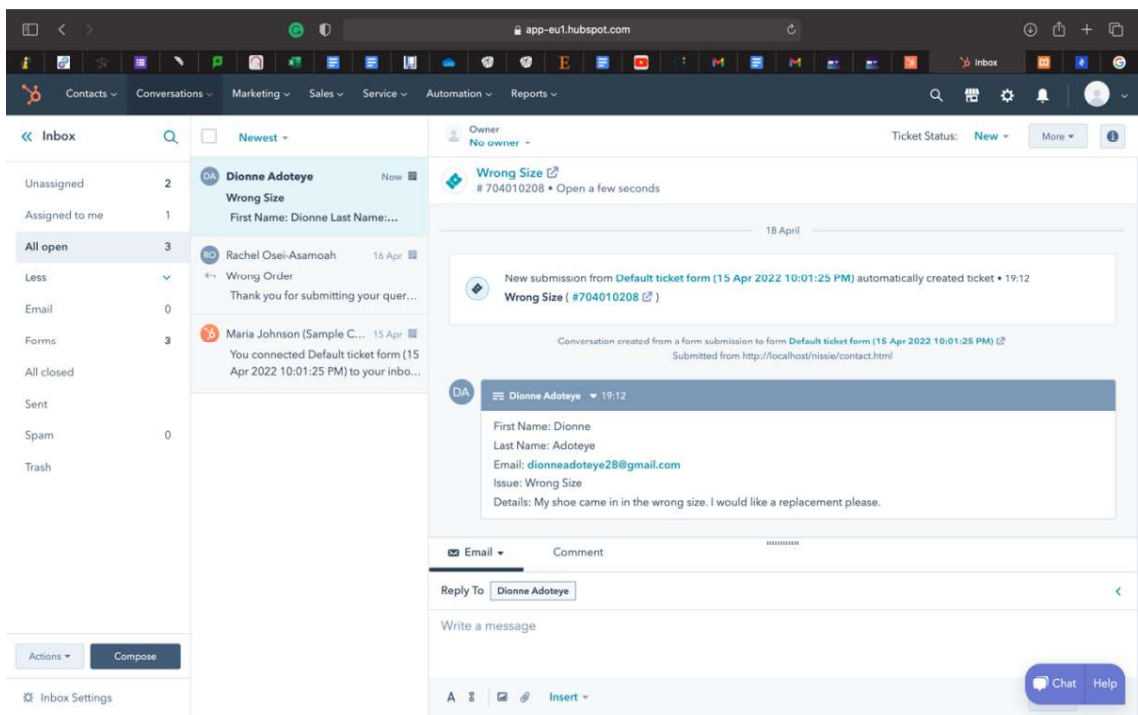
Figure 4.16: The inbox tab showing new query message
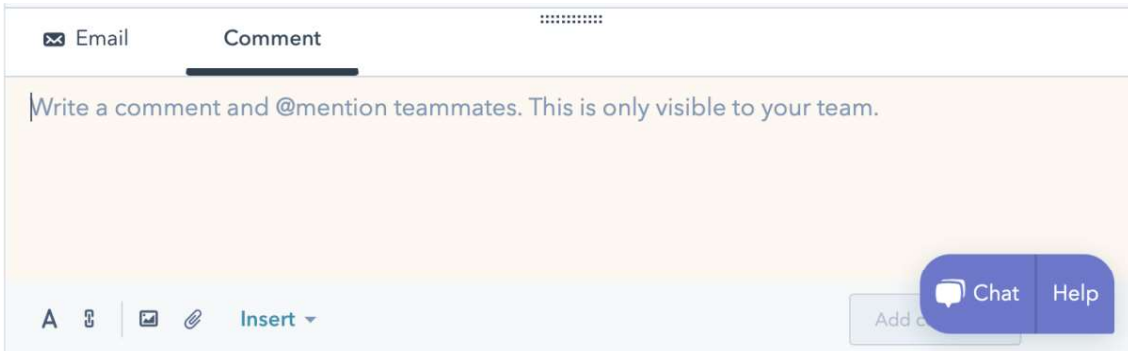
Figure 4.17: A section to either respond to the query or seek help from a team member using the "at" symbol
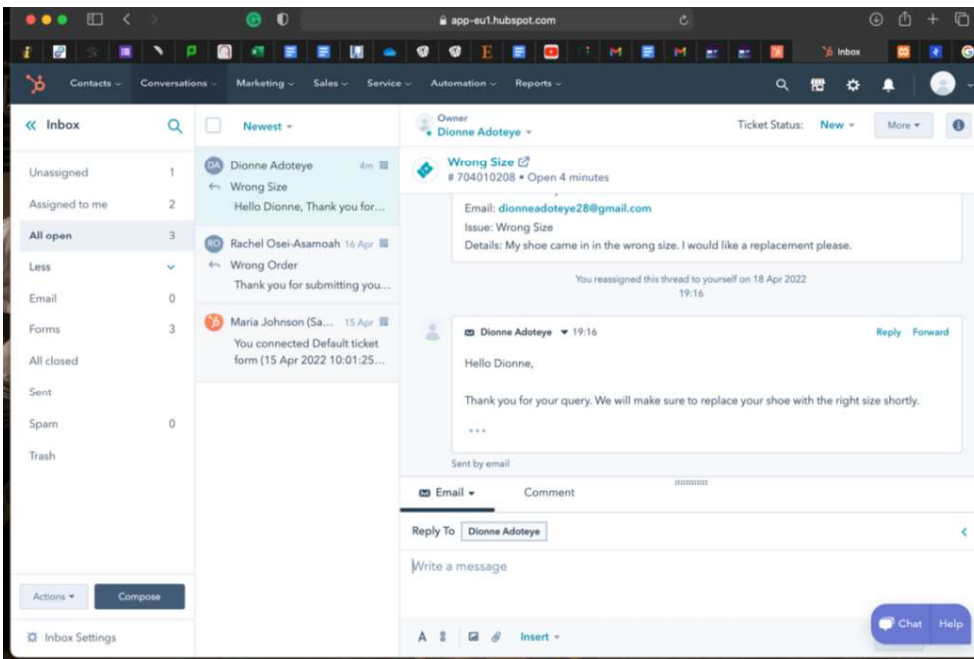
