

**DESIGN AND IMPLEMENTATION OF A COMPUTERISED  
RESTURANT MANAGEMENT INFORMATION SYSTEM  
CASE STUDY JEVENIKS RESTURANT ENUGU STATE**

**BY**

**NWOKOCHA AMAKA JULIET**

**CST/2009/368**

**A PROJECT REPORT PRESENTED TO THE DEPARTMENT OF  
COMPUTER SCIENCE AND INFORMATION TECHNOLOGY**

**FACULTY OF NATURAL SCIENCES**

**CARITAS UNIVERSITY AMORJI NIKE ENUGU STATE**

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
AWARD OF BACHELOR OF SCIENCE(B.SC) IN COMPUTER SCIENCE.**

**JULY, 2013**

## APPROVAL

This project has been approved for Nwokocha Amaka Juliet whose registration number is CST/2009/368, by the department of Computer Science and Information Technology, Faculty of Natural Science, in partial fulfilment of the requirements for the award of the Bachelor's Degree in Computer Science and Information Technology.

-----  
Mrs Chizoba Ezeme  
(project supervisor)

-----  
Date

-----  
Dr Arinze Nwaeze  
(head of department)

-----  
Date

-----  
Dr B.O.N Ekechukwu  
(External Examiner)

-----  
Date

## CERTIFICATION

This is to certify that the project Design and Implementation of a computerised restaurant management information system was carried out by Nwokocha Amaka Juliet with registration number CST/2009/368.

The work contained here is original and entirely executed by the above named student.

-----  
NAME OF STUDENT

-----  
SIGNATURE

-----  
DATE

## **DEDICATION**

This work is dedicated to the Sacred Heart of Jesus and Immaculate Heart of Mary, also to Jesus the divine mercy, for their love, mercies, guidance and protection during and even after this work.

This work is also dedicated to my lovely and caring parents, Sir & Lady C.A Nwokocha and wonderful brother and sisters for their love, support and encouragement.

## **ACKNOWLEDGEMENT**

I wish to acknowledge and thank everyone who contributed one way or the other towards the success of this work.

My special thanks goes to my supervisor Mrs Chizoba Ezeme for her numerous contribution and effort to make this research a success.

Also my beloved parents Sir and Lady C.A Nwokocha and Sir and Lady S.K Mberekpe for giving me the great opporunity.

I want to say a big thanks to my best friend Raymond Mberekpe for his support and love. My siblings and friends for their encouragement and advice, i wish to acknowledge their effect

## TABLE OF CONTEN

Title Page	i
Approval	ii
Certification	iii
Dedication	iv
Acknowledgment	v
Table Of Content	vi
Abstract	x

### CHAPTER ONE

#### Introduction

1.1 Background Of The Study	1
1.2 Statement Of The Problems	3
1.3 Objectives Of The Study	4
1.4 Significance Of The Study	4
1.5 Scope Of The Study	5
1.6 Limitations Of The Study	5
1.7 Assumption Of The Study	6

## **CHAPTER TWO**

### Literature Review

2.1 Technology's Effect On Restaurants Building A Strategic Competitive Advantage	7
2.2 The Strategic Management Process For Restaurant S	8
2.3 The Broad Environment For Restaurants	8
2.4 Technology's Impact In The Restaurant And Hotel Industry	10
2.5 Managerial Implications In The Restaurant Industry	13
2.6 An Overview Of Different Types Of Restaurants	14
2.7 Different Types Of Restaurant Concepts	17
2.8 Definition Of Management Information Systems	18
2.9 Management Information Systems In Restaurants	20
2.10 Management Information Systems And Restaurant Reporting Formation Systems In Restaurants	22
2.11 Online Food Ordering	23
2.12 Multi-Restaurant Management System Solution	26
2.13 Overview Of The Project/Business Model	26
2.14 Resturant Booking System	29

2.15management Information System And The Computer	30
--	----

### **CHAPTER THREE**

#### Research Methodology and Analysis Of The Existing System

3.1 Research Review	33
3.2 Methodology	34
3.3 The Objectives Of The Existing System	35
3.5 Output Analysis	36
3.6 Input Analysis	37
3.7 Processing	37
3.8 Problems Of The Existing System	37
3.9 Justification Of The New System	38
3.10 Advantages Of The Proposed System	38

