

# **Online Complaints Monitoring Systems (OCMS)**

By

Rehana Binti Mohammad Zafar

Dissertation submitted in partial fulfillment of  
the requirements for the  
Bachelor of Technology (Hons)  
(Business Information System)

JULY 2007

Universiti Teknologi PETRONAS

Bandar Seri Iskandar

31750 Tronoh

Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

**Online Complaints Monitoring System (OCMS)**

By

Rehana Binti Mohammad Zafar

A project dissertation submitted to the  
Computer and Information Sciences  
Universiti Teknologi PETRONAS  
in partial fulfillment of the requirement for the  
BACHELOR OF TECHNOLOGY (Hons)  
(BUSINESS INFORMATION SYSTEMS)

Approved by,

  
\_\_\_\_\_  
(PUAN ROZANA KASBON)

UNIVERSITI TEKNOLOGI PETRONAS  
TRONOH, PERAK

July 2007

## CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.



---

REHANA BINTI MOHAMMAD ZAFAR

## **ABSTRACT**

The Final Year Project that is developed is The Online Complaints Monitoring Systems (OCMS). The existing online complaints system is not reliable, slow and does not have a clear business and customer interaction. Thus the main objective of the proposed system is to solve the flaws and problems of the current online complaints system. And instead create a better online complaints system in terms of its capabilities. The methodology used is the waterfall methodology. In this methodology, analysts and users proceed in sequence from one phase to the next. As a result, the developed system is more reliable, faster in processing complaints and has a better business and customer relationship and interaction and the system functionalities. Thus, the system not only should benefit the customers, the businesses shall also benefit as they are given constructive feedback by the customers to improve products and services. All in all, the complaint process is made much easier, user friendly and more adaptive to today's real world scenario.

## **ACKNOWLEDGEMENT**

Firstly, I wish to thank God Almighty for giving me the strength, patience and lots of ideas in the completion of the project.

A special express of honour goes to my lecturer Puan Rozana Kasbon who relentlessly offered professional advice and support during the commence of the project.

To my family, especially my parents, Mohammad Zafar and Rokhsana Abdullah and brother, Mohammad Ibrahim, who offered endless encouragement, support and hope. The financial support by them was also vital to purchase items for research.

Never forgetting my fellow friends; Dismas Bismo, Norziana Nazarudin and Siti Khairunnessa who gave useful tips and honest help.

Finally, to all who has contributed either directly or indirectly towards the completion of this project, I wish to express my thankfulness to them.

## TABLE OF CONTENTS

<b>CERTIFICATION</b>	. . . . .	i
<b>ABSTRACT</b>	. . . . .	iii
<b>ACKNOWLEDGEMENT</b>	. . . . .	iv
<b>CHAPTER 1: INTRODUCTION</b>	. . . . .	1
1. Background of Study	. . . . .	1
1.1 Problem Statement	. . . . .	2
1.2 Objectives and Scope of Study	. . . . .	3
1.2.1 Objectives	. . . . .	3
1.2.2 Scope of Study	. . . . .	3
1.3 Project Timeline	. . . . .	4
1.4 The Significance of Project	. . . . .	5
1.4.1 Significant Features of the System	. . . . .	5
1.4.2 Benefits for Customers	. . . . .	5
1.4.3 Benefits for the Company	. . . . .	6
<b>CHAPTER 2: LITERATURE REVIEW</b>	. . . . .	7
2. Customer's Complaints	. . . . .	7
2.1 Nature of the Customer's Complaints	. . . . .	7
2.2 Current Online Complaints System	. . . . .	10
2.2.1 Direct Online Complaints	. . . . .	10
2.2.2 Features & Interfaces of the OCMS	. . . . .	12
2.2.2 Indirect Online Complaints	. . . . .	16
2.3 The growth of Customer Complaints	. . . . .	18
2.4 Complaints Handling System	. . . . .	20
2.5 Online Customer Complaints: Electronic Customer Relationship Management (e-CRM)	. . . . .	21
<b>CHAPTER 3: METHODOLOGY</b>	. . . . .	22
3. Procedure Identification	. . . . .	22
3.1 Planning & Problem Definition	. . . . .	23
3.2 Information Gathering and Research	. . . . .	23
3.3 Design	. . . . .	26
3.4 Building Application	. . . . .	27
3.5 System Testing	. . . . .	28

<b>CHAPTER 4:</b>	<b>RESULTS AND DISCUSSION</b>	. . . . .	29
	4.1 Data Analysis based on Questionnaire	. . . . .	29
	4.2 Prototype	. . . . .	32
	4.3 Requirements Testing	. . . . .	37
	4.4 Usability Testing	. . . . .	38
<b>CHAPTER 5:</b>	<b>CONCLUSION AND RECOMMENDATION</b>		41
	5.1 Conclusion	. . . . .	41
	5.2 Recommendations.	. . . . .	42
<b>REFERENCES</b>	. . . . .		44
<b>APPENDICES</b>	. . . . .		46

## LIST OF FIGURES

Figure 2.1	Flow Diagram of the Customer Interaction System for First Time	17
Figure 2.2	Flow Diagram of the Customer Interaction System for existing Users	17
Figure 2.3	Percent of Customer Interaction by Contact Type in 1997	19
Figure 2.4	Percent of Customer Interaction by Contact Type in 2003	19
Figure 2.5	Customer Satisfaction Formula	21
Figure 3.1	The Waterfall Development Methodology	22
Figure 3.2	Seven Steps of Effective Complaints Handling System	25
Figure 4.1	The Number of Complaints	30
Figure 4.2	Feedback Ratings	31
Figure 4.3:	The Main Page of the OCMS	32
Figure 4.4:	Making a Complaint and Registering	32
Figure 4.5:	Generating the Complaint Tracking Number	33
Figure 4.6:	Request Complaint Tracking Number (Index)	33
Figure 4.7:	Update and View Complaint Status	34
Figure 4.8:	Log-in Page	34
Figure 4.9:	New User for Admin	35
Figure 4.10:	View Customer Complaints	35
Figure 4.11:	Resolve Customer Complaints	36
Figure 4.12:	Statistics for the Existing Complaints	36
Figure 4.13:	Feedback Form	37



## LIST OF TABLES

Table 2.1	Why Customers do not want to Make A Complaint	9
Table 2.2	The Complainant Feedback on the Dubai Complaint Handling Procedures	11
Table 2.3	Project Performance - Complaints & their Redressal	15
Table 4.1	Why you Normally do not want to make a Complaint	30
Table 4.2	Would Customers Complaint if the Complaining Process was Easy?	31
Table 4.3	Direct Complaining System vs. Indirect Complaining System	31
Table 4.4	List of Requirements Factors and their Corresponding Input/Output(s) and Results	37
Table 4.5	List of Usability Criteria's and their corresponding frequency of evaluators' feedback	38

## **ABBREVIATION**

- OCMS - Online Complaints Monitoring Systems
- HTML – HyperText Markup Language
- CRM - Customer Relationship Management
- BMC - Brihan-Mumbai Municipal Corporations
- DTCM – Department of Tourism and Commerce Marketing
- CMS – Content Management System

# **CHAPTER 1**

## **INTRODUCTION**

### **1. BACKGROUND OF STUDY**

A complaint basically means any expression of dissatisfaction with the product or service offered or provided. Complaints or dissatisfaction can occur regarding many aspects of business including policies, procedures, charges, employees, quality of service or goods provided or sold.

Current complaining system is done through snail mails, call centers, direct online complaints or indirect online complaints. Direct online complaint systems are businesses that have their own customer service centers and bulletin boards online to offer feedback about customer's complaints. On the other hand, the majority of companies manage complaints via e-mail individually. Indirect online complaint systems are feedback systems that do not send complaints directly to the company involved but to a third party company to handle the complaint.

A complaints monitoring system is to automate the process for welcoming and receiving complaints, taking action to resolve complaints, recording complaints, reporting on complaint patterns and trends and lastly learning where service can be improved.

OCMS would be a system that is able to cater for complaints made by the customers to a specific company. By monitoring the complaints, customers of the specific company are able to lodge complaint(s) and receive information quickly and easily without the need to visit or call the company involved at restricted timings. Most current online complaints systems do not cater for monitoring of complaints and thus the complaints

are left idle. Imagine how frustrating this can be to the customers. Thus, quality customer service consists of doing the job right the first time. If complaints do occur, then effective complaint handling is essential in order to retain the customer's loyalty and bring about increased customer satisfaction.

## **1.1 Problem Statement**

One of the most crucial factors on why customers complaint is that they are dissatisfied with the product or service offered by the company. However, often customers do not want to be seen to be complaining and may be reluctant to make a "formal complaint". Thus, to be labeled as a 'complainant' may be offensive or embarrassing to them. Many customers are fearful of being labeled as the 'complaining customer'. This behavior is due to the fact that they just do not want to go through all the hassles of complaining. This behavior happens because they are skeptical of the feedback that they may receive upon complaining. Customers are skeptical of the feedback that they may receive because they are sure that they will receive a delayed feedback, or even worse, not being entertained by the company.

Therefore by monitoring the complaints, customers are able to know that their complaints are actually accepted by the company. This is through the monitoring system that shall provide customers with a unique tracking number for each complaint lodged. As soon as the complaint is fed in, it goes directly to the mailbox of the customer service of the company (not at the end of the day or the end of the hour, but immediately). At any time customers can use their tracking number to get their status online. Not only that, if the customer service staff did not reply the complaint, the complaint would be escalated to the Head of Customer Service to be rectified. All customers are assured that the complaint if not solved does not rot in one place but is escalated towards senior level automatically.

## 1.2 Objectives and Scope of Study

### 1.2.1 Objectives

- To identify the step-by-step development of the OCMS
- To overcome the flaws and problems of the current online complaints system
- To develop a working system of the OCMS that serves the purpose.

### 1.2.2 Scope of Study

This project is developed module by module that corresponds to the development phases and timeframe. The OCMS is a general complaint website where it is able to accept complaints straight to the company involved. Most of the companies nowadays may have a website. Thus, a link named "Complaints" may be added to the website for the customers of that particular company to make a complaint. Thus this website is able to receive complaints. The features that are included in this system are:

- **Register and Make a Complaint**

The customers of the company are able to make a complaint by registering their personal details and lodge their complaint immediately.

- **Get a Complaint Tracking Number**

After registering their personal details and lodging their complaints, the particular customer will receive a complaint tracking number.

- **Feedback from Customer Service**

Complainants are able to view the feedback of their complaints when they enter the complaints tracking number.

- **Updating Complaints**

The complainants that have lodged the complaint are able to update their complaint upon receiving the feedback of their complaints if they are dissatisfied with the resolution done by the Customer Service Personnel.

- **Generating Statistics**

When the customers register the complaints, they need to choose a category of their complaint from the list or menu. Thus, with the number of complaints received, the system is able to generate the total number of complaints and the number of complaints from each category.

- **Feedback Form**

If the complainants are satisfied with the feedback given by the Customer Service Personnel, they will be provided with a feedback form. This feedback form is able to see the complainant's responds towards the feedback they receive by the Customer Service Personnel.

- **Escalation of Complaints**

If the complaint(s) are not read within three working days, the complaint(s) will be emailed automatically to the head of Customer Service Personnel for further investigation.

### **1.3 Project Timeline**

The project timeline consist of five main tasks. Within each task, a list of activities that needs to be carried out is included. The main tasks are planning and problem definition, information gathering and research, design and building application and testing. Among these tasks, the building application part consumes more time than the rest. This is due to complexity of the building the application as it needs web hosting, databases and configuring the servers.

## **1.4 The Significance of Project**

### **1.4.1 Significant Features of the System**

First of all, all of the complaints will be collected and making it easier to respond, maintain, and evaluate. On submission, the complainant will be given a unique complaint tracking number. The complainant can any time of day or night check the status of the complaint online- 24 hours a day, seven days a week. Customers do not have to visit or call the company to complaint at restricted timings. If the complaint is not heeded, it will be escalated to the higher officer automatically. There is no human involvement in this process and it removes the scope for delays in dealing with complaints.

### **1.4.2 Benefits for Customers**

- **Easy to Use**

OCMS is easy to use. The web-based forms are simple and do not require much typing. Drop down menus give most of the information. The website shall be available 24/7 and customers do not have to take time out of busy schedules during the day- they can just as easily make their complaint(s) in the evening, beyond office hours.

- **Quick Feedback**

As soon as the complaint is fed in, the system will be able to tell by when it should be redressed. The system works on a real time basis. As soon as the complaints are fed in it goes directly to the box of the concerned officer. At any time, customers can use their unique tracking number to get their status. If additional information is to be fed in, it can be given.

- **Escalation or viewing by senior officers**

If the complaint is not redressed within the specified time limit it will be escalated to the head of customer service automatically. This ensures that lower level customer service officers do not hide their lack of performance. Also, customers are assured that the

complaint if not solved does not rot in one place but is escalated towards senior officers for redressal.

- **Transparency**

The entire system is open and transparent. No complaint deletions are possible. As far as possible the system works in an automatic mode and most of the information is openly available.

