

# Developing an Online Tool for Sales Representatives of Cosmetic Products

*Manzarany Kadell, Sameer Sunhaloo, and Jeetendre Narsoo*  
*School of Business Informatics and Software Engineering*  
*University of Technology, Mauritius*

[manzarany@hotmail.com](mailto:manzarany@hotmail.com); [sameer.s@utm.intnet.mu](mailto:sameer.s@utm.intnet.mu);  
[jnarsoo@utm.intnet.mu](mailto:jnarsoo@utm.intnet.mu)

## Abstract

We present the initial study based on the development of an online tool for sales representatives of cosmetic products in Mauritius. The management tool to be developed is expected to help the sales representatives to better manage their business. Virtually all the sales representatives in Mauritius are currently using a manual system and hereby face lots difficulties to optimize their business. We expect that the web-based stock management tool for the sales representatives will help to solve this problem in an effective way by providing an online means to manage the system which they can securely access from anywhere via the Internet. In this article, we analyze the various problems that the representatives are currently facing and we provide considerable solutions to these problems. We also describe the various functionalities and features that the system will cater for.

**Keywords:** sales representative, cosmetic products, web-based stock management tool.

## Introduction

Cosmetic products are sold and used in almost all countries around the globe. This is because over decades, these products have built a reputation of state-of-the-art skincare, high performance makeup and popular male and female fragrances amongst others. Most, if not all cosmetic products companies aim at making high quality beauty products accessible to everyone, regardless of their lifestyle.

In many countries, shopping for beauty products is already carried out using a computerized system. For example, customers can buy their required products online. There exists also other ways to buy these products. However, the software to be developed in the Mauritian context will be based on shopping with a sales representative only.

One of the main objectives of the online platform for cosmetic sales representatives is to keep

---

Material published as part of this publication, either on-line or in print, is copyrighted by the Informing Science Institute. Permission to make digital or paper copy of part or all of these works for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial advantage AND that copies 1) bear this notice in full and 2) give the full citation on the first page. It is permissible to abstract these works so long as credit is given. To copy in all other cases or to republish or to post on a server or to redistribute to lists requires specific permission and payment of a fee. Contact [Publisher@InformingScience.org](mailto:Publisher@InformingScience.org) to request redistribution permission.

track of their current stock of products. The sales representative will thus be able to better monitor the stock of cosmetic products. The software will definitely help to improve inventory management. For example, the amount of capital tied up in inventory will be easily calculated and the reordering point of the different products will be known when required. The online software must also enable the sales representa-

tives to better manage the business profit margin and perform sales prediction. Being able to keep track of customers who buy products on a credit basis is another plus of the software. The sale representative is hereby able to manage the credit level to be given to a specific customer; that is she can limit the amount of credit to be given per customer according to the amount of money that the latter has in arrears.

### ***Roles and Duties of the Sales Representatives***

A sales representative is the person from whom a customer buys the cosmetic products. The flow of processes for an official sales representative is as follows:

1. A customer chooses products from a catalogue with the help of the sales representative, who guides the customer and gives beauty advices like skin care etc. It should be noted that new catalogues are issued according to new campaigns. Whenever the campaign changes, a new catalogue is issued and given to each sales representative. These catalogues are always accompanied by an official price list of the products. We note that a campaign is a period of time, usually of around one month, whereby new products become available to customers, along with new promotional offers, new gifts vouchers etc, also implying a new stock of products.
2. The Sales Representative orders the required products from the Distribution. The Distribution is the place where all the products are kept. Basically, the representative has her own stock of products. Her stock of products consists mainly of best selling products, rather than products which are not so much in demand from the customers. After collecting the orders of the customer, the representative checks the availability of the requested products with her stock. If the products requested are available, she delivers the products to the customer and deals with the payment details with the client. Otherwise, if the products which the client has requested are not available, then the representative lady orders the products from the Distribution. At the Distribution, the representative has to fill in a form, commonly known as a BDC (Bond de commande) form requesting the products which are needed. Payment of the products needs to be effected at the same time. Upon receiving the products from the Distribution, the sales representative updates her stock. If the products are not available at the Distribution, then the sales representative orders the products and must wait for the next shipping of products.
3. The Sales Representative delivers the products to the customer. The customers effect payment of products. Payments can me made by cash, cheque or in installments.