### **CHAPTER FOUR**

#### Design, Testing And Implementation Of The New System

4.1 Design Standards	39
4.2 Output Specification And Design	39
4.3inputspecification	40
4.4 File Design	40



4.5 Procedure Chart	41
4.6 System Flowchart	42
4.7 System Requirements	43
4.8 Implementation Of The New System	44
4.9 Program Flowchart	45
4.10 Main Menu Design Flowchart	46
4.11 Documentation	47
4.12 Program Documentation	47
<b>CHAPTER FIVE</b>	
Summary, Conclusion and Recommendation	
5.1 Summary	50
5.2 Conclusion	50
5.3 Recommendations	51
References	52
Appendix	57

## **ABSTRACT**

This project work is primarily designed to give an insight to computer based restaurant management information system. It is as a result of problem associated with the existing system which involves the use of manual method in keeping information in the system. So among the numerous problems associated with the existing system are; staff are spending far too much time chasing mistakes instead of tending to customers, sales going unrecorded, inventory doesn't match your tallies and other. Computerized management information system database information system used by restaurant personnel to collect data, process it and also store it for future use. Researcher used visual basic in designing the system and Microsoft office as the database system.

# CHAPTER ONE

## INTRODUCTION

Computerised restaurant management information system is database program that keeps record of all transaction carried out in the restaurant on daily bases. The system helps the restaurant management to keep adequate record of all transactions carried out and does that will still be carried out by the restaurant and maintain the database of the restaurant.

### 1.1BACKGROUND OF THE STUDY

Various types of fall into several industry classifications based upon menu style, preparation methods and pricing. Additionally, how the food is served to the customer helps to determine the classification.

Historically, restaurant referred only to places that provided tables where one sat down to eat the meal, typically served by a Waiter. Following the rise of Fast food and restaurants, a Retronym for the older "standard" restaurant was created, sit-down restaurant. Most commonly, "sit-down restaurant" refers to a casual dining restaurant with Table service, rather than a or a "diner", where one orders food at a Countertop. Sit-down restaurants are often further categorized, in North America, as "family-style" or "".

In, the term restaurant almost always means an eating establishment with table service, so the "sit-down" qualification is not usually necessary. Fast food and takeaway (take-out) outlets with counter service are not normally referred to as restaurants. Outside of North-America, the terms fast casual dining restaurants, family style, and casual dining are not used and distinctions among different kinds of restaurants is often not the same.

In France, for example, some restaurants are called "bistros" to indicate a level of casualness or trendiness, though some "bistros" are quite formal in the kind of food they serve and clientele they attract. Others are called "brasseries," a term which indicates hours of service. "Brasseries" may serve food round the clock, whereas "restaurants" usually only serve at set intervals during the day.

In Sweden, restaurants of many kinds are called "restauranger," but restaurants attached to bars or cafes are sometimes called "kök," literally "kitchens," and sometimes a bar-restaurant combination is called a "krog," in English a "tavern."

In *Dishing It Out: In Search of the Restaurant Experience*, Robert (2002) argues that all restaurants can be categorized according a set of social parameters defined as polar opposites: high or low, cheap or dear, familiar or exotic, formal or informal, and so forth. Any restaurant will be relatively high or low in style and price, familiar or exotic in the cuisine it offers to different kinds of customers, and so on.

Context is as important as the style and form: a taqueria is a more than familiar site in Guadalajara, Mexico, but it would be exotic in Albania. A Chris restaurant in North America may seem somewhat strange to a first time visitor from India; but many Americans are familiar with it as a large restaurant chain, albeit one that features high prices and a formal atmosphere.

## **1.2 STATEMENT OF THE PROBLEMS**

Sales and services are the fundamental tools in any business organization the profit and loss of any business depends on detailed information on sales and services made to aid in decision making and implementation, if accountability is not checked, then the business is sure to collapse, as a result in a any retail and hospitality business there is a need for a system that gives feedback to the management to aid decision making, this is where computerized management information system comes handy

Besides, staffing a restaurant can be tricky because demand for food will likely fluctuate dramatically, often due to variables that you cannot track. Identify any variables you do observe that influence traffic in your restaurant, such as weather and day of the week. Build a weekly schedule to staff your restaurant in accordance with these variables, such as scheduling additional staff on Saturday night if that is your busiest shift.