### **1.4.3 Benefits for the Company**

- **Saves Time, Effort and Paper**

As with any technology solution, a lot of paper is saved. Also as the routing and processes are laid down at the beginning, there is a huge saving of effort, ensuring that complaint handling takes much less time than with manual systems.

- **Builds Customer Confidence through Transparency**

Once customers are comfortable about a system that fairly redresses their complaints, they also develop a faith in that system.

- **Predictive Value**

Trends from the OCMS can be used to detect long term patterns and predict which areas needs attention. For example, chronic complaints about a product offered by the company might indicate that the product should be stop for production. The focused and systematic gathering of data as well as intelligent analysis would enable the company to respond quicker and ensure that essential works are carried out much before they become an urgent tragedy.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2. CUSTOMER'S COMPLAINTS**

*“The way a company manages complaints is the reflection of quality of its products or services, and of its desire to retain and satisfy customers.” [1]*

As desirable as complaints can be, they are a crucial communication tool between the buyer and the seller. According to Bell, Menguc and Stefani [2] customer complaints allow an organization to pursue service recovery attempts and an opportunity to reduce customer turnover. Complaints and complaint trends tell business how to do its job better by alerting management to rectify problems that need prompt attention and correction.

However, complaints are also important for the customers as well. They are able to receive better products and services if the complaints are taken into action and the complaints are channeled to the right person involved in the business or firm. Thus with this proposed system, it does not only benefit the businesses but also the customers. This is because; it makes the complaint process much easier.

#### **2.1 Nature of Customer's Complaints**

Research into complaint behavior reveals that only a fraction of dissatisfied customers complains to business and thereby, gives the company an opportunity to correct the problem. There is evidence that some consumers who do not complain because they are skeptical about business's willingness or ability to resolve disputes fairly. Such findings underscore the importance to business of a complaint management system that is well

publicized and easily accessible [1]. According to Bell, Menguc and Stefani [2], customer's complaints that have a negative feedback can have damaging implications for the frontline salespeople and their attitudes towards the role and as well as the whole company. On the contrary, a good feedback can have positive implications for the company.

On the same topic, The American Express/SOCAP [3] study found that 27% of customers would not complain. Some of the reasons for not complaining included:

- 52% of people would not complain because they did not believe that contacting the organization would do any good.
- 38% of people said that complaining was not worth the time or trouble.
- The rest (10%) said that they did not know where or how to complain.

Thus, customers are skeptical about complaining. They assume that by complaining, they would not be able to "change" the organization. They have the feeling that even if they make a complaint, it would not do any good to the organization. Other reasons would be that complaining was not worth the time or trouble and they did not know where or how to complain. The last two factors are important for this research. As the current complaining systems are slow, customers just do not want to take the hassle to complain. And they also do not know where or how to complain. Therefore, the current limitations must be overcome with a system that is able to handle the complaints fast and customers are able to know where to make a complaint for a specific organization.

On another research on why customers do not want to make a complaint; An Independent research was conducted on behalf of the Citizen's Charter Unit of the Cabinet Office of the UK Government by Research International Ltd [3]. The main reasons respondents gave for not making a complaint were as the shown on Table 2.1:

Table 2.1: Why Customers do not want to Make A Complaint

Why Customers do not want to make a complaint?	Percentage (%)
Would not make any difference	36%
Would take too much time	23%
Could not be bothered	15%
Unsure who to complain to	10%
Difficult to contact the right person	5%
Made no difference the last time	4%
Did not want to make a fuss	3%
Too costly	2%
Too scared	1%
Easier to leave it be	1%
Did not need to in the end	1%

Note: Respondents were permitted to give more than one answer, so that percentages do not add up to 100%)

Source: Citizen's Charter Unit of the Cabinet Office of the UK Government by Research International Ltd.

Based on Table 2.1 above, the important reasons (related to the system) on why customers do not want to make a complaint would be lodging a complaint would take too much time, customers are unsure who to complain to, it is difficult to contact the right person and too costly. With the capabilities of the proposed system, these limitations shall be solved. Not only the complaints will be processed fast, the customers are sure that they have contacted the right person as the complaints are channeled straight to the Customer Service Personnel and it is free of charge. The complaining process shall be an easy procedure compared to a long and frustrating one before this.

## **2.2 Current Online Complaints Systems**

There are two types of online complaints which are i) Direct online complaint systems and ii) Indirect online complaint systems.

### **2.2.1 Direct Online Complaints**

Direct online complaints system build customer service centers and bulletin boards to offer feedback about customer complaints. On the other hand, the majority of online complaints manage complaints via e-mail individually. Online complaints, which do not disclose customer feedback systems, might take advantage if they manage effectively, while avoiding negative publicity. Customer dissatisfaction might result from viewing complaints of other customers. Examples are Department of Tourism and Commerce Marketing (DTCM) and Praja.org.

DTCM [4], Government of Dubai which accepts complaints by citizens of Dubai and outsiders to share comments on their services or any aspect of the people's stay in Dubai which did not meet expectations. The objective of DTCM is to facilitate the complaints that their customers have against other government departments or commercial facilities within the Emirate and –in certain cases – those that affect other emirates, or put the complainant in contact with the appropriate authorities. This service is provided by DTCM to their customer's free-of-charge.

According to Dergham [5], The Complaint Procedure for DTCM is as follows: Once received, the complaint will be acknowledged and actioned within one working day. Following that, complaints about the DTCM will be investigated immediately, and customers will receive the response within three working days of their initial acknowledgement. Later, the complaints about other organizations will be sent to the concerned party within one working day of receipt. Whenever possible and especially if the issue is within their jurisdiction, DTCM will follow up and ensure that their customers will receive a response within one week. Otherwise, the concerned party will

respond to the customers directly. Once the case is closed, they will send a Customer Feedback Questionnaire. All the complaints must be recorded in the Complaint Monthly Report as well as in the Log. The log allows clear tracking and identification of the status of the complaint and also measures performance in terms of time taken to action a complaint. This procedure is reviewed and updated regularly from time to time. The table below shows the complainant feedback on the Dubai complaint handling procedures.

Table 2.2: Complainant Feedback on the Dubai Complaint Handling Procedures

Years	2000 Scores	2001 Scores	2002 Scores	2003 Scores	2004 Scores	2005 Scores	2006 Scores	
Total Responses								
Question/ Response Rate	28.2%	31.3%	42.4%	59.3%	46.0%	21.3%	37.1%	Average Score
Accessibility of service**	N/A	N/A	N/A	N/A	N/A	98.3%	97.1%	97.7%
Speed of Response	95.8%	97.8%	98%	99%	96.8%	99.4%	99.0%	98.0%
Employee's behaviour & Proficiency **^	94.3%	96.4%	94.5%	98.7%	98.1%	99.2%	98.4%	97.1%
Transparency of Procedures **	N/A	N/A	N/A	N/A	N/A	99.1%	98.1%	98.6%
Business Dev. Weighted Average Score^	94.8%	96.9%	95.7%	98.8%	97.6%	99%	98.1%	97.3%
Satisfaction with the DTCM Advice & Support**	76%	90.8%	84.6%	92.3%	95.3%	96.6%	97.4%	90.4%
<b>Overall Annual Average Score^</b>	<b>90.1%</b>	<b>95.4%</b>	<b>92.9%</b>	<b>97.2%</b>	<b>97%</b>	<b>97.8%</b>	<b>97.7%</b>	<b>95.4%</b>

\*All scores are weighted average

\*\* Customer feedback questionnaires was amended in 2005 (Accessibility and transparency were added, proficiency & behaviour were merged, and satisfaction with DTCM advice and support)

^ Prior to 2005, each of "Attitude" and "Proficiency" had one weight. After 2005, both combined have one weight. Hence, calculations/tables since 2005 are slightly different from those of the past

Source: Customer Feedback Questionnaire on the DTCM Complaint Handling Procedures about the Emirate of Dubai. Please refer to **Appendix 1**.

From Table 2.2, there is a gradual increment in the Overall Annual Average Score. This shows that the system has a good feedback from the customers (complainant). Customers are satisfied with the complaints handling process done by the DTCM.

The OCMS [6] which is a joint initiative of Praja Foundation and the BMC ( Brihan-Mumbai Municipal Corporation) is designed to enable citizens of Mumbai register complaints and receive information on the complaint status quickly and easily, without the need to visit or call the BMC's ward offices at restricted timings [7].

Each complaint is sent to the relevant ward office for redressal and the action taken by the ward officials is posted on the system. Redressals are due within a time period stipulated in the BMC-Praja Citizen's Charter ([www.praja.org/chartermain](http://www.praja.org/chartermain)). If it is not addressed within the set time limit, OCMS automatically escalates the complaint to a higher officer. If not handled there too, it escalates again, right until the Municipal Commissioner. For example, at the ward level the complaint is not redressed within the period specified in the charter, the complaint will automatically be sent by the system to the Deputy Municipal Commissioner. If not solved at that level, it will once again, automatically go up to the Additional Municipal Commissioner and onward to the Municipal Commissioner.

### **2.2.2 Features & Interfaces of the OCMS**

The OCMS provides the following features and interfaces:

- A central server locates the database that holds information on the complaints and all the actions and communications that have been transacted for these complaints. Historical data that is no longer relevant for day-to-day working is archived and made available for analysis.
- User access logins and passwords are provided to all the personal of the BMC who are concerned with citizens' complaints and the administration of the operations of the Wards and the corporation as a whole. The users have roles

and departments assigned to them that determines the features and information to which each of them has access.

- Citizens also have access to the complaint registration and tracking forms through the Praja.org website which serves as a nodal point on the web for citizens who want to communicate their governance problems and have their complaints registered and addressed by the governing bodies. The Praja.org website also displays the citizens' charter which provides guidelines on the handling of various problems by the BMC.
- Each time a complaint is registered, a unique complaint tracking number is generated and this can be used at all times and points to identify the complaint and know the status. The same number is used right through the systems of the BMC.
- Once a complaint has been registered, it is automatically routed to the concerned Ward and Department who can then use the information provided to address the issue. The officer handling this complaint can write back to the citizen for more information or clarifications or can forward the complaint to a higher-up, another department or ward or anyone else who can help resolve the issue.
- In order to help citizens mark out their wards and complaints better, an online help along with a map guides citizens to better definition of their complaints.
- Once a complaint has been resolved, the status of the complaint is updated and the citizen gets a notification of this on his or her email address.
- At any time, if the citizen needs to follow up on the complaint, he or she has to go over to the Praja.org website, type in the complaint tracking number that has been assigned and the status and all other communications from the BMC will be displayed. The citizen can submit a reminder; write in a reply to make clarifications or offer suggestions and feedback.
- If complaints are not handled on time at each stage, an escalation process is effected and the complaint then goes higher up in the organization. The escalation rules and time durations can be set and revised from time to time. This helps tune in for better performance and improvement through the use of this system.

- A number of online reports are provided to enable better analysis of the complaints, statistics and performance of individual wards, departments and specific types of complaints. These reports are made available to Ward Officers and Corporators for their wards, senior officers for one or more wards and even to citizens groups for specific purposes.

OCMS also provides a number of reports for wards, departments and the corporation as a whole that will enable senior BMC officials to monitor and improve the services and performance of the BMC wards and departments. Shri Mahadeo Deole, Mayor of Mumbai, launched the OCMS on April 3, 2003 in the BMC's Corporation Hall. Since April 2003, more than 120,000 complaints have been lodged on OCMS. This complaint audit survey used the OCMS database to contact complainants.

On a survey done by Praja.org, they asked respondents whether they had ever contacted the BMC on any issue. Over one third (34%) of all respondents had contacted the BMC for some purpose. Those who had been then asked to rate their satisfaction with the action taken by the BMC on the issue they had contacted them about. Table 2.3 on the next page shows the result of the survey.



Table 2.3: Project Performance - Complaints & their Redressal

Issue	% Contacted	% Satisfied With BMC action
Garbage not lifted from an authorized collection spot	13%	5%
Excessive wrong billing by the BEST	13%	5%
Irregular water supply	11%	5%
Drainage chokes and blockages	9%	3%
Contaminated water supply	7%	3%
Public toilets not cleaned regularly	6%	2%
Nuisance of stray animals	4%	1%
Unrepaired potholes & bad patches	3%	1%
Delay in filling trenches	3%	1%
Rash driving by the BEST drivers	2%	1%
Inadequate street lights	2%	1%
Noise pollution	2%	0.3%
Missing/damaged manhole covers	2%	1%
Encroachment of footpaths & road by hawkers	2%	0.30%
Unlicensed shops in your area	2%	0.20%
Food adulteration	1%	0.20%

Note: BMC is most commonly contacted for 'garbage not being lifted', 'wrong/ excessive billing' and 'irregular water supply'. One third of those who had complained were satisfied with action by BMC.

Source: <http://www.praja.org>

The percentage Satisfied with BMC action over the percentage Contacted, most of the percentages are below 50%. Thus the citizen's customer satisfaction is not even above average. The findings of the study reveal that though some services like waterworks and traffic have had been rated high by citizens there still remain services like environment

and sewerage operations that have tremendous scope of improvement. Departments rated high had been most commonly contacted by citizens regarding complaints or problems on services. However, only one third of those who complained were satisfied with the action taken by the BMC.

