

# Analysis of Discount Card Management System and Hierarchy Business

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**Abstract:** In current world hierarchical business is the new market of earning and supporting for promoting new business ideas. In this paper we are promoting such business with technical support of android application.

A Discount Card is a card, that allows the individual to avail discounts on the prices of some products or services. It intends the conditions agreed upon between the business companies for a specific series of coupons regarding the validation and redemption.

This system proposes an easiest solution for more profit-making business for Discount Card Management. A method of QR Code is introduced where the information of the customer will be encoded in the QR (Quick Response) Code in the encrypted form. The Merchant on the other hand will have a scanner to scan this QR code available with the customer.

This management application will help the business company to keep a track of a where about of the coupons where they are redeemed, who has redeemed and various other Statistics. Let us consider a person XYZ, an authorized owner of the said discount card wants to use this app. The customer goes to a specific shop which has a tie up with the business group and has agreed to avail the discount to its customers. The shop owner will scan the QR code available with the customer to validate the personal. This scanning will be visible to our business group and help them to keep a track of all the Statistical Analysis.

**Keywords:** QR Code Generator, QR Scanner, Statistical Analysis, Zxing Library.

## I. INTRODUCTION

When it comes to E-Commerce shopping and pricing of the products, discounts play an important role in determining the value of the product. Anytime you tell a customer that he can save money, you're likely to get his attention. The larger the percentage of discount the more it attracts the customer and benefits the organization which in turn creates more revenue if used in proper and intelligent way. It will also become easier

for the organization to meet the specific demands of the customer by keep an overview on their purchasing behavior and by ensuring to develop better customer relationship.

## II. WHY IS THERE A NEED OF DISCOUNT CARD MANAGEMENT

### A. Ease of use

To have a healthy and successful business, it is necessary to develop good customer relationships. So, by using Discount Cards you can ensure to develop a healthy and better customer relationship as it allows you to offer your customers an exceptional experience, which will further keep your customer loyal and connected to your business. Discount Card Management offers enhanced visibility into which suppliers are taking discounts. With this information, your users can refine their processes to encourage more suppliers to sign on. Evaluate the best discount price to still make a profit. This will help to create a marketing plan to encourage new customers and bring inactive customers back. Review your accounts for any regular times of the week, month or year. Attract new customers without a large marketing campaign.

## III. LITERATURE SURVEY

### A. Privilege discount card<sup>[1]</sup>

This discount Card offers/deals from most sought-after restaurants, night clubs, health clubs, beauty chains, spas, health care chains, tattoo studios and much more in various city and across India. Privilege Card covers all range of people, big and small vendors of entire market. There are discounts and privileges for everyone. It provides you discounts and offers at over 3,500 locations across India and our discounts range from 10 to as much as 80percent. The Major drawback of this discount card it's You would need to carry your privilege card every-time and ever where you need to avail discounts. It takes 7-10 working days of subscription date to deliver the card to your resident.

**B. Miya Miya privilege Card [2]:**

Miya Miya Privilege Card ensures a guaranteed discount for our card holders from our registered merchants as well as service providers. Members can enjoy their privileges not only for shopping but also for dining, medical services, hotels, tickets, tours travels, theme parks, mobile recharges etc. Distribution of cards would be by various channels such as newspaper subscription, Business Partners, associate shops and direct selling agents. The cons of this card are you need to present the card at the billing counter each time you make a purchase before billing at any registered outlet. The privilege card will be valid for 1 year from the date of activation. No statistical analysis of usage of the card and no notification for latest offers.

**IV. MULTILEVEL MARKETING BUSINESS**

The main advantage of MLM Program is that there is a small risk to get started. if used in proper and intelligent way and it gives you an opportunity to enjoy residual income. When the initial effort of getting a new customer is completed, you can enjoy the residual part of that business relationship. The skills set is key. As long as you have the skills set of a trained network marketer, you make whatever income based on your stamina, dedication, and your willingness to help others. The other members of this networking chain will be their own boss and will work according to their convenience.