Compile data about sales and employee hours to determine a profitable ratio of employee hours to sales totals. Restaurant personnel training systems are also vital to success, ensuring that employees know company protocol and systems, and are capable of delivering a high quality product. Write a comprehensive employee manual detailing information that each member of your staff should know.

Besides, customers are not able to ask about quality of food or ask for any specialized diet foods. It is more difficult to ask for gluten free or allergy free foods with computerized ordering. Also, it is more possible for a customer to place an order, but never pick up the order which can lead to waste of food and possibly a loss of profits.

### **1.3 OBJECTIVES OF THE STUDY**

The main objectives of the study are the Design, Documentation and Implementation of a Computerized Restaurant Management Information System. While the subsidiary objectives are:

- To determine how computerized management information system has facilitated increase productivity, decrease paperwork, and ability to analyze trouble spots.
- To determine how the system will increase the level of services quality and Customer satisfaction
- To determine how the system will help the restaurants to have the ability to build competitive and strategic advantages by better understanding the needs and wants of the guests, hence building repeat business.
- To determine how the system can lead organization towards better decision making and building a competitive advantage over its competitors.
- To determine how computerized management information system will improve the operating efficiencies, provide restaurant and support center management with timely access to financial and operating data and reduce administrative time and expense

### **1.4 SIGNIFICANCE OF THE STUDY**

The study is primarily aimed at increasing efficiency in operation, reducing time and running cost, monitoring and the recording of the activities and total administration in Jeveniks Restaurant Ltd Enugu by introducing a computerized Restaurant Management information System.

Besides, this study is significance because its conclusions would be useful to:

1. Human Resources Managers in the hotel and restaurants business
2. The Federal, State and Local Government
3. Scholars in the field of hotel and restaurant management
4. Management of Jeveniks Restaurant Ltd Enugu

## **1.5 SCOPE OF THE STUDY**

This project work is narrowed to Jeveniks Restaurant Ltd Enugu. It deals with the Design, Documentation and Implementation of a computerised Management Information System. The program will concentrate on keeping records of the total management activities.

## **1.6 LIMITATIONS OF THE STUDY**

Most constraint experienced during the course of writing this project is that of detailed information about their major operations, the personnel manager was a little diplomatic in answering my questions in order to reveal information that may indent the company's image, though that did not stop me from writing and researching for detailed information.

Due to time constraint, finance and confidentiality of information, program developed covers all aspect of employment, customer satisfaction, services to customers, recording activities, buying and selling of food. What ever is left out is as a result of the stated limitations.

## **1.7 ASSUMPTION OF THE STUDY**

During the process of data collection, information relating to automated restaurant management information system was obtained from Jeveniks Restaurant Ltd Enugu. The information was collected from the admin staff during the course of my industrial attachment. Hence, it is assumed that all the data collected are correct and contains no false information.



## **CHAPTER TWO**

### **LITERAURE REVIEW**

#### **2.1 TECHNOLOGY'S EFFECT ON RESTAURANTS: BUILDING A STRATEGIC COMPETITIVE ADVANTAGE**

Current economic conditions have had a dramatic, negative financial impact on the hospitality industry (Brandau, 2009). Consumer behavior patterns have been changed for multiple reasons, including high levels of unemployment, a deep recession, and overall fear of what the future holds. Hoteliers and restaurateurs will need to look at various strategic vehicles to build and regain customers. The face of innovation in technology is continually changing.

The hotel and restaurant industry needs to take a proactive stance in implementing technological advances, while continually striving to build levels of service quality and guest loyalty (Magnini, Honeycutt, & Hodge, 2003). A 2004 study conducted by the National Restaurant Association stated that 70% of a restaurants business base comes from repeat customers. The same survey asked restaurateurs if it was getting more difficult to maintain customer loyalty. Fifty-two percent of the respondents said yes (Sanson, 2004). Tapping into customers needs through the use of information can be instrumental in building loyalty and gaining competitive advantage (Piccoli, 2008).

Hotels and restaurants are continually competing for employees, locations, and more recently information about customers. As more people are using the Internet there is a high amount of information that is being captured on web server logs (Garver, 2002). Proper extraction of this information coupled with high levels of service is what will help the hotel and restaurant industry build competitive advantage in a troubled economy. An organizations ability to take advantage of external environmental factors will help the firm sustain and grow in economically challenging times (Oparanma, Hamilton& Accra-Jaja, 2009).