Figure 4.18: The sent response
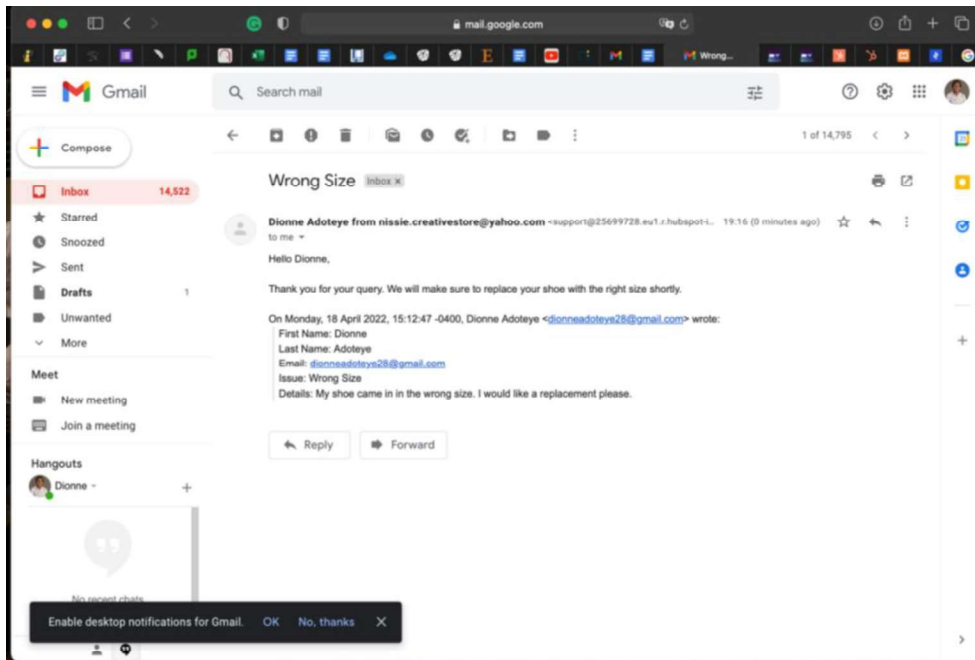
Figure 4.19: Customer receiving the response from the company through HubSpot
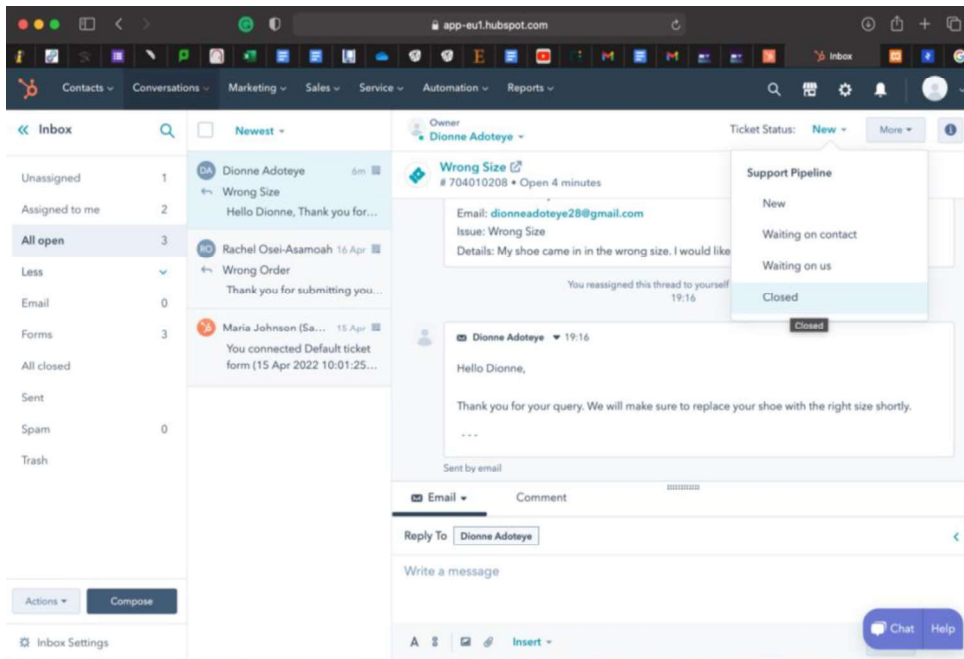
Figure 4.20: Customer service representative closing the customer query after resolving the case