**V. PROPOSED SYSTEM AND MODULES**

Our System basically has three views namely the Customer view, Merchant view and the Organization view.

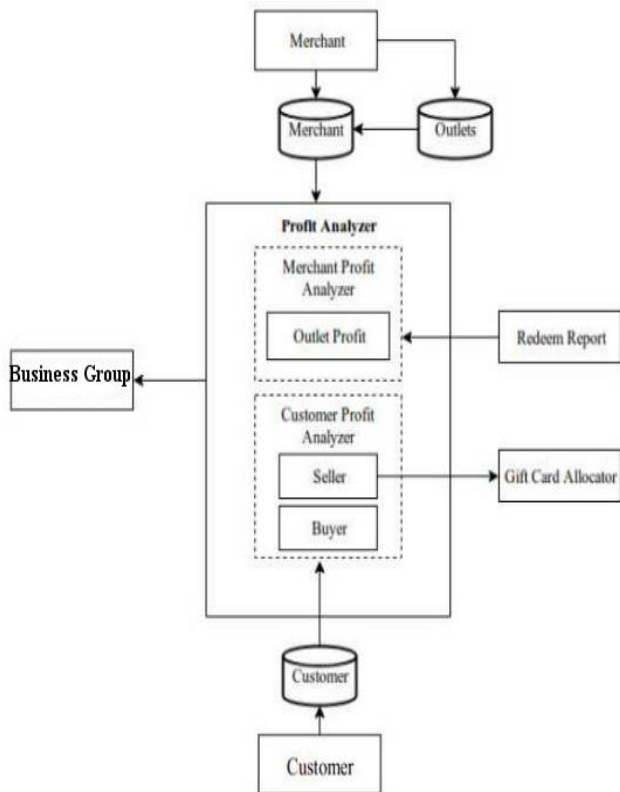


Figure 1. Business Group Architecture

**• Business Group view**

This consists the information from the merchant DB and the customer db. Utilizing the resources made available to it, it generates a Profit analyzer for the business which in turn is beneficial for it.

**A. Profit Analysis.**

Profit analysis is something organization use to figure out how changes in costs and quantity affect their actual expenses and net income. It works by comparing various aspects such as the cost of operating and producing goods, the amount of goods sold, and profits generated from the sale of those goods. Here the customer and merchant profit analyzer are different giving the organization a detailed information of the redemption.

**B. Statistical Analysis.**

Statistical Analysis [4] deals with the collection, analysis, presentation, and organization of data. Once you have collected chunk data, you will have a lot and lots of numbers and data. Statistical analysis is done to make sense of, and draw some inferences from, your data. The Initial level is to group the raw data into categories and visualize it. Graphs, line chart, histogram can be used for summarizing the data.

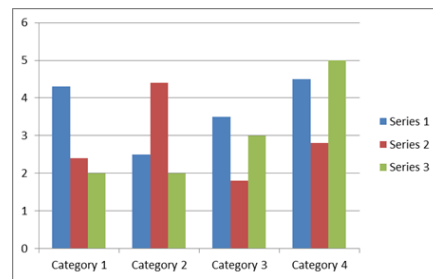


Figure 2. Graphical Representation of Statistics.

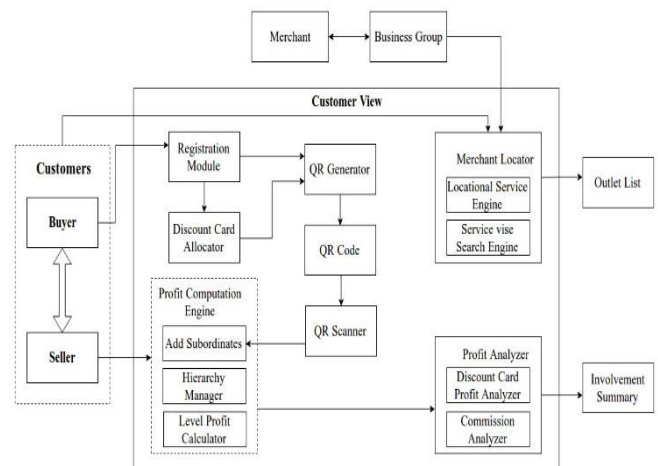


Figure 3. Customer View

**• Customer view**

Customer are usually the buyers or the Sellers. The customer when registers with the organization, a Quick Response QR Code is generated for the same to avail the services and for personal identification. This QR Code is unique for all and

makes the ease of process. The Sellers on the other hand are the ones which sells these discount cards for profit making business, this follows the hierarchy scheme that is the Level profit calculator and adding of subordinates. These reports are then sent to the Organizational view for the Profit analyser.

