

# Implementation on CRM Based Web Application for Marketing Manager

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## Abstract

Marketing Manager has difficult to manage multiple clients at a time and delay in providing services by manual method, besides that they cannot manage their loyal customers. This problem is in contradiction with Customer Relationship Management (CRM) concept. With that analysis, a manager needs to have CRM to manage customer relationship and get the right information of customers so can manage loyal customers and help customers to get the best services. This application helps the manager to monitor customers in real time and help customers to analyze the service trends in market. The result shows that this application can run smoothly and have good user interface. Using CRM Based Web Application Marketing Manager able to handle all customers through single application.

**Keywords:** Customer Relationship Management (CRM), Marketing Manager, Web Application, Marketing Trends, Customers.

## Introduction

CRM Stands for Customer Relationship Management. It is a process or methodology used to learn more about customers' needs and behaviors in order to develop stronger relationships with them. The more useful way to think about CRM is as a process that will help bring together lots of pieces of information about customers, sales, marketing effectiveness, responsiveness and market trends.

Customer satisfaction is a business philosophy which tends to the creation of value for customers, anticipating and managing their expectations, and

demonstrating ability and responsibility to satisfy their needs. Qualities of service and customer satisfaction are critical factors for the success of any business. As Valdani points out: enterprises exist because they have a customer to serve. The key to achieve sustainable advantage lies in delivering high quality service that result in satisfied customers.

Companies are facing their toughest competition ever. To win customers and encourage them to stay loyal or repurchase the service, most companies have resorted to meeting and satisfying customer needs by not being only reactive but proactive. They are also interested in finding new ways and means to satisfy the customer. Most companies are aiming for good customer relationship which means better service to the customer thereby preventing the customer from being promiscuous.

A lot of companies are not just attracting customers, but are working at building long term relationships with customers, suppliers, employees, distributors and the general public. These companies are striving to satisfy the maximized expectations of each stakeholder group. Based on the nature of marketing, it involves voluntary "exchange" relationship where both sides must be willing parties.

The parties must be able to communicate may be through different instruments. Therefore, businesses need better understanding of their customers in this highly competitive environment. This understanding meets different channels of which one is customer relationship management. CRM helps companies make sense of customer needs, manage these relationships more intelligently and predict the future.

The more useful way to think about CRM is as a process that will help bring together lots of information about customers, sales, marketing effectiveness, responsiveness and market trends. CRM helps businesses use technology and human resources to gain insight into the behavior of customers and the value of customers.

A marketing manager is someone who manages the marketing of a business or product. They can be responsible for several services or products, or be in charge of a single product. A marketing manager needs to have an outgoing, gregarious, and spontaneous nature. In concert with these traits, they need to be highly focused, detail-oriented, and very conscientious of meeting, budget restraints and timelines.

Marketing managers have a variety of responsibilities, such as putting together estimates and budgets for marketing campaigns, submitting them for approval, working with advertising agencies, being involved in negotiations, preparing sales and advertising contracts, and reviewing advertising material such as print material, commercials, and online advertisements.

Much of the work in this field can be accomplished in an office setting. Product research, consumer purchasing trends, and new market analysis require both highly developed computer skills and strong interpersonal skills in order to determine a product's viability.

Many marketing managers travel to meet clients, work with production teams to fine-tune products, and take informal man-on-the-street polls regarding the clients product or service. Additionally, marketing managers travel to meet prospective media outlets such as video production companies, print production companies, and public speaking venues, as appropriate.

### Related Work

Literature survey is the most important step in any kind of research. Before start developing, study of previous papers of domain drawback.

A company needs to have CRM to manage its customer relationship and get the right information of its customers so it can manage its loyal customers and help its customers to get the best sales.