Piccoli, Spalding, and Ives (2001) stated that organizations need to structure the way they think around how customers think and act. By accomplishing a customer-centred focus, companies will be able to highlight their strengths and highlight opportunities for improvement. Information regarding customers will continue to have a big impact on the future of the industry.

## **2.2 THE STRATEGIC MANAGEMENT PROCESS FOR RESTAURANTS**

The strategy formulation component is the driving force of the analysis. An in depth look at firm direction begins at this point. The focus in this stage is to assess the current vision, mission and objectives of the organization in addition to examining both the external and internal environments. From an external perspective, organizations need to look at two distinct environments: the broad environment and the task or firm environment (Harrison & John, 2008; Harrison, 2003).

The broad environment looks at factors, including societal trends, technological advances political and legal trends, economic factors and other major industry innovations. The task or firm environment looks at factors such as customers, competition, government agencies, suppliers, and financial intermediaries. Finally, the internal environment focuses on factors within the organization such as management, financial and human (Berry, 2009).

## **2.3 THE BROAD ENVIRONMENT FOR RESTAURANTS**

Opportunities are discovered when organizations begin to analyze the broad environment. Hoteliers and restaurateurs need to be cognizant of these factors and

how they can drive change in the industry. Societal trends and technological trends should be critical points of interest for industry executives. From a societal perspective, organizations need to look at influences such as current hot topics, emerging attitudes, demographic shifts and new fads (Oparanma, et al., 2009; Harrison, 2003).

An example of societal trends that are impacting the hospitality industry would include the explosion of social networking. The trend has spanned across several demographic barriers ranging from Baby Boomers to the Millennials.

There has additionally been an enormous affect on the hotel and restaurant industry. Bloggers have launched sites commenting about experiences that they have had and have made recommendations regarding the hotel or restaurant. Savvy industry executives understand the impact of these societal trends and focus efforts on establishing methodologies that can incorporate appropriate strategies to take advantage of these trends (Luebke, 2010).

Technological advances focus on the innovation of products, procedures, or services and how these developments can affect the hospitality industry (Yang & Fu, 2007; Harrison, 2003). For example, online reservations have grown exponentially over the years (Jin-Zhao & Jing, 2009).

The ability for industry executives to recognize the implications of this technological advance and develop strategies to take advantage of it is a critical component of strategy development. One of the premier online reservation74 Journal of Applied Business and Economics vol. 12(1) 2011portals, OpenTable.com, boasted that in 2006 dining seats filled in restaurants through the use of their online reservation system exceeded one million (Ross, 2006).

This was a 65% increase from the previous year. Industry leaders, not acknowledging this technological advance and implementing it in some capacity would find their companies lagging in providing the appropriate customer service

that their clientele would demand. Delay in the implementation of technological advances of this magnitude detracts from developing sustainability and competitive advantage (Jin-Zhao & Jing, 2009; Piccoli, 2008; Yang & Fu, 2007).

## **2.4 TECHNOLOGY'S IMPACT IN THE RESTAURANT AND HOTEL INDUSTRY**

A study conducted by Griffin (1998) investigated how information (through data warehouses) was being utilized by restaurants/hotels, through the investigation of 12 of the largest hotel firms in the industry. In this study, only 7 of the 12 hotels were involved with data manipulation and 2 of the 7 had successfully developed and implemented their own data warehouses. Even though some of the hotels did not have data houses in place they were planning on the future development of this technology.

Most of the hotels in the study were, using information for support of strategic market analysis including, targeting new customers, fine tuning loyalty programs, sales analysis and conducting trend analysis. The study concluded that the hotels ability to collect, process, and access large amounts of data can help companies build a competitive advantage (Griffin, 1998).

A study conducted by Robinson (1996) examined 62 companies who had successfully developed and implemented data warehouses. The financial impact shown was remarkable, return results; ROI equaling 401% and payback periods of approximately 2.31 years. One of the limitations discovered in Robinson study was the expense involved with the development of this type of technology. O'Sullivan (1996) has stated that the development of this type of data warehouse could cost in excess of 3 million dollars. The sheer cost of development of this type technology will simply eliminate many smaller companies from participating in using this technology. A possible solution to the smaller firms could be purchasing

information from a third party vendor on a decision-by-decision basis (O'Sullivan, 1996; Robinson, 1996).