**A. Quick Response (QR) Code.**

A QR code consists of black squares arranged in a square grid on a white background, which can be read by an imaging device such as a camera or a scanner. The required data is then extracted from patterns that are present in both horizontal and vertical components of the image. We will be using Zxing library [3] for generating QR code. It is very easy and QR code can be generated within a few lines of code. First, add the dependencies in the build .gradle file of app directory. After that, you can create an Image View in your layout file and generate the QR code.



Figure 4. QR Code

**A. Profit Computation Engine.**

The profit computation engine works on the subordinates and calculating the hierarchy in which the customers are joining the organization. The profit computation of the individual will be done on the bases of level profit calculator. The higher the level the greater the income and the commission. This works on the principle of multilevel marketing business.

**B. Merchant Locator.**

With various number of outlets for a particular merchant, choosing from a list of places nearby is made available so that the user can choose from a variety of options available. The use of this GPS based technology, the customers can get information about the shops or merchants offering discounts nearby so that they can fly in and avail discounts.

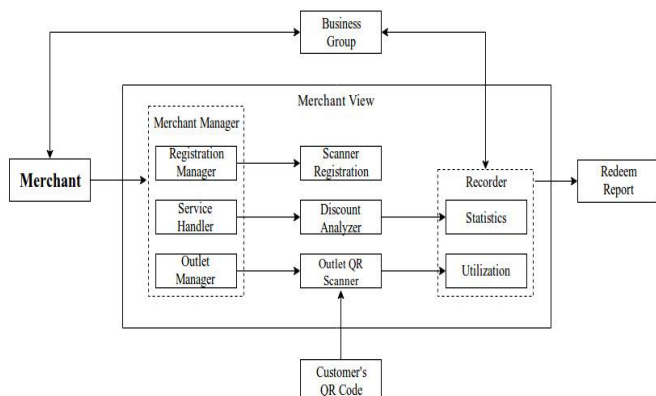


Figure 5. Merchant View

• **Merchant View**

The merchants are the shop owners or the stake holders who are entitled to give discounts to the customers. These merchants have a tie-up with the organization to give discounts to the card holder. The percentage of discount is decided upon and the period for the same. The customer when wants to avail the discount, he/she displays the QR Code which is scanned by the QR Scanner available with the merchant.

**A. Merchant Manager.**

The merchant manager consists of registration of the merchant, the services that are offered and the outlet details of the merchant. The merchant manager also distinguishes and separates the various outlets a particular merchant owns. It will help to create a detailed report about all the outlets

**A. Recorder:**

Recorder summarizes all the utilization and redemption of the coupons in the particular outlet and using these statistics a report will be generated which will help the outlets and organization keep a track of whereabouts of the coupons and their usage. This will help to analyse the popular coupons and their demands among customers.

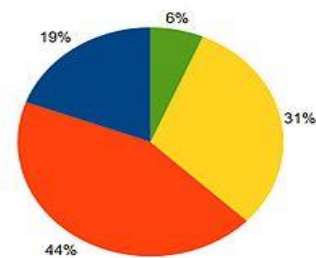


Figure 6. Statistic Recorder

**VI. CONCLUSION**

Nowadays, due to advent of technology in all fields it has become necessary to have a proper utilization of technology for

business management wherein not only vendors but all the stakeholders avail benefits from transactions with an easy to use GUI. With the growing business of e-commerce and the usage of coupons it has become mandatory to manage the utilization and statistics of the coupons

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 [4] <http://www.android-graphview.org/>