We note that through this method of direct selling, a personal relationship is established between the representative and the customers offering a friendly, reliable and convenient service.

### ***Ways of Processing at the Distribution***

At the Distribution, there exists a wide range of products which remain available for all the sales representatives. Whenever anyone of them needs any cosmetic products, they just have to take it from there, by following the established procedures. It should be noted that the system at the Distribution is already computerized and will not be considered during the development of this software, where only the system of the sales representatives will be taken care of.

The procedures are as follows:

1. According to the form which the sales representative has filled, the employee at the Distribution enters the products as well as the representative's details in the system.

2. Each product has a code attached to it and this code changes sometimes according to the various campaigns.

The employee fetches the products requested by the sales lady from the huge stock available and calculates the total amount of money as well as the number of products and issues a receipt to the sales representative.

## **Aims and Objectives**

Our main aim is to develop and implement an online management tool (Sheth & Lytras 2006) for the sales representatives of a particular make of cosmetic products. The solution to be built will help the specific sales representative to re-engineer her current system which is manual for a better management of all the transactions taking place in the system. She will be able to modernize workflow through the use of computers. In addition to that, the software will be developed in a seamless MIS in which the owner of the project can later extend depending on the needs and requirements. In fact, the system to be developed should cater for all the activities and details of all transactions taking place. The system will also allow tracking of records for each transaction done by the sales representative. Also, the representatives must be able to manage their inventory using the solution to be built.

Furthermore, the management tool will help to reduce stress in dealing with all the transactions occurring in the current system. By tailoring the current manual system into a fully operating computerized system will be beneficial in many ways to the sales representative:

1. Problems with payments on behalf of customers will be solved and better managed since all sales and credit records will be saved in the database of the system.
2. The purpose of this solution is also to help in minimizing extra cost and providing return on investment within the next year which will be one year after the implementation.
3. The idea is also to have proper security, minimize lost of space within the database which will be created, provide a nice friendly environment for users to need minimum training as possible.
4. Provides appropriate feedback from the sales representative, whether she is satisfied with the software developed or not.
5. Changes in code and prices of products will be catered for by the system.

## **The Actual System**

Presently no computer is involved in the system. Recording of customers' information, issuing receipts, calculating over dues of customers, sorting and retrieval of documents are all done manually.

When a customer wants to buy a product with the sales representative, the latter will note down the customer details along with the requested product details on pieces of paper. Sometimes, details are recorded in notebooks as well.

In order to be able to take products at the Distribution, the sales representative should firstly be an official sales representative.

Upon delivery of the product to the customer, the sales representative issues a receipt, on which the customer details and products details are written, as well as the total price. Also, the details of the products which the customer finds interesting to buy afterwards are listed in the same receipt.

Concerning payment, when a customer effects payment of a product to the sales representative, the latter updates the payment details for that customer on pieces of paper again, or sometimes just beneath the customer personal details in a notebook.

We have identified the following problems with the current manual system

1. Data entry is relatively slow in recording customer and stock information and in preparing invoice.
2. Loss or damage of files and sheets due to misplace or non-readability.
3. Mistakes in calculating invoices and prices for sales.
4. Searching is slow for customer details and stock details.
5. Lack of details on customer due to loss of paper on which details were written.
6. Difficulty in searching specific details as there are too many sheets.
7. Much detail cannot be kept since there is much rewrite to be done which makes the task boring.
8. The manual system involves much paperwork which
  - occupies lots of space,
  - can be easily lost or stolen,
  - may become dirty or get damaged thus causing lost of information,
  - may lead to clarity problems due to bad handwriting.
9. Searching and referencing is difficult and time consuming.
10. Analysis and comparison of data becomes difficult.
11. There is no guarantee that the work being done is accurate.
12. Modification of customer details is difficult as this involves re-write or overwrites.
13. Unable to produce reports, hence unable to even estimate the amount of profit over a certain period of time.
14. Difficulty in adding, deleting and modifying records of stock and customer.
15. Difficulty to control the level of products in stock.