Hotel executives understand the importance and power of information, especially in troubled financial Journal of Applied Business and Economics vol. 12(1) 2011 75times. The development and use of information systems can additionally aid in hotels ability to develop concepts for new development, target better locations, identify potential franchisees, locate new labormarkets, track employee performance, and, most importantly, track customer satisfaction (Jin-Zhao &Jing, 2009; Griffin, 1998).

Magnini, et al. (2003) have identified six essential factors that can help build successful marketing strategies through the use of data mining, a statistical technique that builds models from vast data bases.

They include, (a) creating direct mail campaigns, (b) planning seasonal promotions, (c) planning the timing and placement of ad campaigns, (d) create personal advertisements, (e) define growing and emerging markets, (f) help in room reservations (wholesale and business customers) (Magnini et al., 2003).

The factors are recommended to be used in conjunction with other statistical modelling tools and help build competitive advantage. According to Siguaw and Enz (1999), companies that effectively use technology will have the biggest affect on the customer satisfaction. The authors discussed three hotels which were awarded "best practices" for their technological innovations. These programs were specifically designed to improve service. These hotels were, The Balsams Grand Resort Hotel, Fairmont Copley Plaza, and the Ritz-Carlton Chicago.

At the Balsams Grand Resort Hotel in New Hampshire, technology was used to help develop a guest history log. The Balsams Grand used the guest history logs to capture customized information on the guests that had already made reservations at the hotel. The program was one of the first attempts to use an expert system

model to gauge the needs and wants of the guests. Information was generated in regards to hotel inquiries, rooms, room types and numbers, special requests, times of year visited, any special requests, service personnel requested, etc. (Siguaw&Enz, 1999).

All of this information was stored into an individual's personal file. The expert system then can anticipate almost any guest request. The success of this program has generated approximately 85% repeat business for the hotel. Additionally, newbusiness has been generated from previous guest recommendations (Siguaw&Enz, 1999).

Boston's, Fairmont Copley Plaza's property management system was adopted and incorporated to expedite the concierge service at the hotel. Property management system enabled to get guest information such as newspaper preference, wake up time, overnight laundry service, restaurants with distance and directions from hotel as well as many other options. The result was an overwhelming, 90% satisfaction rate of the concierge service at this hotel, with an increased revisiting rate (Siguaw&Enz, 1999).

At the Ritz Carlton in Chicago, customer demand of technical help with computers in the rooms was on the rise. With most guests making inquires to the concierge office, both guests and employees were getting frustrated due to lack of technical knowledge. In response Ritz management created a new position, pulling from the hotel management information systems department, called the concierge. With services being offered Monday through Friday, guests were able to obtain any technical support they need in conducting business requiring computers or computer technology. Customer service has improved overall, as well as the moral of the staff at the Ritz Carlton (Siguaw&Enz, 1999).

In addition to improving customer service and satisfaction several hotels were given "Best Practices Awards" for information technology by implementing

systems that helped in the increased efficiency of hotel operations. The Barbizon Hotel and Empire Hotel New York co-developed a computer database and hotel logbooks, phone calls for maintenance and record keeping of operations.

Hotel personnel from any house phone or PC throughout the hotel can access the expert system. The expert system automatically assigns tasks to the responsible employee or manager, and can even page them to make them aware of the task. In 15 minutes the system will re-page to remind, and if the task has not shown to be completed the system will automatically notify the appropriate manager. The system also facilitates management in \$750,000 in 3 years through increased productivity, decreased paperwork, and ability to analyse trouble spots. Directly linked to the hotels improvement in operations they have shared a 30% increase in repeat business (Siguaw&Enz, 1999).

It is evident through the preceding literature that leveraging this type of Information can lead organizations toward better decision making and building and sustaining competitive 76 Journal of Applied Business and Economics vol. 12(1) 2011 advantage (Yang & Fu, 2007; Lee, Barker & Kandampully, 2003).

## **2.5 MANAGERIAL IMPLICATIONS IN THE RESTAURANT INDUSTRY**

The technology being developed and implemented by hotels and restaurants is ultimately going to increase the level of service quality and customer satisfaction industry wide. As was seen by the studies conducted in the hotel industry, a primary focus was the improvement of the level of service to the guests (Siguaw&Enz, 1999).

The same scenario holds true for the restaurant industry. Service quality is a construct, which has received a great deal of attention and has been studied

empirically in many industries including the restaurant industry (Garver, 2002; Bojanic& Rosen 1994; Stevens, Knutson, & Patton, 1999).