Anita Nathania Purbowo, Yulia, Agustinus Ivan Suryadi in 2017 introduce Web Based Customer Relationship Management Application for Helping Sales Analysis on Bike Manufacturer With this application Real time monitoring of customers is possible for the company. Customers can also analyze best selling product. and This application can help customers in shopping and help the company manage its customers.[1]

NeroidaSelimi, MarikaApostolovaTrpkovska, LejlaAbaziBexheti, MajlindaFetaji in 2018 analyse Utilization of Customer Relationship Management (CRM) Theory, Prototype and Tools for Improved Strategic Marketing in HE in this paper introduced that Customer Relationship Management (CRM) is one of the marketing strategies and tools used in educational institutions with the purpose to collect, store and analyze data about students. This paper presents and analyses data upon knowledge and awareness of CRM of SEEU staff and students. It presents the creation of a proposed CRM prototype which would be specific for usage in SEEU.[2]

R. Siva Subramania, Dr .D.Prabhain 2017 Analytical CRM helps to analyze customer data and interactions through various data mining techniques. This Survey on Customer Relationship Management paper facilitates overview of CRM and its recent works. [3]

S.ThiripuraSundari, Dr.A.Padmapriya in 2012 presents Structure Of Customer Relationship Management Systems In Data Mining a new design scheme of customer relationship management systems is presented and the design details of which are illustrated in detail.[4]

Roger Buehrer, Christian D. Mueller in 2002 Paper present Approach To Overcome Existing Limitations of CRM-Implementation. Business requirements of today's companies do not fit with the nowadays CRM solutions. Sufficient support of Control, data sharing, multi-modal access, analysis and process flexibility is not provided.[5]

### Problem Statement

The marketing field continues to change and develop, keeping up with the time can be difficult task. Marketing managers are faced with the challenge of managing and organizing their marketing teams and strategies. Marketing Manager has to face the following problems:

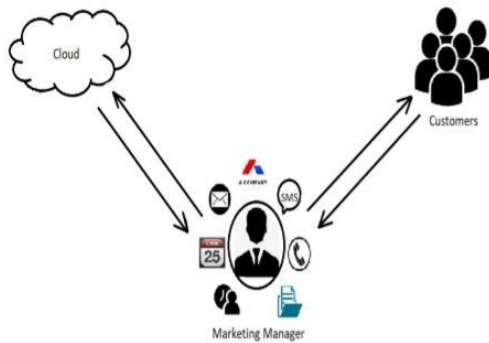
1. Inexperience or Understaffed New Marketing
2. Interpreting Marketing report data
3. Lack of Communication

4. Delay in customerservice.

**Proposed Method**

In this we are using 3 modules i.e. User(requester), Worker and Admin. **Module 1** - Administrator (Admin):- Admin add user details and check users Details and modify and manage it. **Module 2** - User (Customer):- Customers can view the details.

**Architecture**



**Fig.2 System Architecture**

**Naive-Bayes Classification**

- Naive Bayes algorithm is the algorithm that learns the probability of an object with certain features belonging to a particular group/class. In short, it is a probabilistic classifier.
- The Naive Bayes algorithm is called "naive" because it makes the assumption that the occurrence of a certain feature is independent of the occurrence of other features.

**The Mathematics of the Naive Bayes Algorithm**

The basis of Naive Bayes algorithm is Bayes' theorem or alternatively known as Bayes' rule or Bayes' law. It gives us a method to calculate the conditional probability, i.e., the probability of an event based on previous knowledge available on the events. More formally, Bayes' Theorem is stated as the following equation:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$$

Let us understand the statement first and then we will look at the proof of the statement. The components of the above statement are:

- P(A/B): Probability(conditional probability) of occurrence of event A given the event B is true
- P(A) and P(B): Probabilities of the occurrence of event A and B respectively
- P(B/A): Probability of the occurrence of event B given the event A is true

The terminology in the Bayesian method of probability (more commonly used) is as follows:

- A is called the proposition and B is called the evidence.
- P(A) is called the prior probability of proposition and P(B) is called the prior probability of evidence.
- P(A/B) is called the posterior.
- P(B/A) is the likelihood.

This sums the Bayes' theorem as

$$\text{Posterior} = \frac{(\text{Likelihood}) \cdot (\text{Proposition prior probability})}{\text{Evidence prior probability}}$$

## Conclusion

Marketing Manager do work from anywhere. Workload of manager reduce. Marketing Manager can store their data safely and regularly so they can get the latest information and accurate report about the customer and company. Using this project marketing manager able to handle all customers through single application.

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