### ***Specific Problems***

Out of the problems enumerated above, some really need to be solved in order to obtain a better system. These problems are:

- Loss or damage of files and sheets
- Difficulty in searching specific details
- Lack of details on customers
- Unable to produce reports
- Difficulty in adding, deleting and modifying of records of customers & stock.
- Difficulty in monitoring the stock level

## Alternative Solutions

### **Problem 1**

The sales representatives have a lot of difficulties in keeping the increasing number of customer records in good condition. Some of the records are damaged, for example by humidity and in the long run these records become unreadable. Over the years certain papers would be eventually misplaced resulting in lost of information.

### **Possible solutions**

- a) They could store the paper in a filing cabinet where it would be in security and also it could be classified.

#### **Evaluation:**

Using a filing cabinet to store the documents would be a good idea, as then the documents could be secure, preventing them from lost. But the problem is that with such cabinets the storing capacity is small and that having many cabinets would cost the sales representative a lot in terms of space and money.

- b) The different papers could be stored on racks.

#### **Evaluation:**

Storing the documents on a rack, would allow the representative to properly classify the different documents.

But this method would take up space and also the problem of humidity for example will not be solved.

### **Problem 2**

Difficulty in retrieving specific customer records.

### **Possible solutions:**

- a) To have all the papers pre-classified according to a particular order.

#### **Evaluation:**

If the papers are classified in a logical order, then retrieval of document will be relatively easy.

Deleting the ancient documents would create sensible space in a sense but on the other side the sales representative will not have records of the previous customers, since it can happen that old customers might want to buy products again or it may happen that the sales representative might want to generate a particular report on products with customer details which have been bought in the past at any point in time.

### **Problem 3**

As the sales representative does not really have a proper customer file, where all the details of the previous customers should be recorded, she often has problems in finding her regular customers so as to send them promotion campaign cards and greetings cards and to provide them with discount as the system is completely manual. When the representative has to search through the receipt she very often misses some of them.

## Possible solutions

- a) To keep a special book for regular customers; for example customer ordering for a certain amount of products exceeding certain amount of sales.

**Evaluation:**

Keeping a special book for customers buying in large quantities is a good idea. When sending cards to these clients, the representative won't have much difficulty in searching these records as well as the details would be kept on the same register and no time lost when referring to different books and sheets.

- b) To mark the receipt of the regular customers with an asterisk and keep it in another location.

**Evaluation:**

Classifying the receipt at different locations as they are received is good in the sense that the documents would be in order.

But the problem is that they would have to find more space to store documents in two different locations.

- c) To store all the list of customers on a computer with the regular customer file specially marked.

**Evaluation:**

Using a computer to store the different files, seem to be good as this system will not take too much space.

But the problem is that not everyone would be computer literate. Hence training should be provided to give at least knowledge of computing to the representatives.

## Problem 4

The customer file is very important for the representative as it is the only document to be holding details about the different customers. If this document does not hold enough details about customers, which is the case actually, the representative will not know her own customers and their requirements. This is a big problem faced by most representatives.

## Possible solutions

- a) To have the forms with the customer details stored on a computer.

**Evaluation:**

To have the data capture form stored on a computer seems to be a good idea, as they would not be paperwork and in case of errors it could be easily corrected. And having it on computer would be easy and quick to process.

But the problem is that it would cost a lot and will not be profitable at the beginning. The data may be stored on the computer but customized software is not available for the further processing of data.

## Problem 5

The user is unable to produce reports. The inability of the representative to produce reports costs her a lot of precious time in order to make a list of products or customers. Moreover she does not know exactly how many products and of which type she has in stock. The reordering of products then becomes quite a time consuming and tiresome task.