Vandermerwe (1993) felt that those companies which would become successful would have had to look at the customer's entire experience from the pre to post purchase stage. Strategic use of technological factors gives industry executives the ability to gauge that experience and to predict purchasing habits of current customers, future customers, clusters of customers, and can break groups down demographically for better analysis (Garver, 2002).

As in the hotel industry, restaurateurs would have the ability to build competitive and strategic advantage by better understanding the needs and wants of the guests, hence building repeat business.

Piccoli et al. (2001) believed that competitive advantage which is provided by technology can and will be invaluable to hospitality and other industries in the future. It is also felt that gaining competitive advantage by using technology, as a distinctive competency will require a total commitment from the entire organization.

Piccoli et al. (2001) continues by adding that proper evaluation of customers, competitors, internal and external factors combined with technology will uncover many opportunities which could be used to increase the service quality and customer satisfaction of hospitality and other industries customers.

## **2.6 AN OVERVIEW OF DIFFERENT TYPES OF RESTAURANTS**

There are many different restaurant types out there. New restaurants open all the time, and concepts vary from pizza chains to fine sushi restaurants to breakfast cafes and even restaurants that specialize in peanut butter and jelly sandwiches. Despite the broad range of restaurant concepts, most are classified by one of three



major restaurant types, including full-service, fast-casual and quick-service. This article details the challenges and opportunities operators face within each restaurant type.



## **(a) Full-Service Restaurants**

Fig 2.1: Full Restaurant Outlook

Full-service restaurants encapsulate the old-fashioned idea of going out to eat. These restaurants invite guests to be seated at tables, while servers take their full order and serve food and drink. Full-service restaurants are typically either fine dining establishments or casual eateries, and in addition to kitchen staff, they almost always employ hosts or hostesses, servers and bartenders. Two standard types of full-service operations include fine dining and casual dining restaurants, discussed below.

### **(i) Fine Dining**

Fine dining restaurants top the ladder when it comes to service and quality. Fine dining restaurants usually gain perceived value with unique and beautiful décor, renowned chefs and special dishes. Listed below are

some of the features, challenges and advantages of running a fine dining restaurant.



### **(b) Fast-Casual Restaurants**

Fig 2.2: Fast Casual Restaurant Out look

Fast-casual is relatively modern terminology for a restaurant that falls between full-service and quick-service. Also called quick-casual and limited-service, these types of restaurants are typically distinguished by service type and food quality. Fast-casual restaurants are often perceived to offer better quality food and a more upscale dining area than quick-service restaurants, but with less expensive menu items than full-service restaurants.



### **(c) Quick-Service Restaurants**

**Fig 2.3: Quick Service restaurant Outlook**

Quick-service is the term for restaurants that capitalize on speed of service and convenience. Fast-food restaurants often fall under the umbrella of quick-service restaurants, but not all quick-service places serve fast-food.

## **2.7 DIFFERENT TYPES OF RESTAURANT CONCEPTS**

There are many different types of restaurant concepts to choose from, when planning a new restaurant. It can be hard to decide which concept will be right for you. Before you settle on one particular concept, first consider the following: who's your audience? What is your price range? Are you thinking formal or casual? Do you have a particular type of food in mind that you can build a brand around? Below are eight distinct types of restaurant concepts, from fast food chains to fine dining. Keep in mind that your restaurant design theme can blur the line between concepts to make it unique (Harrison, 2007).

One of the hottest trends at the moment is fast casual, which is a slightly more upscale (and therefore more expensive) than fast food. Fast casual restaurants

offer disposable dishes and flatware, but their food tends to be presented as more upscale, such as gourmet breads and organic ingredients. Open kitchens are popular with fast casual chains, where customers can see their food being prepared. Panera Bread is a good example of fast casual.

## **2.8 DEFINITION OF MANAGEMENT INFORMATION SYSTEMS**

Management information systems provide critical information used to effectively operate a business. Many companies have entire departments devoted to managing, maintaining and configuring their management information systems. MIS began in the late 1960s and really gained ground in the 1990s. Because a MIS represents a significant investment for most organizations, small businesses must perform thorough due diligence before deciding to implement a new system or overhaul existing systems (Miller, 2001).