4.4 Findings from Experiment: Data Analysis

To understand the e-commerce ecosystem in Ghana, researchers reached out to three

companies as a sample size. An interview guide was designed to understand their knowledge

of CRMs in general, case management systems, and the limitations or challenges. This guide aimed to find out how they address customer service issues, the tools, and technologies used in this process, and how helpful or challenging it has been to them. Also, researchers aimed to find out the widespread use of CRMs in these businesses. From analyzing the websites of these companies, researchers realized that these websites had help desks or support features that catered to the needs of customers. For example, Jumia Ghana has a help center where customers can feel free to describe their concerns. They also have a live chat feature where customers can communicate with customer sales representatives. These are indications that there are technological processes that ensure the management of customers. However, researchers could not find information on the specific technologies used by Jumia to manage its customer relations. To find out more about their use or non-use of CRMs, an interview was conducted, and these were the findings:

This examination of data from Ghana's Swoove, Jiji, and Jumia gives a reasonable approximation of empirical evidence for this research paper. It also delves into the company's CRM operations, perspective, challenges, and plans for customer case management to improve customers' relationships with companies in the e-commerce landscape.

Technically, the companies have made significant contributions to resolving client issues. However, they employ physical customer care representatives to achieve this goal. In an interview with Jumia, it was discovered that the firm conforms to traditional instruments such as NBS on a global basis. This enables them to design and send CRM campaigns. The leading CRM channels are push notifications, newsletters, and news feed on the Jumia account. The Jumia feed is a timeline on the Jumia app where the marketing and commercial teams push specialized information to clients. SMS and in-app messaging

are also utilized, and pop-up messages that appear on users' screens when opened on the app can be quickly discarded.