### **Possible solutions:**

- a) A ready made accounting package (Frye & Pierce 2005) could be used. This would provide the user with the facility to store customers and products details. The problem is that the ready made accounting package does not really offer the possibility of customization for the user. The user may be provided with just specific types of records and modification of record size and type may not be easy.

The cost of the accounting package may be quite high. With the purchase of this accounting package, the user may not get appropriate training on how to use the package. This may become a quite complicated task since the user is not much familiar with the customization and installation of software.

The accounting package may not be appropriate for database manipulation & querying purposes.

- b) A spreadsheet package could be used.

The use of a spreadsheet package is a good idea. This will reduce most of the problems and provide lots of facilities in improving the work. All the data will be stored in the form of rows and columns.

The use of a spreadsheet is more or less similar to an accounting package.

#### *The advantages:*

1. Errors are easily corrected.
2. Calculations can be done effortlessly by making use of formula.
3. Graphs, bar charts and pie charts are easily made.
4. Editing, deleting and modifications can be done very rapidly.
5. Print-outs of lists of customers, sorting can easily be done by selecting the needed rows etc...

#### *Disadvantages:*

1. The user must have a good knowledge about how to use the program. Ergo, training will be needed. This is costly.
2. Macros would have to be written so as to generate specific reports on the requests of the user. This may be a time consuming process.
3. Searching of specific information is sometimes very difficult as the spreadsheet package offers 256 columns and 64384 rows. Then the sales representative will have to move across the sheet as a workbook.

- c) A database management system (DBMS) could be used.

A database management system (Ramakrishna & Gehrke 2002) could be used which enables the storage of customer and product details. The system can be developed into modules for the file maintenance purposes, querying purposes and is used generally for reports – e.g. sales list.

### **Evaluation:**

#### *Advantages:*

1. The system is appropriate.
2. It is easy to use
3. Duplication of errors can be avoided automatically by making several types of checks.

4. The system can be provided with a security access by enabling a password function.
5. Backup of data can be done quite easily and efficiently.
6. The DBMS package also provides the facility of creating and developing specific modules to a problem. Modules can be written to satisfy their needs and improve the quality of work.

*Disadvantages:*

1. It will be costly to install the DBMS system and to train the users for the new system designed.
2. Maintenance or reparation of the computer is sometimes costly.
3. Breakdowns of the computer sometimes cause lots of complications, in terms of data loss, money and labour for the repairs etc...
4. The computer system, program, equipment will have to be purchased.

### ***Proposed Solution for the Problems***

Considering the problems faced by the sales representatives with the current manual system and the discussion of the alternative solutions, a better and more acceptable solution is to computerize the system along with tailor-made software. That is, a programmer is employed to write programs especially for the company and is meant only for the system concerned only. A tailor-made software is preferred because:

- It best meets the exact needs of the system.
- It overcomes all the problems.
- Training is easily given through the user guide.
- If the system is subject to failures it can always be improved by the same or another programmer through the use of the technical documentation.
- Changes can easily be brought about, by upgrading the older version itself.

The solution is the one written on the ASP.NET platform to suit the needs of the company; that is, to have modules for

- Customer & Product database
- Option to maintain the customer and product files
- Option to search details of customers/ products amongst others
- Generating reports of customers, products, best-selling products etc
- Querying customers who have arrears and who have not settled their bills.
- Managing the inventory of the cosmetic products

## **The Web-Based Management Tool**

The online management tool for the sales representative of cosmetics products will consist of many requirements which need to be implemented. Many advanced features will be included in the system. Some details are described below:

### ***Products Details***

The system will provide the following facilities to the user: Add / Update /Remove Product Details.

The system should give full description of each product (as per the catalogue), as well as information about the availability of the products in the representative's home stock. The system is a web based platform that enables the user to update her stock automatically. Also, automated list for stock updating should be available in the system to be developed, that is, as stock decreases, the list is automatically updated. The system should be able to keep record of ongoing massive promotional offers of particular products according to the different campaign respectively.

### ***Track Outgoing Cash/credit***

The system will be able to identify customers who have arrears and those who delay in setting their bills with their representative. The software must enable the representative to apply a certain limit on credit to be given to specific customers in just a few mouse clicks. The sales representative will be able to track how much credit to be given to a particular client or how much credit has been given to a client.