Apart from quality of service provisioning, a change seems to be necessary in the attitude and behaviour of the staff to be more responsive to clients needs.

This survey was entirely based on citizens' perception of the BMC and is the first in a series designed to assess the BMC's performance based on standards set by them. It is hoped that active participation of citizens coupled with tools like this survey will go a long way in improving the quality of services that the BMC renders through its political and administrative units.

Therefore, it can be concluded that although a system maybe able to cater for the customer's complaints, the quality of the feedback by the person in-charge (Customer Service Personnel) is very important. This is to make sure that the citizens have faith in the system and have a good perception that their complaints will be able to be rectified.

### **2.2.3 Indirect Online Complaints**

Indirect online complaints system is feedback systems that provide customer complaints online. Customers using these systems do not send complaints directly to the companies that sold a product or service, but to a third party that not only sends them to the targeted companies, but also disseminates the information to a wider audience. These third-party websites post complaints as open-ended messages (i.e., rating) or a combination of the two. While most feedback systems are open to the public, some accept only registered users. Examples are Online Consumer Community Portal (Consumer.com.my) and Complaints.com

The Online Consumer Community Portal [1] is able to channel the complaints to the companies involved. The complaints on this web portal are categorized into a few categories to guide customers on which type their complaints are. The complaint is then sent to the company involved only if the customer enters a valid email address is inserted by the customer. The complaints are also posted up on the portal. The company involved shall post their feedback on this web portal to be viewed by the registered customers.

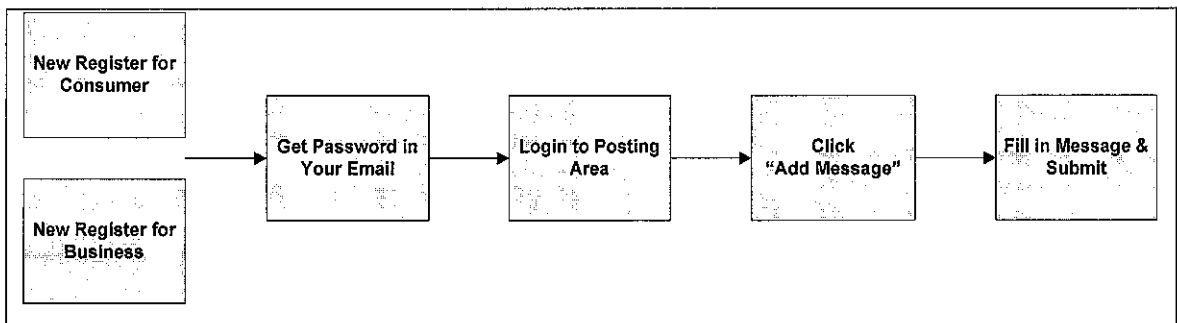


Figure 2.1: Flow Diagram of the Customer Interaction System for First Time

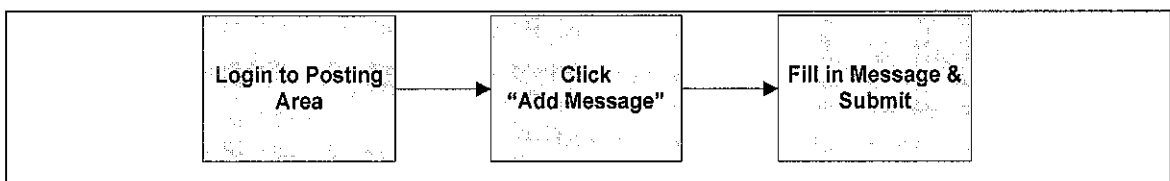


Figure 2.2: Flow Diagram of the Customer Interaction System for existing Users

Figure 2.1 and Figure 2.2 shown above show the flow diagrams on how the first time and existing customers were to forward their complaint(s) to the portal. The complaining process is made easy for the public to complain. This would be important for customers to be more motivated to make a complaint.

Complaints.com [12] is owned and operated by Comments.com. Complaints.com stated goal is to maintain an online computer database to resolve customer problems and to increase the value of business firms. Users must register before they are given access to

electronic bulletin boards to exchange messages on product, service, consumer and business complaints, as well as any actions taken in response to those complaints. Unlike some feedback systems that are operated on specific products or service basis, customers using Complaints.com file their dissatisfaction against online businesses. Customer profile information and message content are sent to the firms that are the targets of complaints posted by anonymous users.

### **2.3 The growth in customer Complaints**

According to Denham [3], customers are becoming more willing to complain. This is due to a number of factors including:

- Growth in the consumer movement – customers are now becoming more aware of their rights
- Customers knowing how to use their rights
- Customers demanding value for money
- Increase in competition for the customer dollar
- Promises by business to guarantee customer service and satisfaction

The increase in customer complaints is noticeable in both the private and public sectors. The increase in complaints can be an indication of rising customer expectations and a tendency to complain as the confidence in the business complaints system grows, rather than necessarily being an indicator of a fall of the service or product.

According to The Department of Fair Trading in New South Wales, Australia [3], “Consumers are better placed to exercise their rights in the marketplace when empowered through knowledge and understanding of pertinent issues. Similarly, traders are better placed to solve and reduce customers’ complaints by improving their understanding of fair trading requirements.”

Thus customers are now being encouraged to complain by various organizations and by the very existence of complaint handling systems. Customers are increasingly

exercising their right to complain when they are not satisfied with services and products.

Not, only that, according to D'Ausilio [9]; Changes in Customer Contact in the year 1997 compared to the year 2003 has shown an increase in the usage of e-mails. Figure 2.3 and Figure 2.4 shown below show the Percent of customer interaction by contact type.

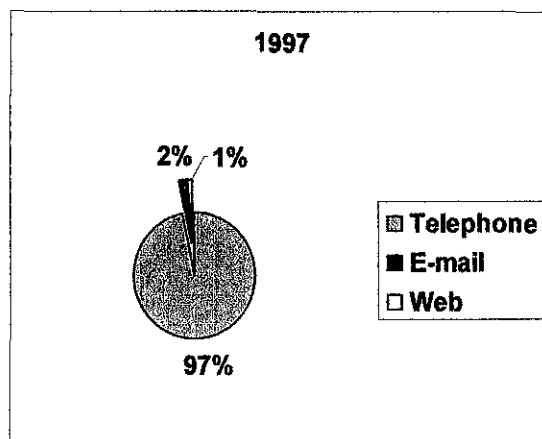


Figure 2.3: Percent of Customer Interaction by Contact Type in 1997

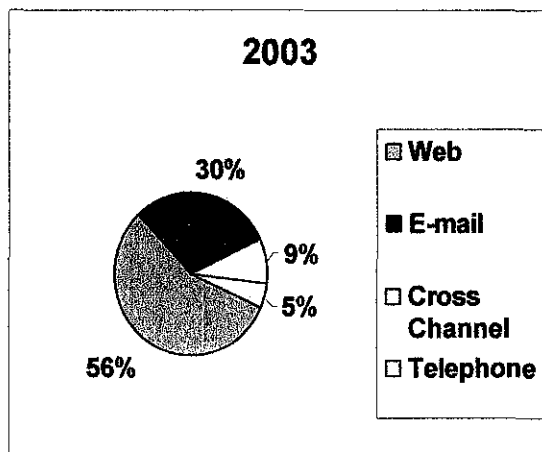


Figure 2.4: Percent of Customer Interaction by Contact Type in 2003

From the Figure 2.3 and Figure 2.4, changes in customer contact are significant, and the pace of change is accelerating. In 1997, 97% of all customer service interactions took

place over the phone. In 2003, telephone contacts were plummeting to 5%, with web-based communications taking up the slack to the tune of 56%.

Another good comparison is the customer service e-support applications: Email and Web self-service are, by far, the two most common e-support applications supported by call centers, according to a study on multichannel call centers by ICMI (International Customer Management Institute, 2005) [10]. Specific findings include:

- 85.6% of responding centers handle customer email
- 52.8% support Web self-service applications
- 15.6% handle Web chat
- 10.9% handle Web callback transactions
- 4.3% handle VoIP-based Web call-through transactions (“click-to-talk”)

Thus, by having customer interactions using email for the OCMS, it is sure that it would be a good idea. The increasing number of email users worldwide would encourage customers to make a complaint as most online users nowadays will have an email account.

## **2.4 Complaint Handling System:**

Based on the Customer Satisfaction Formula [3], it can be seen that the complaint handling system provides the feedback necessary for doing the job right the first time. The complaint system, to be effective, must solve the customer’s problem and identify and correct the root cause of the problem. Thus, the three steps as shown in Figure 2.5 in the formula must be achieved to fulfill customer’s satisfaction. The three steps are doing the job right the first time by serving customers well. Next, if problem arises; an effective customer contact handling procedures should be executed. And this leads to increased customer satisfaction or brand loyalty.

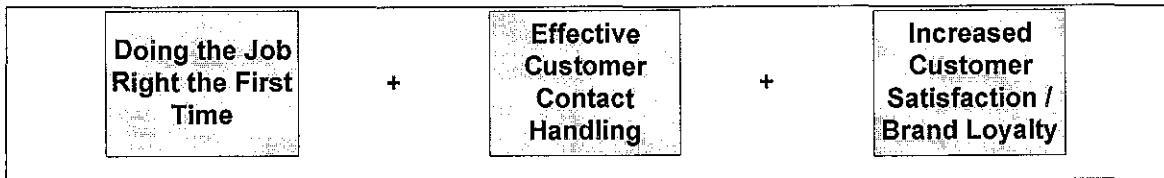


Figure 2.5: Customer Satisfaction Formula

## 2.5 Online Customer Complaints: Electronic Customer Relationship Management (E-CRM)

Online customer complaints, as web enabled market feedback, have highlighted the origins and causes of online customer dissatisfaction. Online customer complaints also show how e-businesses handle customer complaints—a reflection of how much they value their customers.

According to Cho, Im, Hiltz and Fjermestad [8] Electronic Customer Relationship Management (e-CRM) is gaining the attention of e-business managers who are interested in increasing repeat business and customer loyalty. Successful e-CRM requires adherence to a stable and consistent strategy that focuses on the goals of maintaining customer loyalty and using complaint handling data to resolve problems and address issues raised by customers.

One of the key e-CRM components is: Resolving Customer Complaints. Thus, the proper management of online complaints has a direct effect on customer retention. Complaint management refers to the strategies used to resolve disputes and to improve ineffective products and services in order to establish a firm's reliability in the eyes of customers. Complaint data is a key component in the process of problem correction and increased performance. Online customers may file complaints directly to the company from whom a product or service is purchased; or indirectly via public or non-profit feedback websites.

## CHAPTER 3

### METHODOLOGY

#### 3. PROCEDURE IDENTIFICATION

The methodology used in this project is the waterfall model shown in Figure 3.1. In this methodology, analysts and users proceed in sequence from one phase to the next. The five steps will explain in detail on each process in the waterfall development methodology:

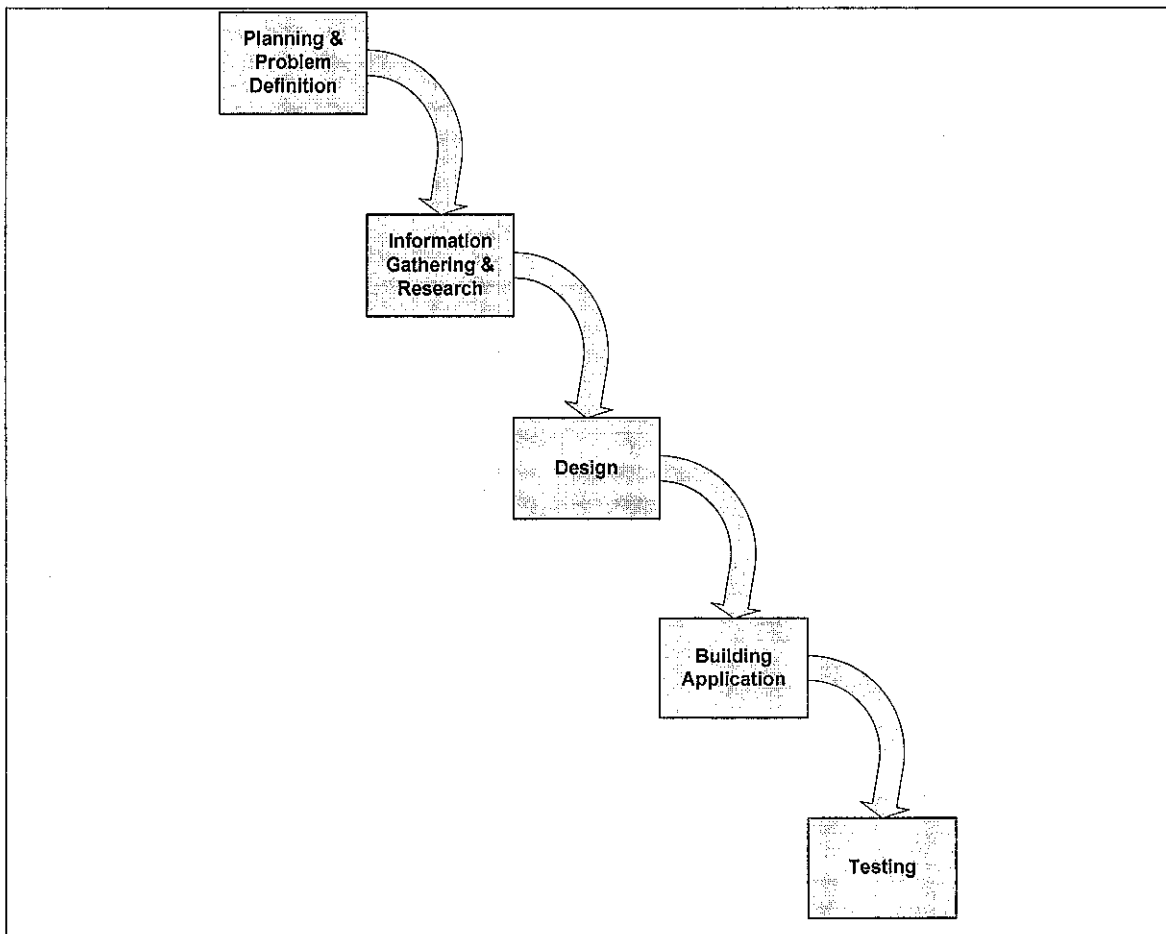


Figure 3.1: The Waterfall Development Methodology



### **3.1 Planning & Problem Definition**

The process begins by planning through the whole project. A well planned project may need to include a Gantt Chart to be able to perform the tasks of the whole project on time. Please refer to **Appendix 2**.