Jumia Ghana has just one CRM expert, as such, their customer support staff handles their live chat rather than a CRM tool. The use of NBS as their primary customer relationship management system centralizes everything, yet it uses other CRM solutions like Airship to manage the backend. Airship is a data-driven loyalty CRM that may help determine who customers are when they visit and how frequently they visit. This enables operators to automate their marketing to make it more effective and customized based on client involvement and interaction. The firm's primary goal is to send out push alerts, in-app messages, and client segmentation. It's connected to their database and utilized to stream data into their system. However, there is a challenge with the frequency of push notifications sent. To curb this, notifications are restricted to being sent once to clients to limit the number of customers that opt out of getting notifications. Because it's only once a day, the team strives to make the content relevant to the user, which necessitates a lot of segmentation, and SQL, which runs a lot of queries, some of which can be hard because it requires a lot of customer information. This is challenging since there is insufficient data on customers. Users switch off any form of tracking on their devices for privacy and data protection reasons, resulting in generic messages that do not seem relevant to them, negatively impacting engagement metrics.

In the instance of Jumia, case management is the responsibility of their customer service team, not their in-house CRM. Their CRM is concerned chiefly with the collecting of data and information. Aside from price, user-friendliness, platform availability (it must be stable and run 24/7), and client segmentation (it should be detailed) are all factors Jumia will examine before acquiring a CRM. According to the interviewee, the difficulty with

switching to another CRM platform is that everything they do is on a worldwide scale, and what they have today works well for them.

Jiji, for example, uses a few CRMs in their operations to help them coordinate with their consumers. They currently use specific pre-existing CRMs as well as in-house software. It aids in understanding the leads coming in and monitoring and tracking the conventions of the leads. They do not experience any limitations with their CRMs as these tools help them maintain a smooth operation. Typically, they utilize Pipedrive as a CRM platform but will also assess other CRM's capacity to adapt to their workflow, ease of use, and integration. They want the CRM to integrate with their procedures if they introduce new case management solutions.

Swoove Ghana, on the other hand, has CRM tools available on their company panel, allowing them to link deliveries and locations to customers and gather information about them. They are still looking for a fully functional, cost-effective CRM option that will enable them to manage their customers in-house. However, in the meantime, they are using dashboards that display the number of deliveries that each client or account has created, making the data in their database more visually appealing. On the other hand, they have Zoho. Zoho is presently utilized in the company, but the funds needed to upgrade to the premium version are an issue because they have been bootstrapping it since the beginning. They manage customer support using a combination of Asana and Zoho to keep track of tasks. The company designed an entire production tool in-house to track packages and ensure efficiency. According to the CEO, many things were built in haste and not done well in the initial commencement stages, as they were understaffed. However, their customer service department is the panel that helps manage the orders and complaints. Combining CRM and customer service personnel makes things easier and faster than tracking an excel sheet in their firm. They have reaped the financial benefits of using the model via several

iterations. Implementing a CRM will primarily evaluate cost, functionality, and customer support.

The concept of client relations is not new for examining the amount of case management in e-commerce enterprises in Ghana; nonetheless, developing it has not been a priority due to different constraints. The IT environment in Ghana and around the world is rapidly evolving, and it is becoming increasingly clear that most e-commerce companies do not respond to customer issues. Despite the rapid rate of change, Ghana's systems still lack some of the key features to allow for the free flow of information between customers and businesses.

The key findings were acquired prior to the case management system's integration through inquiries concerning the target group's understanding of CRM and case management. Although all the organizations interviewed demonstrated understanding of CRM systems, none of them employ the case management element. To address client cases, these companies hire customer service representatives. The findings reveal that most businesses use CRM but do not apply the case management feature. This supports the initial hypothesis that the absence of case management in Ghana is true. As 100% of people do not use case management, the solution was demonstrated to the target market. Following the HubSpot demonstration video provided to the companies, all the companies said they were willing to use the HubSpot tool especially if it's cost effective.