### ***Identifies the Trend of the Market***

All products sold will be recorded. The user can easily identifies the best selling products, clients taking huge amount of products, clients not settling their credit in due time, depending on the input feed in the system.

### ***Generating Reports***

The system will be able to generate periodical reports to indicate the revenue of the sales representative (total amount of capital available, total amount of credit given to customer amongst others). The system will also be able to identify customers who usually buy more products compared to others and hence these identified customers will be given priority upon other customers in terms of being eligible for gifts and hampers.

### ***Include Campaign***

The system will provide a means to store the product details in a database as well the pictures of the products. The user can add new products details, edit these details and display product details with pictures on screen.

### ***Stock Management***

All products purchased from the distribution are added in the system. Stock level is carefully monitored for each and every product.

### ***Client Management***

The software will provide contact management of the clients. All details of the clients will be kept. The software must automatically provide birthday reminders to the user for clients, provided the proper information has been fed in the system. Thus, gifts vouchers can be allocated to these specific clients.

### ***Sales***

The main purpose of the software is to keep sales details. Clients will purchase either in cash or on credit. Hence careful management of credit is important.

### ***Features to be included***

Client management

- Add Client Details
- Edit Client Details
- Provide contact management
- Organize contacts according to main location

### **Product management**

- Add new product details with photos if needed
- Modify product details
- Add new campaign
- Edit product details
- Display product details

### **Stock management**

- Update stock each time product is received from the distribution
- Record purchases made from distribution
- Send messages to user in case of low stock
- Automatically prepare list for distribution

### **Sales**

- Record sales details
- Generate reports of best selling products
- Track customers buying in huge quantities
- Sort customers according to amount of purchases
- Keep records of credit customers
- Generate reports of product sold for a particular period

### **Reports and forecasting**

- Generate reminders for representative of clients on due
- Forecast the amount of stock that need to be reordered and estimate the cost
- Forecast the profit margin for specific stock and current stock level

## **Technical Details**

In order to develop this software, Microsoft .Net Framework Environment, with Visual Basic.Net 2005 will be used as programming language. ASP.Net 2.0 technology and SQL Server 2005 Express will be used as back-end for data storage. We note that all the mentioned tools are developed by Microsoft Corporation which currently provide free version for end users.

The Development Technology will be tied up to a Three Tier Architecture with separate Data access, Business logic, and Presentation. The stock and management tool for the Sales representatives must be implemented in a component wise manner in order to provide speed and code reuse. There will be a need of two servers one for the data storage server and one for the web server which will host the ASP.Net pages.

The RUP methodology (Kruchten 2000) will be used to develop the software.

## **Conclusion**

This short study highlights the difficulties that many sales representatives encounter while managing their business. After having analyzed the various problems identified, possible solutions

have been put forward and an evaluation of the solutions has been carried out whereby the best alternative for opting for a computerized system has been chosen. The features that the new tailored system will cater have also been mentioned as well as some advanced features. It should also be taken in consideration that the software will be developed by adhering to a purely object oriented approach. Security features will also be included in the system to be developed.

## References

Frye C., & Pierce J. (2005). *Microsoft Office Small Business Accounting 2006: Step by step*. Microsoft Press.

Kruchten, P. (2000). *The rational unified process: An introduction*. Addison-Wesley Professional.

Ramakrishna, R., & Gehrke, J. (2002). *Database management systems*. Singapore: McGraw-Hill Education.

Sheth, A., & Lytras, M. (2006). *Semantic web-based information systems: State-of-the-art applications*. IGI Global

*Using web-based technologies for network management tools*. (1997). Naval Postgraduate School Monterey CA report. Storming Media.

## Biographies

**Manzarany Kadell** is a third year student at the University of Technology Mauritius.

**Mohammad Sameer Sunhaloo** is a Senior Lecturer at the University of Technology Mauritius.



**Jeetendre Narsoo** is a Lecturer at the University of Technology Mauritius.