Next would be identifying the broad problem area and followed by defining the problem area in detail. This is where the problem is defined and narrowed to ease the study. Broad and unnecessary elements that could make the problem vague are filtered and eliminated, thus simplifies the problem. By this, it would be clear to seek for solution.

The project basically looks into the current direct online complaints system and indirect online complaints system. Then, these current systems are then analyzed in terms of its reliability, responsiveness and a clear business and customer interaction. The current drawbacks of the system are then overcome and enhanced to meet the objectives of the proposed system.

### **3.2 Information Gathering and Research**

This stage involves seeking of information in depth of what is being observed earlier. The information gathering process will be performed to collect all the necessary resources. At this stage, the project will basically look into the research of the OCMS. A thorough literature review is done through the usage of the web, reference books, online journals and newspapers to further understand the step-by-step development procedure of the online system.

Two good examples would be an online complaints monitoring system developed by the Department of Tourism and Commerce Marketing, Government of Dubai which accepts complaints by citizens of Dubai and outsiders to share comments on their

services or any aspect of the people's stay in Dubai which did not meet expectations. The OCMS with e-Governance which is designed to enable citizens of Mumbai register complaints is also a good example as my proposed system's capabilities and features may be similar. Data analysis and system procedures of this current system are vital. A research with the companies stated above would be the key element in gathering data in terms of the nature of business, categories of complaints, causes of online complaints, complaints or feedback handling and statistical data on their current complaining system which is through email and the call-centre. These two companies are categorized under the Direct Online Complaints System.

For the Indirect Online Complaints System that will be analyzed would be The Online Consumer Community Portal and Complaints.com. They are also known as the public feedback systems. They may not be directly related to my proposed system, but their functionality and benefits of the systems may be taken into consideration. Thus, this type of online complaint system shall be analyzed as well.

Questionnaires were administered as part of the research. Please refer to **Appendix 3**. This study is based on data from the first 40 responses. The questions were based on reviews of the literature. The survey comprised about 5 questions that is able to gather data of the current complaining behavior by people of ages between 18 to 50 years old.

There are seven steps in making a complaints handling system effective [11]:

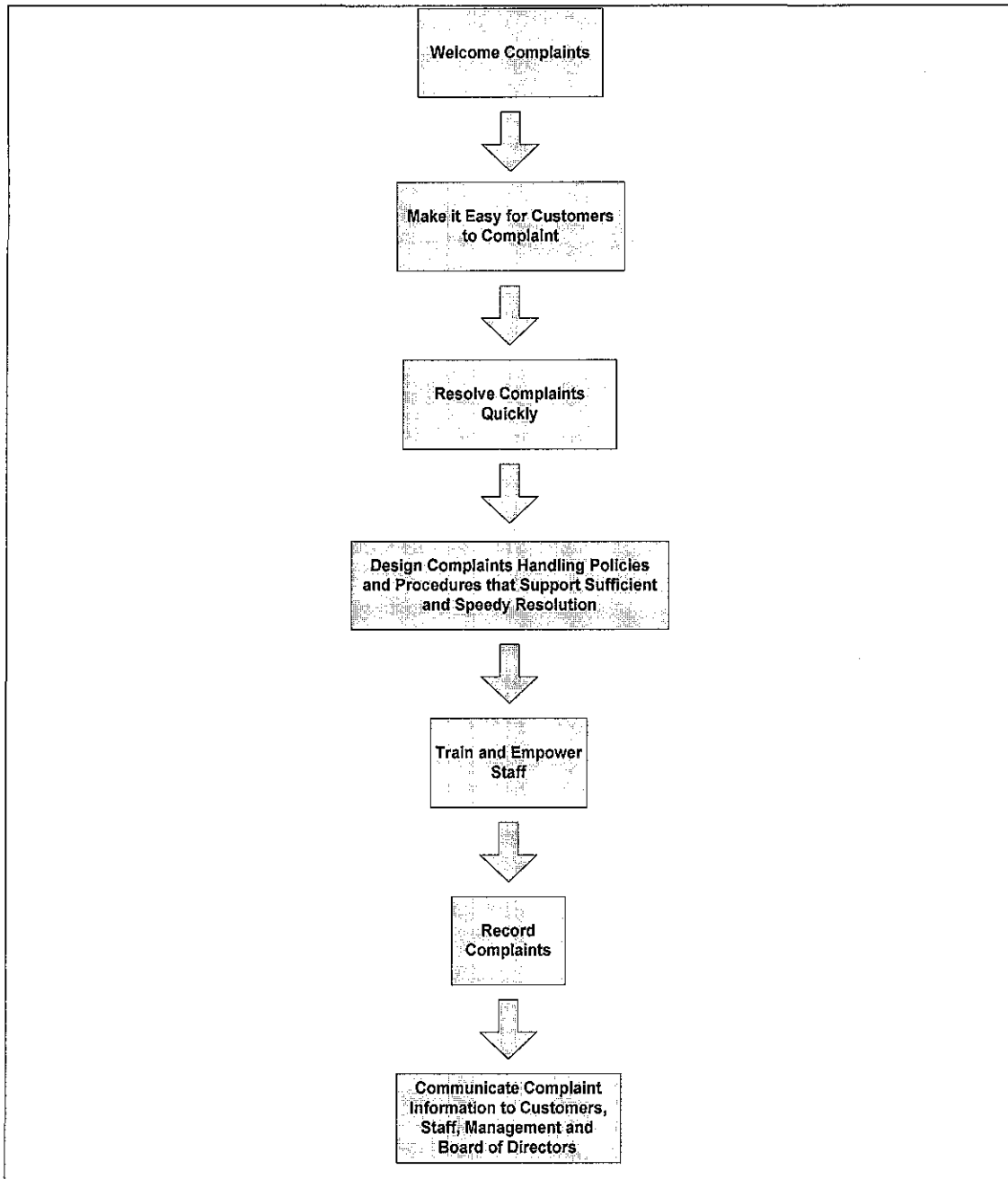


Figure 3.2: Seven Steps of Effective Complaints Handling System

Figure 3.2 shown above shows the steps in effective complaints handling system. Based on the information gathering and research phase, the system shall be able to fulfill all of these seven steps in order to be effective. The seven steps are to: Firstly welcome the complaints. The system needs to have a form for complainants to enter the complaints details together with their personal details. Next, the complaining process should be

easy. This is to ensure the complainants are more motivated to make a complaint. Other than that, the complaints should be resolve quickly. Thus, complaints needs to be attended fast and escalated quickly if no action is done. Going on, the complaints handling policies and procedures should support sufficient and speedy recovery. This is important for complainants to have faith in the system. An important element would be to train and empower staffs in order to give feedback of the complaints. The complaints are then need to be recorded for future references and to improve the underperforming categories. Lastly, to communicate complaint information to customers, staff, management and board of directors. This is important for the company to understand their customers. Thus, the system should be able to adhere these steps in order to be effective. To conclude, by linking the seven steps above with the requirements and functionalities of the system, a good complaint monitoring system shall be produced.

### **3.3 Design**

The design process involves the creation of the website in which will focus on how the system will operate, in terms of the hardware, software, network infrastructure, the user interface, databases and the files that will be needed.

Based on the Use Case Diagram, please refer to **Appendix 4**; the Customers are able to register, make complaint and negotiate the complaint. Not only that, to make a complaint, they are able to check the complaint status. To further extend the check complaint status, they are able to update the complaint if they are not satisfied yet. The Head of Customer Service and the Customer Service staff are able to process and negotiate the complaint made by the customer.

For the Data Flow Diagram, please refer to **Appendix 5**; the customer shall make a complaint. The complaint details will then be stored in the database. Then, the customer will receive a complaint tracking number. With the complaint tracking number, they are able to check the status of their complaint. After viewing the status, they are able to

update the complaint and negotiate the complaint made with the Customer Service staff. For the Customer Service staff, after logging-in to the system, they are able to retrieve the complaint from the database, process and negotiate the complaint.

For the Class Diagram, please refer to **Appendix 6**; the Customer's Class has four attributes which are firstName, lastName, e-mail and telephone number. The Customer is able to perform four functions which are to make a complaint, check the complaint status, update the complaint and negotiate the complaint. The Complaint Class has category, date, time, location, staff\_involved and summary of complaints attributes. Lastly, for the Customer Service Class, there are two attributes which are the username and password. The Customer Service staffs are able to perform three functions which are retrieving, process and negotiate the complaints.

### **3.4 Building Application**

The system will be developed using either one of these softwares: Macromedia Dreamweaver/ NVU (HTML, Java Script and PHP editing softwares). The graphics and animations in the website shall be edited using GIMP 2.2 and Ulead GIF Animator. MySQL will be used to connect to the database.

- Personal Computer with minimum processing speed of 1.73GHz, 2GB RAM and hard disk storage 120 GB
- Platform used is Windows XP 2002 Professional
- Proposed application to be developed in Macromedia Dreamweaver/ NVU (HTML, Java Script and PHP editing softwares).
- GIMP 2.2
- Ulead GIF Animator
- MySQL 4.1
- PhpMyAdmin 2.6.1
- Apache HTTP Server 2.2.4

### **3.5 System Testing**

System Testing involves requirements testing and usability testing. A requirement testing is to test whether the original business requirements are met. This is to ensure that the monitoring of complaints added to an ordinary complaint process does not create new problems. As for the usability testing, it tests how convenient the system is to use. This step is often done by analyst with experience in how users think and in good interface design. This is important to ensure the complaining process is easy for users.

## CHAPTER 4

### RESULTS AND DISCUSSIONS

#### 4. RESEARCH FINDINGS AND RESULTS

##### 4.1 Data Analysis based on Questionnaire

Based on the questionnaire given in **Appendix 3**, the results are shown below:

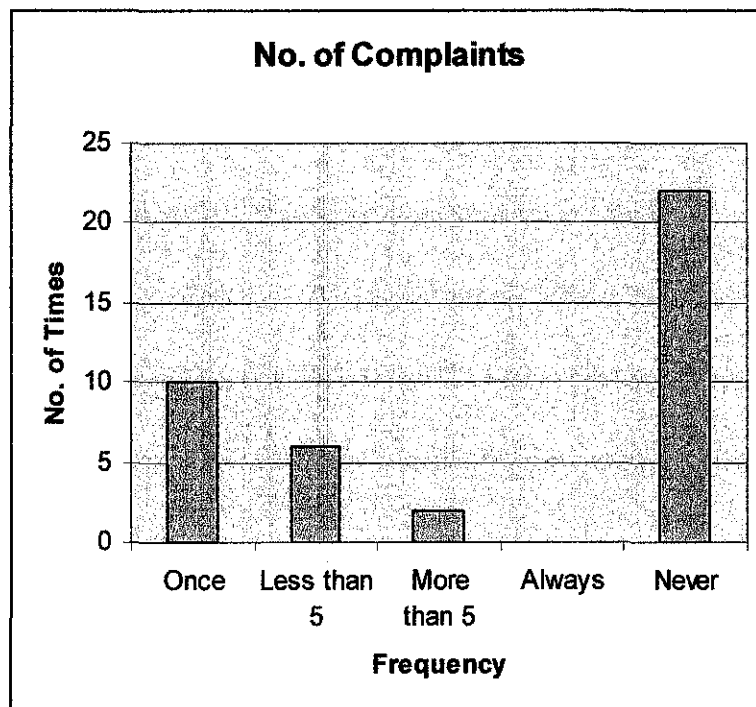


Figure 4.1: The Number of Complaints

Based on Figure 4.1 above, the results state that the complaining behavior among the customers who did the survey is very low. This is because 55% said that they have never made a formal complaint to any company before. This data can portray that customers are basically skeptical in making a complaint and would prefer to avoid the hassle of making a formal complaint.