Chapter 5: Conclusion

5.1 Summary

The focus of this thesis was to investigate the state of CRM, specifically case management use in the Ghanaian e-commerce ecosystem. Customer Relationship Management, which involves activities that aid in improving the relations and interactions businesses have with their customers, is a tool that many companies have adopted in advanced countries such as the United States of America to ensure customer satisfaction [2]. The literature review on customer service, e-commerce, CRM, and case management reported the rate at which these CRM systems are used to mitigate the issue of poor customer service. It also spelled out that the e-commerce ecosystem in Ghana needs to understand and adopt the use of CRMs, to be more specific, the case management functionality. Using a benchmark of 30% or below as a measurement of poor, it is safe to accept the first hypothesis given in this study which states that the current state of case management in the e-commerce ecosystem in Ghana is poor. This is because, from the interview conducted with the three companies, none (0%) of them use case management. Also, from this analysis, it is safe to infer and accept the second hypothesis that poor customer service can be attributed to the non-usage of case management tools in the Ghanaian e-commerce ecosystem.

5.2 Limitations

There were a few limitations that were encountered during this study. Concerning the research conducted on the companies, researchers could have reached out to more companies to find out the state of CRM in their businesses. This study focused on only three companies due to time constraints and the bureaucracy involved in accessing the necessary contacts in these various organizations. However, it would have benefited researchers more

if these interviews could have been extended to a few more companies to solidify findings. Regarding the experiment, researchers could have explored the use of chatbots and calling systems as a means of handling customer queries and providing multiple means of serving customers using CRMs.

5.3 System Comparison

Since case management systems and their integration can be challenging for some businesses in Ghana, research has been done on some CRM systems that have good case management functionalities. A set of criteria has also been created to compare these systems. The criteria used are price or cost, easy navigation, easy integration with third-party applications, scalability, security, extensibility (additional functionalities), and customization. Below is a table showing this comparison:

Table 5.1 Comparison of CRMs

Criteria	Zoho	Odoo	Kedebah	Hubspot Free
Price (Per month)	GHS 105 - 300	GHS 30 - 240	GHS 10-135	Free
Navigation	Easy	Fairly Easy	Easy	Easy
Integration	Easy	Fairly Easy	Medium	Easy
Scalability	Medium	Easy	Medium	High
Security	High	High	Medium	High
Extensibility	Medium	High	Medium	High
Customization	Good	Very good	Good	Very good

From the interviews conducted with the companies, the factors that were believed to be the most important when purchasing a CRM were price, customization, and navigation. As such, other e-commerce companies can consider these factors when investing in the use of CRMs.

5.4 Recommendations

This study has a lot more opportunities that can be investigated. The current state of CRM use in the e-commerce ecosystem in Ghana presents a chance to further research into other ecosystems such as the banking sector, health sector, and food sector. Further investigations can be done on other functionalities of CRM, such as lead management, contact management, and marketing. Also, a larger sample size of companies that represent all classes and regions of the society can be considered when conducting similar research.

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Appendix

INTERVIEW GUIDE: BEFORE THE EXPERIMENT

1.   Have you heard about customer relationship management (CRM)?

2.   What do you know about it?

3.   Do you make use of CRM tools in your business?

a. If yes, which vendor do you use and what is the reason for your choice of vendor?

i. How helpful has it been to the growth of your business?

ii. Have you faced any challenges using this technology?

-If yes, what are some of the challenges you face with it?

b. If no, what is/are the reason(s) for not patronising CRM tools?

4.   Have you heard about case management in CRM?

5.   What do you know about this functionality?

6.   Do you use case management CRM in your business?

a. If yes, which vendor do you use and what is the reason for your choice of vendor?

i. How helpful has it been to the growth of your business?

ii. Have you faced any challenges using this technology?

-If yes, what are some of the challenges you face with it?

b. If no, what is/are the reason(s) for not patronising case management CRM?

INTERVIEW GUIDE: AFTER THE EXPERIMENT

1.   How do you find this case management system?
2.   Would you like to use a case management software?

a.   If yes, which of these criteria will you consider when buying one?
Cost
Ease of use (easy navigation, user experience)
Simplicity of design
360-degree view
Easy integration
Extensibility (Add-ons available)
Extendibility or scalability

Easy team adoption
Security
Customizable
Mobility (phones, laptops, etc)
b.   If no, kindly state the reason(s) why