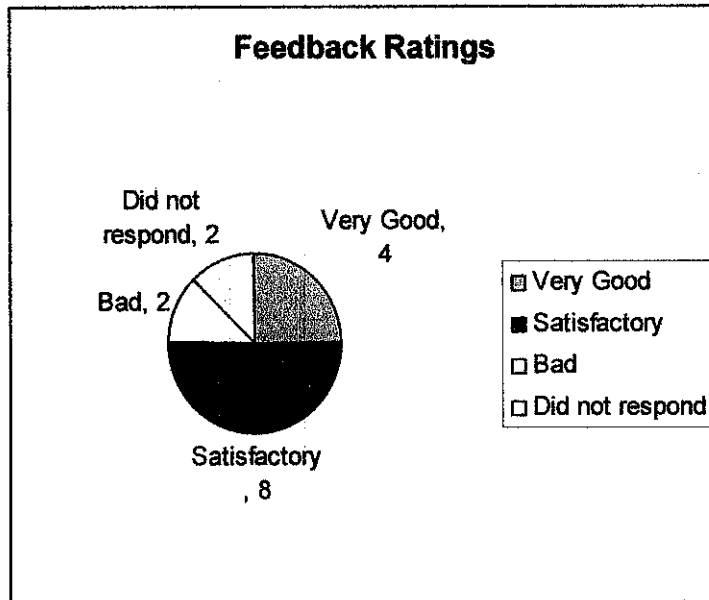


Figure 4.2: Feedback Ratings

Figure 4.2 above shows that out of the 45% who actually have ever made a complaint, eight people responded that the feedback given by the company was satisfactory. Customers are maybe unaware of how to rate the feedback given as they hardly made a complaint. Thus, those who answered the feedback was satisfactory, the number of customers who actually complaint is quite low.

Table 4.1: Why you Normally do not want to make a Complaint

Would take too much time	22 (55%)
Would not make any difference	14 (35%)
Could not be bothered	22 (55%)
Unsure who to complain to	14 (35%)
Difficult to contact the right person	22 (55%)
Made no difference the last time	10 (25%)
Did not want to make a fuss	8 (20%)
Too costly	2 (5%)
Too scared	2 (5%)
Easier to leave it be	2 (5%)
Did not need to in the end	4 (10%)



Table 4.2 on the previous page shows that customers are not willing to complain because the complaining process would take too much time, the customers could not be bothered and it is difficult to contact the right person. Each of the reasons above scored 55%. With all these reasons of not complaining, the proposed OCMS would be a feasible system. As the system will be able to process the complaints fast and the right person is the person who handles the complaint, the system would be able to overcome the current problems. By having faith by the satisfied customers, they will be more willing to complain. Thus, the reason of not being bothered to complain will be lessened.

Table 4.2: Would Customers Complain if the Complaining Process was Easy?

<b>Yes</b>	32 (80%)
<b>No</b>	8 (8%)

Table 4.3 above shows that 80% responded that they are more willing to complain if the complaining process was done online straight to the Customer Service Personnel of the company. Customers basically want a fast response and thus, they prefer an efficient system in handling their complaints.

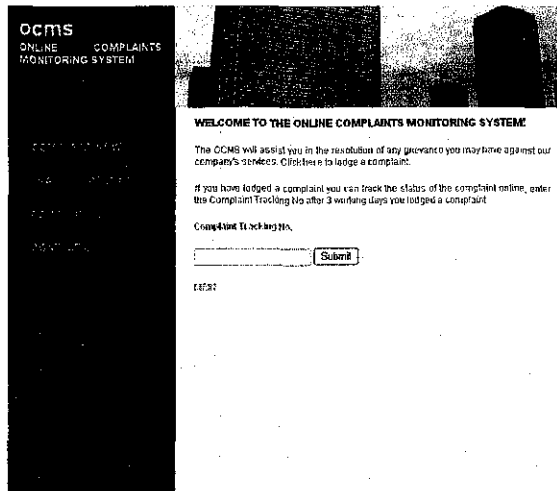
Table 4.3: Direct Complaining System vs. Indirect Complaining System

<b>Direct</b>	34 (85%)
<b>Indirect</b>	6 (15%)

Table 4.4 above shows that 85% responded that they would prefer to make a complaint direct to the company involved. This would make the complaining and rectifying of complaints faster.

## 4.2 Prototype

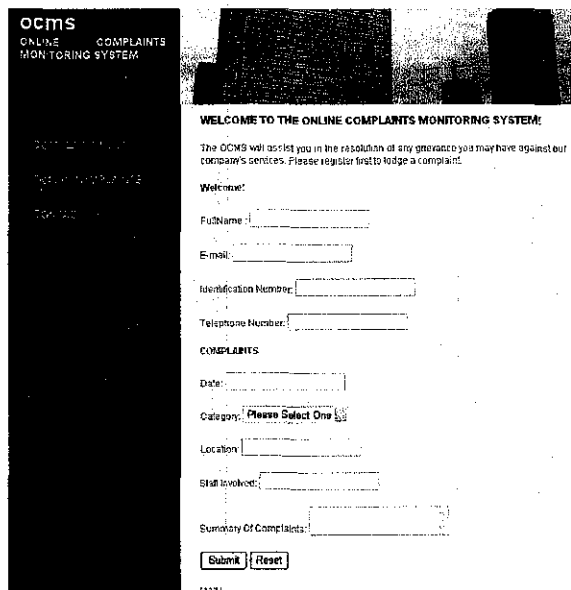
The snapshots of the Online Complaints Monitoring System (OCMS):



The screenshot shows the main page of the OCMS. On the left is a dark navigation menu with the following links: "COMPLAINT NOW", "TRACK COMPLAINTS", "ADMIN LOGIN", and "CONTACT US". The main content area has a header with the OCMS logo and a "WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM" message. Below the welcome message, there is a paragraph explaining the system's purpose and a link to lodge a complaint. A form field labeled "Complaint Tracking No." is present with a "Submit" button.

Figure 4.3: The Main Page of the OCMS

Figure 4.3 above shows the main page of the OCMS. The existing customers just need to enter their Complaint Tracking Number. For new customers, they may click “COMPLAINT NOW” link to enter their details and make a complaint. The other three links are “TRACK COMPLAINTS”, “ADMIN LOGIN” and “CONTACT US”.



The screenshot shows the registration and complaint form. It includes the following fields: "Full Name", "E-mail", "Identification Number", "Telephone Number", "Date", "Category" (with a dropdown menu), "Location", "Staff involved", and "Summary Of Complaints". There are "Submit" and "Reset" buttons at the bottom of the form.

Figure 4.4: Making a Complaint and Registering

Figure 4.4 on the previous page shows customers are able to lodge a complaint. Customers just need to fill in the required fields. They need to insert their personal details and lodge their complaint.

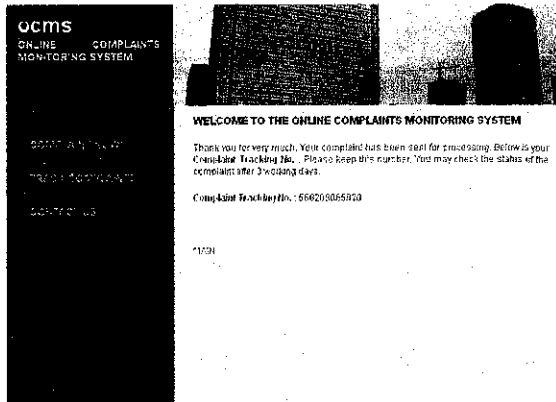


Figure 4.5: Generating the Complaint Tracking Number

Figure 4.5 above shows the Complaint Tracking Number is given to the customer who has made a complaint. This Complaint Tracking Number shall be used to check the status of the complaint.

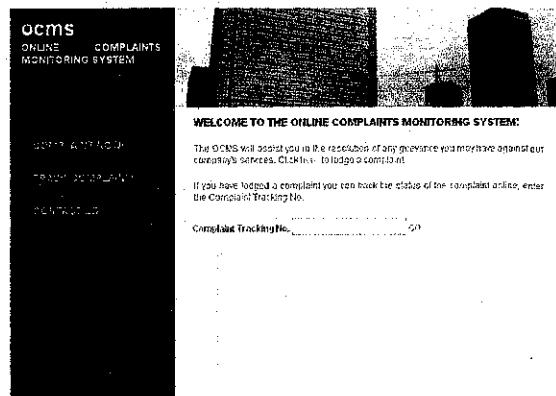
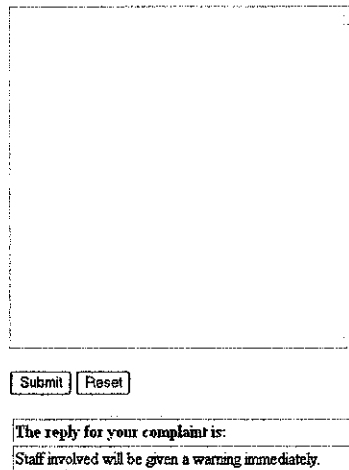


Figure 4.6: Request Complaint Tracking Number (Index)

Figure 4.6 above shows the system requests the Complaint Tracking Number from the user. This page is similar to the main page.

### Need to update your complaint?:



The screenshot shows a web form with a large empty text area for input. Below the text area are two buttons: "Submit" and "Reset". At the bottom of the form, there is a section titled "The reply for your complaint is:" followed by a text box containing the message: "Staff involved will be given a warning immediately."

Figure 4.7: Update and View Complaint Status

Figure 4.7 above shows that after three working days, the status of the Complaint shall be updated by the Customer Service Personnel. The customer shall be able to view the complaint's status. Thus, customers are able to update the complaint if they are not satisfied with the current status or need additional requests.

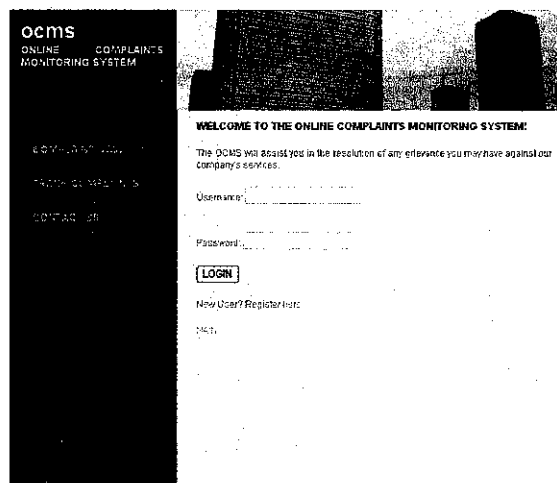


Figure 4.8: Log-in Page

Figure 4.8 above shows Customer Service Personnel are able to log in to the system with their username and password. After entering the username and password, the Customer Service Personnel would be able to view the complaints and make the resolution for each of the customer's complaints.

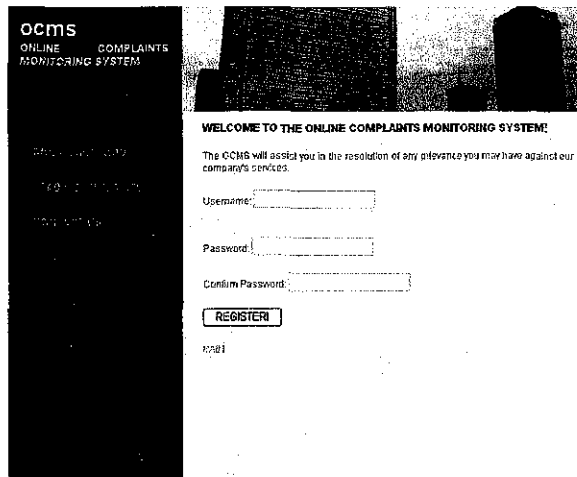


Figure 4.9: New User for Admin

Figure 4.9 above shows that new Customer Service Personnel are able to register to the system in order to view and resolve the complaints.

## Complaints

	E-mail	Phone	Date	Category	Location	Staff	Summary	Reply	Action
na 1	rokhkana@yahoo.com	088721592	20060203	Admin	Petaling Jaya B	Puan Kamariah	Bad customer service at the customer service counter.	Staff involved will be given a warning immediately.	<a href="#">REPL</a>
nad	ibrahim@yahoo.com	0192995258	20060504	Products	Kuantan	-	Faulty electronic products purchased last week.	You may want to return the product to the shop as soon as possible.	<a href="#">REPL</a>
nad	shahid@yahoo.com	0192606139	20060929	Staff	Bandar Utama	Abdullah Karim	Extra charge of products at the counter.	Receipt is needed as soon as possible to rectify the matter.	<a href="#">REPL</a>
	rehana@yahoo.com	0168310319	20070905	Others	kl	Puan Aliza	ok...thank you....	Ok..thank for complaining	<a href="#">REPL</a>

### is Statistics

Figure 4.10: View Customer Complaints

Figure 4.10 above shows the Customer Service Personnel are able to view each and every complaints entered into the system.

## Resolution Page

1

Complaint Tracking Number = 560209065020

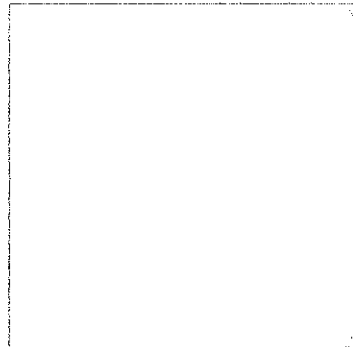


Figure 4.11: Resolve Customer Complaints

Figure 4.11 above shows for each of the complaint, the Customer Service Personnel shall click on the “REPLY” link to resolve the complaints.

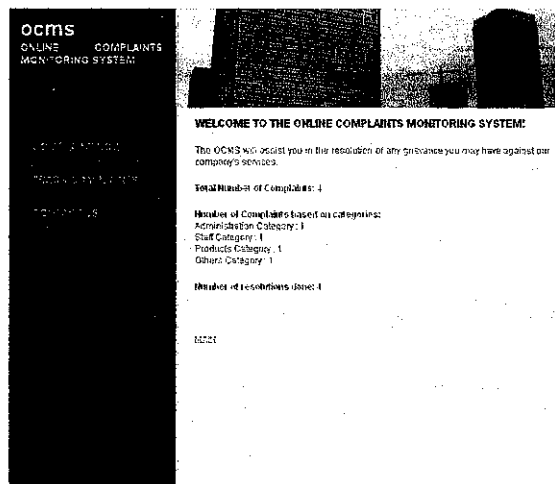


Figure 4.12: Statistics for the Existing Complaints

Figure 4.12 above shows the statistics of the complaints to the system shall be tracked. This could be done by counting the number of total complaints, number of complaints based on categories and number of resolutions done by the system.

**OCMS**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

**THE ONLINE COMPLAINTS MONITORING SYSTEM**

THE OCMS strive to improve and provide you with the best services. To assist us in enhancing the satisfaction of our customers, we would appreciate if you could complete the questionnaire and return it to us.

1. Accessibility of our complaint handling service:
2. The OCMS speed in responding to your complaint:
3. The employees' behaviour and proficiency in dealing with your complaint:
4. The clarity/transparency of OCMS complaint handling procedures:
5. Your satisfaction with the response/resolution of the organization:
6. Your satisfaction with the OCMS advice and support:
7. Would you like to suggest any improvements to our complaints handling procedures?

Figure 4.13: Feedback Form

Figure 4.13 above shows if the complainants are satisfied with the resolution of the complaints, they will be given a feedback form. This feedback form is able to see the complainant's responds towards the feedback they receive by the Customer Service Personnel.

### 4.3 Requirements Testing

Table 4.4 List of Requirements Factors and their Corresponding Input/Output(s) and Results

Requirements	Input/Output(s)	Results
Register and Make a Complaint	Customer Information	Pass
Get a Complaint Tracking Number	Complaint Tracking Number	Pass
Escalation of Complaints	NULL	Pass
Updating Complaints	NULL	Pass
Feedback from Customer Service	Complaint Resolution	Pass
Feedback Form	NULL	Pass
Generating Statistics	Complaint Statistics	Pass

Based on the results in Table 4.1 on the previous page, the system has undergone a series of tests based on the requirements of the system. The system is able to function based on all the requirements needed for the system.

#### 4.4 Usability Testing

First and foremost the target users who were going to test the system is chosen. The best candidates will be the public or anyone as they are the prime users of this system. So, ten candidates which ages ranging from 18 to 40 years old were chosen.

The system is tested by asking these ten people to test the system by inputting data in the interfaces. They were asked to use test data to test the system. They were asked to move through the system by themselves as what is wanted their honest feedback on the interface and system.

After using the system, they were given an evaluation form to fill. They were also asked to give their feedbacks on the system. Please refer to the evaluation form is available on **Appendix 7**.

Table 4.5 List of Usability Criteria's and their corresponding frequency of evaluators' feedback

No.	Criteria's	Evaluators										Highest Frequency
		A	B	C	D	E	F	G	H	I	J	
1	User Friendly	2	2	3	2	1	3	3	3	2	3	3
2	Flexibility	3	3	3	2	3	3	2	2	3	2	3
3	Navigation	3	3	3	3	3	3	2	2	3	3	3
4	Consistency	3	4	3	3	3	4	3	3	3	3	3
5	Language	4	4	4	3	4	4	4	3	3	4	4
6	Familiarity	4	3	3	3	3	4	4	3	3	3	3

Note: 1 is rated the lowest and 4 is rated the highest

Table 4.5 above shows the results of the usability testing done by the ten users of the system. The ten evaluators are named from A to J. They were needed to give rate the system based on the six criteria's. The range of the rating scale would be from 1 to 4



where 4 is the highest value on the scale. With the evaluators' results, the highest frequency of each category is identified and evaluated.

The evaluation done by the users were based on six criteria's:

- **User Friendly**

Easy to operate or understand. Users are asked if the system is difficult for them to move around or interact with. As the system is simple and do not have a lot of web pages, it is easy to operate and understandable.

- **Flexibility**

The term flexibility refers to the multiplicity of ways the end user and the system exchange information. It relates to the way the user interprets the instructions and how the instructions are meant for the user. It is a two way communication. This not only concerns the interface but the system as a whole. The system uses simple and direct instruction is easily interpreted by users.

- **Navigation**

Navigation here concerns more of the interface then the system at a whole. The navigation here brings meaning of the tools provided for users to move around in the interface and system. The linking buttons, layout of the interface, interface flow and so on are some of the examples. The system has a menu bar on the left panel that helps the user to easily navigate through the system.

- **Consistency**

This criterion relates to the likeness in behaviour arising from similar situations of similar task objectives. Consistency can be expressed in terms of the form of input expressions or output responses with respects to the meaning of actions in some conceptual model of the system. The system uses the same layout on most of the pages. Thus the layout and design is consistent

- **Language**

The language used in the system is English. This section is to make sure that users prefer the usage of English. Although all the ten candidates were very comfortable with English; there may be others who would like to have the system in Bahasa Melayu too to cater for non-English speaking customers.

- **Familiarity**

New users of a system bring them a wealth of experience across a wide number of application domains. The experience is obtained both through interactions in the real world and also through interaction with other computer systems. As the system is an extension to the company's website, users that are able to navigate through the website will have no problem in understanding the system as they might be familiar with the existing company's website.

### **Testing Conclusion**

Based on the user feedback we conclude that our system is user friendly, flexible, has a good command of language, familiarity, consistency and has a good navigation. The suggested improvements were a better security for the admin to avoid hacking, more graphics in bright colors to attract attention and to integrate the system with the company's website.

## **CHAPTER 5**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 CONCLUSION**

It is well known that complaint management offers many potential benefits to companies. By effectively soliciting, handling and analyzing customer complaints, firms can ensure high levels of customer satisfaction and loyalty and in turn, increase market share and reduce their expenditures for offensive marketing (e.g. advertising). Thus, investment into complaint management may yield very high returns.

However, there is ample evidence that many firms do not manage complaints effectively. Specifically after a dissatisfying experience, customers are often unable or reluctant to complain due to a lack of appropriate channels. Moreover, about half of the customers who do complain are reported to be dissatisfied with complaint handling.

As a conclusion, the current online monitoring systems need to be improved. After doing the research and data analysis, the current online complaining system has a lot of flaws. Not only to the customers, but also to the business are affected by this system. This is due to the fact that there will always be a need for a good complaining system as customers do want to have quality products and services.

This is also due to the fact that there is a growth of the Internet to enhance customer interaction. More and more customer service of any companies are investing on customer service products to enhance their interaction with their customers. This is because they value their customers and customers are the assets of the company.

Another factor would be that there is an increasing number of people who are willing to complain. With the added advantage of technology and e-mail nowadays, customers are able to easily express their complaints to companies. Not only that, with the increase in their monthly disposable income; customers are wealthier nowadays. They are also more educated about the latest news and are very responsive towards different products and services.

To sum up, the OCMS will be able to cater for the weaknesses available to the current online complaining system. Not only customers are more willing to complain, they are not skeptical about the company and they do not assume that the complaining process is just another hassle in their life.

## **5.2 RECOMMENDATIONS**

As the system still needs human involvement in processing the customer's complaints, the Customer Service Personnel that will be in-charged of processing the complaints needs to be effective. They may need to attend quality assurance courses in order to enhance customer relationship. This is also to make sure that they manage the system well. This is to make sure the system serves its purpose to process, receive and track complaints as proposed.

Another recommendation would be to have the system specific to the company. As different companies may have different business processes, a general complaints system may not be appropriate. A Content Management System (CMS) that is able to customize the complaining categories for each type of company suited to their business process may be more practical.

Not only that, the system may be able to graph the complaining behavior of the customers. With this graph, the company would be able to see how many complaints they have and where they can improve on the system. This would be vital as the system

is to enhance the complaining process for the customers in the future. Thus, the company is able to see whether the system meets its requirements in processing the customer's complaints. All the complaint would also be kept for future references.

## REFERENCES

1. "Why Complaint-The Importance of Complaint". Online Consumer Community Portal. 2004. 16 February 2007. <<http://www.consumer.com.my>>
2. Simon J.Bell, Bulent Menguc and Sara L. Stefani. "When Customers Disappoint-A Model of Relational Internal Marketing and Customer Complaints." Sage Journal Publications. 2004 <<http://jam.sagepub.com>>
3. Denham, Jennifer. Handling Customer Complaints: Turning Challenges Into Opportunities. Prentice Hall, 2005.
4. "E-Complaints." Online Posting. Department of Tourism and Commerce Marketing, Government of Dubai. 5 February 2007 <<http://www.dubaitourism.ae>>
5. Dergham, L. "Department of Tourism and Commerce Marketing: Complaints Procedure." 9 August 2006.
6. Online Complaints Management System(OCMS). 30 March 2007. <[www.praja.org](http://www.praja.org)>
7. Jal, Y. "In Service Of India: Praja Foundation." 10 January 2007.
8. Cho, Y.; Im, I.; Hiltz R. and Fjermestad J. "An Analysis of Online Customer Complaints: Implications for Web Complaint Management." IEEE (Institute of Electrical and Electronics Engineers, Inc.) 2002. <<http://ieeexplore.ieee.org>>
9. D' Ausilio, R. "Wake Up Your Call Center: Humanizing Your Interaction Hub" Purdue, 2006.

10. "The Multichannel Contact Study 2." International Customer Management Institute (ICMI). June 2005. <<http://ww.incomeing.com>> 20 April 2007.
11. Barlow J., and Moller C. A Complaint is A Gift. Berret-Koehler Publishers San Francisco, 2003.
12. "Customer in Control." Complaints.com. <[www.complaints.com](http://www.complaints.com)> 18 July 2007.
13. Dennis, A.; Haley Wixom, B. and Tegarden, D. 2002. System Analysis & Design: An Object-Oriented Approach with UML. John Wiley and Sons.
14. Sommerville, I. 2004. Software Engineering. Pearson Education Limited.

## **APPENDICES**



## **APPENDICES**

### **Appendix 1**

Customer Feedback Questionnaire on the DTCM Complaint Handling Procedures about the Emirate of Dubai



GOVERNMENT OF DUBAI  
DEPARTMENT OF TOURISM AND COMMERCE MARKETING

Ref: مرجعنا:

Date التاريخ

Dear Mr., السيد/

Customer Feedback on the

استطلاع آراء العملاء حول إجراءات

DTCM Complaint Handling Procedures

معالجة الشكاوى في دائرة السياحة والتسويق التجاري

About the Emirate of Dubai

ضد المنشآت السياحية في دبي

Reg. No.

رقم التسجيل

The Department of Tourism and Commerce Marketing strive to improve and provide you with the best services. To assist us in enhancing the satisfaction of our customers, we would appreciate if you could complete this questionnaire and return it to us by.....

إن دائرة السياحة والتسويق التجاري تعمل بجهد متواصل لتحسين الأداء وتزويدكم بأفضل الخدمات. وللمساعدة في هذا المجال، الرجاء ملء الإستبيان أدناه وإعادته لنا في موعد أقصاه.....

This will entitle you to participate in an annual draw to **win a free trip to Dubai** including Return flight and a 5 day Stay in a 5 star Hotel with Breakfast and Airport transfers.

هذا وإن ملء الإستبيان يخولكم المشاركة في سحب سنوي لربح رحلة مجانية إلى دبي شاملة تذكرة سفر ذهاب وإياب وإقامة لمدة خمسة أيام بفندق 5 نجوم مع الإفطار والتنقلات من وإلى المطار.

On a scale of 1 to 5 (with 5 being the highest score), how would you rate:

الرجاء تقييم ما يلي بالمقياس المناسب الذي يتراوح ما بين

1 و 5 حيث أن درجة (5) ممتاز

1. Accessibility of our complaint handling service  1  2  3  4  5 سهولة الوصول لخدمة معالجة الشكاوى لدى الدائرة

Suggested improvements if score is below 5: إذا لم نحرز درجة 5 يرجى إقتراح التحسينات المناسبة:

2. The DTCM speed in responding to your complaint  1  2  3  4  5 سرعة رد الدائرة على شكاؤكم

Suggested improvements if score is below 5: إذا لم نحرز درجة 5 يرجى إقتراح التحسينات المناسبة:

3. The employees' behaviour & proficiency in dealing with your complaint 1 2 3 4 5 سلوك وكفاءة الموظفين في التعامل مع شكاؤكم .3

Suggested improvements if score is below 5: إذا لم نحرز درجة 5 يرجى إقتراح التحسينات المناسبة:

4. The clarity/transparency of DTCM complaint handling procedures      وضوح/شفافية اجراءات الدائرة لمعالجة الشكاوى .4

Suggested improvements if score is below 5: إذا لم نحرز درجة 5 يرجى إقتراح التحسينات المناسبة:

5. Your satisfaction with the response/resolution of the organisation      مدى رضاكم عن رد/حل الجهة المشتكى ضدها .5

Suggested improvements if score is below 5: إذا لم نحرز درجة 5 يرجى إقتراح التحسينات المناسبة:

6. Your satisfaction with the DTCM advice and support      مدى رضاكم عن دعم ونصيحة الدائرة .6

Suggested improvements if score is below 5: إذا لم نحرز درجة 5 يرجى إقتراح التحسينات المناسبة:

Would you like to suggest any improvements to our complaint handling procedures?

هل تودون إقتراح أية تحسينات على إجراءات معالجة الدائرة للشكاوى؟

Other comments:

ملاحظات أخرى:

Thank you for your cooperation.










شاكرين لكم حسن تعاونكم الكريم.

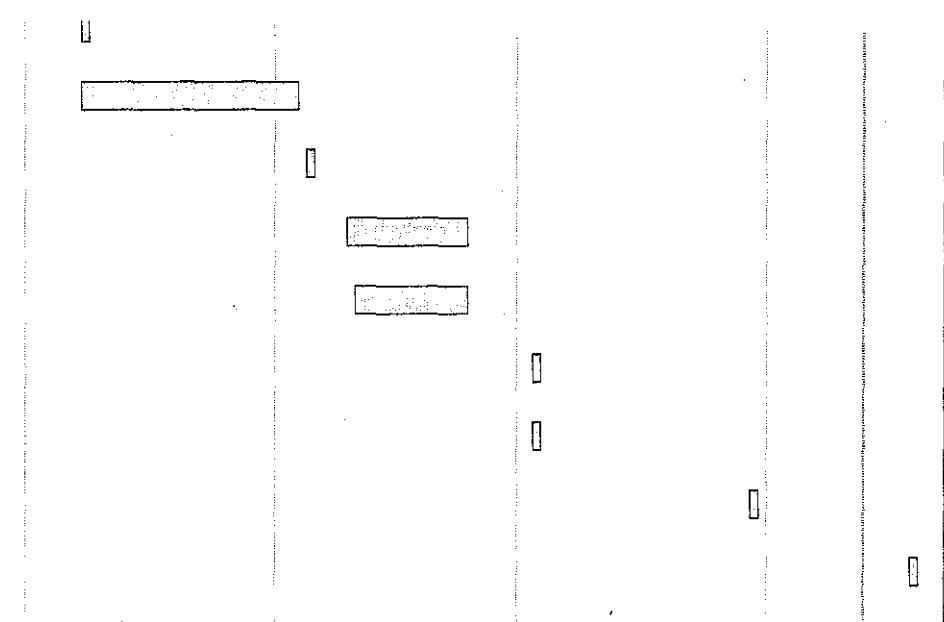
Kind regards.




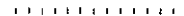





وتفضلوا بقبول فائق الإحترام.

Lina Makarem Dergham  
Senior Manager, Business Development  
Customer Feedback 26 November 2005

**Appendix 2**  
**Gantt Chart**

2		Submission of Progress Report 1	1 day	Wed 8/8/07	Wed 8/8/07
3		Project Work Continues	19 days	Wed 8/8/07	Mon 9/3/07
4		Submission of Progress Report 2	1 day	Wed 9/5/07	Wed 9/5/07
5		Seminar	11 days	Mon 9/10/07	Mon 9/24/07
6		Project Work Continue	10 days	Tue 9/11/07	Mon 9/24/07
7		Poster Exhibition	1 day	Wed 10/3/07	Wed 10/3/07
8		Submission of Dissertation	1 day	Wed 10/3/07	Wed 10/3/07
9		Oral Presentation	1 day	Tue 10/30/07	Tue 10/30/07
10		Submission of Project	1 day	Mon 11/19/07	Mon 11/19/07



Project: Gantt Chart Date: Tue 11/13/07	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

## Appendix 3

### Questionnaire

1. How many times have you made a formal complaint to any company if you are unsatisfied with their products or services? Please tick one.

<b>Once Only</b>	
<b>Seldom (Pick One Only)</b>	
• Less than 5 times	
• Between 5 to 10 times	
<b>Always (Approximately more than 10)</b>	
<b>Never (**Please go straight to Question 3)</b>	

2. Was the feedback received from the company(s) good? Rate it!

<b>Very Good</b>	
<b>Satisfactory</b>	
<b>Bad</b>	
<b>Did not respond at all</b>	

3. Why normally do not want to make a complaint? You may tick more than one.

Would take too much time	
Would not make any difference	
Could not be bothered	
Unsure who to complain to	
Difficult to contact the right person	
Made no difference the last time	

Did not want to make a fuss	
Too costly	
Too scared	
Easier to leave it be	
Did not need to in the end	

4. Would you complaint if the complaining process was easy? For example to be done online straight to the Customer Service Personnel of the company....

<b>Yes</b>	
<b>No</b>	

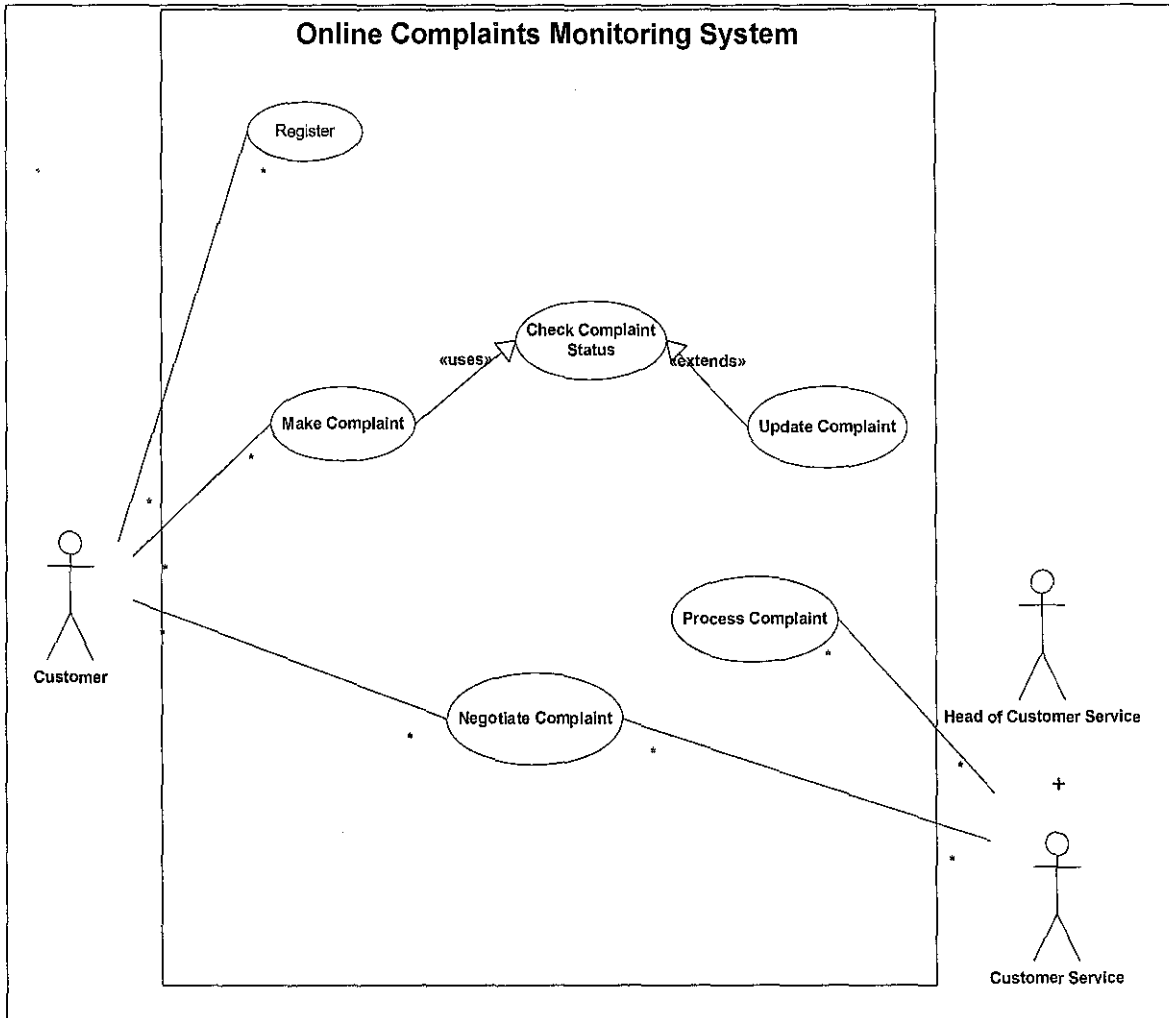
5. Would you prefer to make a complaint direct to the company or to an indirect organization? Indirect organization is a third party company that receives complaints from the public.

<b>Direct</b>	
<b>Indirect</b>	

Thank you...

## Appendix 4

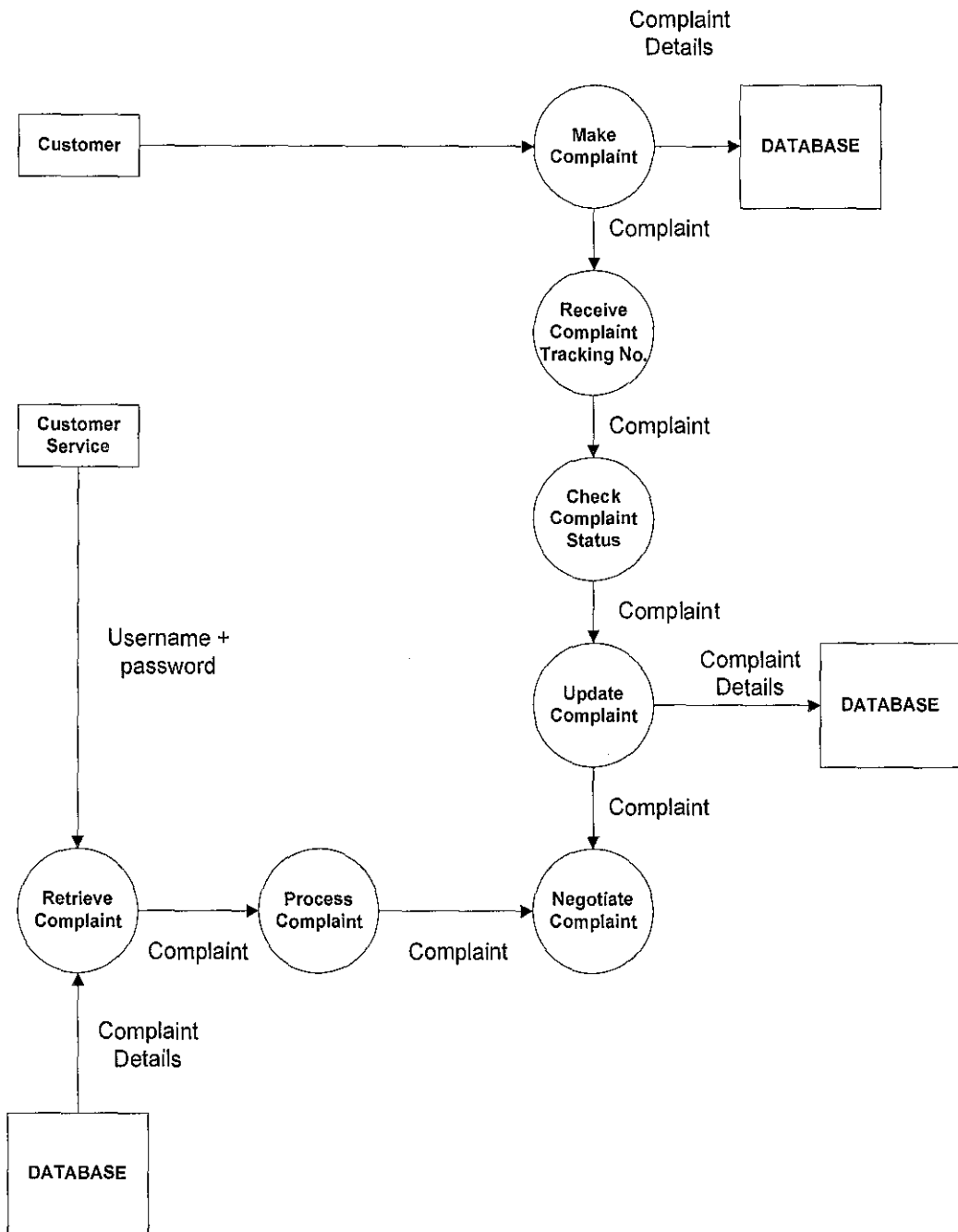
### Use Case Diagram





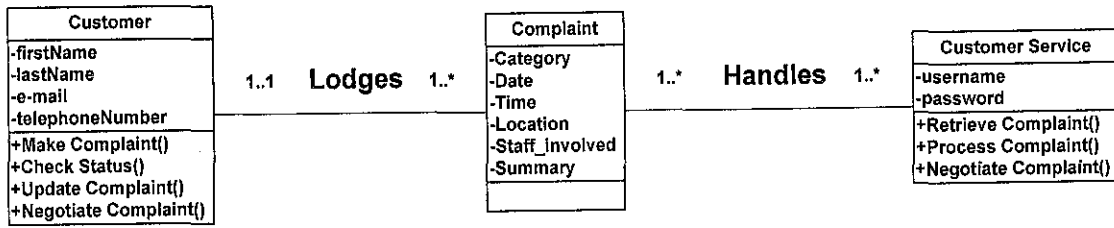
# Appendix 5

## Data Flow Diagram



## Appendix 6

### Class Diagram



## Appendix 7

### User Evaluation Form

Rate these sections for the interface you were asked to evaluate:

**User Friendly**            1  2  3  4

\* Is the system easy to operate or to understand as a whole?

**Flexibility**            1  2  3  4

\* Are the instructions on the website understandable?

**Navigation**            1  2  3  4

\* Is it easy to move around the website?

**Consistency**            1  2  3  4

\* Is the website's layout and design consistent?

**Language**            1  2  3  4

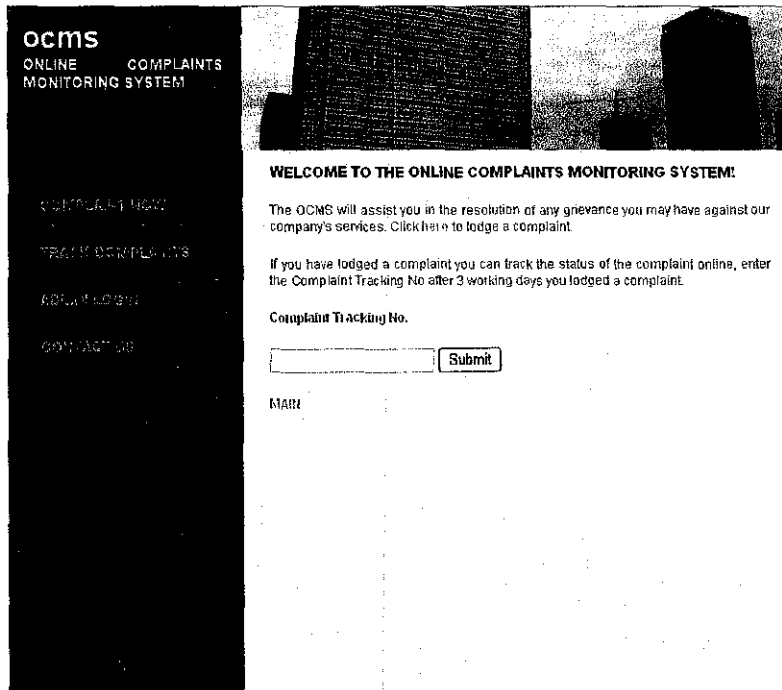
\* How is the command of language used in this system?

**Familiarity**            1  2  3  4

\* Are you familiar in using this type of system?

\*\* 1 is rated the lowest and 4 is rated the highest

## Appendix 8 Screen Shots



The screenshot shows the main page of the Online Complaints Monitoring System (OCMS). On the left is a dark sidebar with the OCMS logo and navigation links. The main content area features a header image of a building, a welcome message, instructions on how to lodge a complaint, and a form to enter a Complaint Tracking No. with a Submit button.

**ocms**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

[CONTACT US NOW](#)  
[TRACK COMPLAINTS](#)  
[ABOUT US](#)  
[CONTACT US](#)

**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM!**

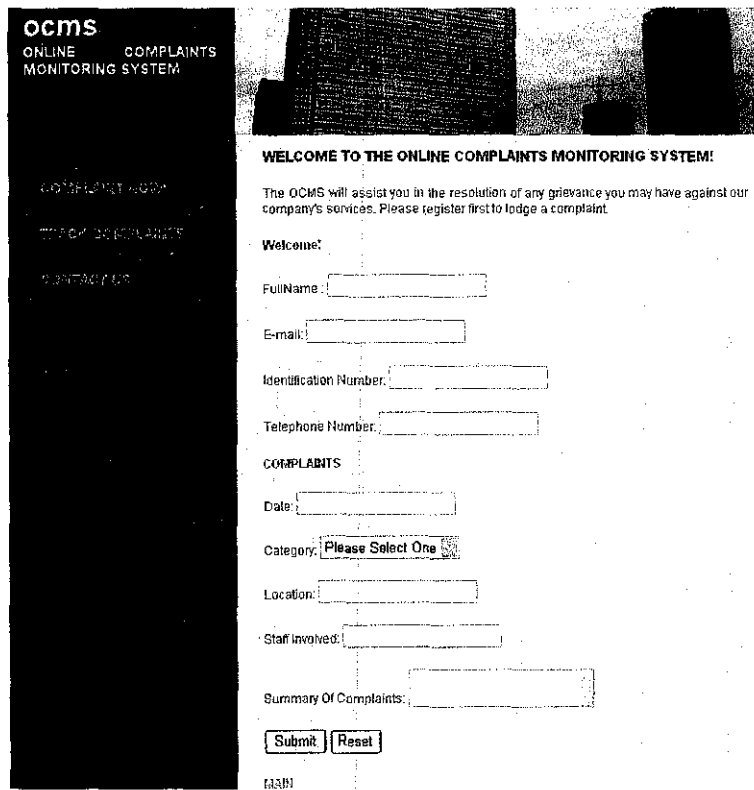
The OCMS will assist you in the resolution of any grievance you may have against our company's services. Click here to lodge a complaint.

If you have lodged a complaint you can track the status of the complaint online, enter the Complaint Tracking No after 3 working days you lodged a complaint.

Complaint Tracking No.

MARK

Main Page



The screenshot shows the registration page of the Online Complaints Monitoring System (OCMS). It includes the same sidebar as the main page. The main content area features a header image, a welcome message, and a registration form with fields for Full Name, E-mail, Identification Number, Telephone Number, Date, Category, Location, Staff involved, and Summary of Complaints. There are Submit and Reset buttons at the bottom.

**ocms**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

[CONTACT US NOW](#)  
[TRACK COMPLAINTS](#)  
[CONTACT US](#)

**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM!**

The OCMS will assist you in the resolution of any grievance you may have against our company's services. Please register first to lodge a complaint.

Welcome!

Full Name:

E-mail:

Identification Number:

Telephone Number:

**COMPLAINTS**

Date:

Category:

Location:

Staff involved:

Summary Of Complaints:

MARK

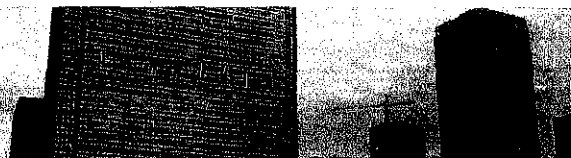
Registration

**ocms**  
 ONLINE COMPLAINTS  
 MONITORING SYSTEM

[COMPLAINT HOME](#)

[TRACK COMPLAINTS](#)

[CONTACT US](#)



**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM**

Thank you for very much. Your complaint has been sent for processing. Below is your **Complaint Tracking No.** . Please keep this number. You may check the status of the complaint after 3 working days.

**Complaint Tracking No. : 560209065020**

[MAIN](#)

**Complaint Tracking Number**

**ocms**  
 ONLINE COMPLAINTS  
 MONITORING SYSTEM

[COMPLAINT HOME](#)

[TRACK COMPLAINTS](#)

[CONTACT US](#)



**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM!**

The OCMS will assist you in the resolution of any grievance you may have against our company's services. [Click here to lodge a complaint.](#)

If you have lodged a complaint you can track the status of the complaint online, enter the Complaint Tracking No.

**Complaint Tracking No.**

[MAIN](#)

**Track Complaint**

## Need to update your complaint?:

**The reply for your complaint is:**  
Staff involved will be given a warning immediately.

## View and Update Complaint

**ocms**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

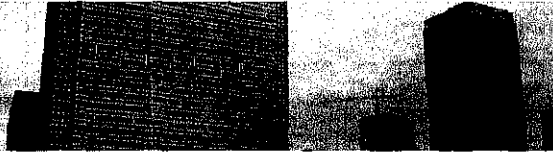
[HOME](#)

[ABOUT US](#)

[CONTACT US](#)

[FAQ](#)

[ADMIN](#)



**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM!**

The OCMS will assist you in the resolution of any grievance you may have against our company's services.

Username:

Password:

[New User? Register here](#)

[MAIN](#)

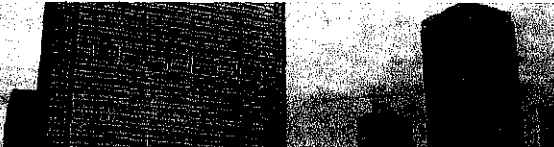
## Admin Login

**OCMS**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

[HOME](#)

[ABOUT US](#)

[CONTACT US](#)



**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM!**

The OCMS will assist you in the resolution of any grievance you may have against our company's services.

Username:

Password:

Confirm Password:

[MAIN](#)

### Admin Registration

### Complaints

	E-mail	Phone	Date	Category	Location	Staff	Summary	Reply	
na h	rokhsana@yahoo.com	088721592	20060203	Admin	Petaling Jaya B	Puan Kamariah	Bad customer service at the customer service counter.	Staff involved will be given a warning immediately.	<a href="#">A</a>
mad	ibrahim@yahoo.com	0192995258	20060504	Products	Kuantan	-	Faulty electronic products purchased last week.	You may want to return the product to the shop as soon as possible.	<a href="#">R</a>
mad	shahid@yahoo.com	0192606139	20060929	Staff	Bandar Utama	Abdullah Karim	Extra charge of products at the counter.	Receipt is needed as soon as possible to rectify the matter.	<a href="#">R</a>
	rehana@yahoo.com	0168310319	20070905	Others	kl	Puan Aliza	ok...thank you....	Ok.thanz for complaining	<a href="#">R</a>

[its Statistics](#)

### View Complaints

# Resolution Page

1

Complaint Tracking Number = 560209065020

## Resolve Complaint

**ocms**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

COMPLAINT HISTORY  
FEEDBACK COMPLAINTS  
CONTACT US

**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM!**

The OCMS will assist you in the resolution of any grievance you may have against our company's services.

Total Number of Complaints: 4

Number of Complaints based on categories:  
Administration Category: 1  
Staff Category: 1  
Products Category: 1  
Others Category: 1

Number of Resolutions done: 4

MAIN

Statistics



**ocms**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

COMPLAIN NOW

TRACK COMPLAINT

CONTACT US



**THE ONLINE COMPLAINTS MONITORING SYSTEM!**

THE OCMS strive to improve and provide you with the best services. To assist us in enhancing the satisfaction of our customers, we would appreciate if you could complete the questionnaire and return it to us.

1. Accessibility of our complaint handling service :
2. The OCMS speed in responding to your complaint :
3. The employees' behaviour and proficiency in dealing with your complaint :
4. The clarity/transparency of OCMS complaint handling procedures:
5. Your satisfaction with the response/resolution of the organization:
6. Your satisfaction with the OCMS advice and support :
7. Would you like to suggest any improvements to our complaints handling procedures?:

MAIN

**Feedback Form**

**ocms**  
ONLINE COMPLAINTS  
MONITORING SYSTEM

COMPLAIN NOW

TRACK COMPLAINT

CONTACT US



**WELCOME TO THE ONLINE COMPLAINTS MONITORING SYSTEM!**

The OCMS will assist you in the resolution of any grievance you may have against our company's services.

A system dedicated to cater customer complaints by our company. As customers are our main assets, we do need your feedback about our company.

For any inquiries, please do not hesitate to email [renana\\_zohar@ulp.edu.ny](mailto:renana_zohar@ulp.edu.ny)

TO:

MAIN

**Contact Us**