Management information systems refer to the practice of integrating computer systems, hardware and software used to meet an organization's strategic goals. A MIS basically provides companies with four different types of information: descriptive, diagnostic, predictive and prescriptive (Miller, 2001).

A MIS has become very important in the areas of strategic support, data processing and managing by objectives. Because a MIS provides enormous amounts of information many companies think they make great investments. This holds true only if the information gained from the MIS generates a change in a company's harmful behavior.

### **(a) Descriptive Information**

Descriptive information provided by a MIS gives a company the “what is” state of the business. Descriptive, or “what is” information, provides the business with pertinent information that captures a specific moment during the company’s operation. Examples of “what is” information include sales reports, financial reports, production reports, shipping, and receiving reports and customer service reports (Miller, 2001).

### **(b) Diagnostic Information**

A MIS also provides companies with diagnostic information. Think of this type of information in terms of an automobile checkup. When a vehicle has a mechanical issue, often it gets a diagnostic checkup to determine the problem. A MIS provides the same type of diagnostic or “what is wrong” information. The diagnostic information generated compares the “what is wrong” information to standardized correct information. Companies use diagnostic information coupled with other information types to make decisions regarding corrective actions. For example, a shipment report indicates how many units of product “X” shipped (descriptive information) but the key performance indicator report indicates that shipments have fallen below target levels (diagnostic information).

### **(c) Predictive Information**

As indicated by its name, predictive information provides companies with “what if” scenario analysis. Predictive information generated by a MIS doesn’t always answer “what if” but it does provide companies with information to help determine future scenarios based on current information. Examples of predictive

information include: What will sales look like next quarter? Should we increase the forecast for this line? Will prices stabilize next year(Miller, 2001)?

#### **(d) Prescriptive Information**

**Prescriptive information answers the question “what should be done.” After the predictive information provides a company with the “what if” scenario and the diagnostic information provides the “what is wrong” information, the predictive information leads the company in the direction to make an informed decision. Although predictive information does not provide the answer to “what if” or “what is wrong” information, it does give the company the information required to make a decision based on the company’s goals and strategic objectives (Garver, 1999).**

## **2.9 MANAGEMENT INFORMATION SYSTEMS IN RESTAURANTS**

Restaurants are built of complex systems for buying, storing, preparing and selling food. The well-being of a restaurant depends on its management information systems, which coordinate everything from scheduling personnel to customer service. Restaurant management information systems should make a restaurant more profitable as well as a better place for customers to eat (Griffen, 2002).

#### **(a) Point of Sale Systems**

Every restaurant needs a strategy for taking orders, delivering information to the kitchen and charging customers for their food. These systems can be as simple as handwritten notes or as complicated as computer systems that send orders to the

kitchen and tally sales for each server. Simple systems are less prone to technical difficulties, but they cannot process information as efficiently as smoothly functioning computer systems. Restaurant point of sale systems should also include infrastructure for processing credit card payments (Griffen, 2002).

### **(b) Communication Systems**

Restaurants depend on communicating information between different divisions, such as servers relaying orders to kitchen staff and kitchen staff letting servers know that their orders are ready. In addition, restaurant communication systems should enable staff to connect finished meals with the customers who ordered them, and convey details about special requests and special needs. Restaurant management must also develop information systems for communicating with both the front and the back of the house about issues such as low stock on particular menu items or ingredients (Griffen, 2002).

### **(c) Human Resources Management Systems**

Staffing a restaurant can be tricky because demand for food will likely fluctuate dramatically, often due to variables that you cannot track. Identify any variables you do observe that influence traffic in your restaurant, such as weather and day of the week. Build a weekly schedule to staff your restaurant in accordance with these variables, such as scheduling additional staff on Saturday night if that is your busiest shift (Griffen, 2002).

Compile data about sales and employee hours to determine a profitable ratio of employee hours to sales totals. Restaurant personnel training systems are also vital to success, ensuring that employees know company protocol and systems, and are capable of delivering a high quality product. Write a comprehensive employee

manual detailing information that each member of your staff should know (Griffen, 2002).

#### **(d) Financial Management Systems**

Restaurant financial management systems should navigate issues of cash flow and keeping track of costs. A restaurant needs sufficient cash flow to buy supplies and pay employees, or it cannot continue to function. In addition, restaurants need to earn profit by controlling costs and maximizing revenue. Restaurant financial management systems should include cash flow projections forecasting income and expenses for upcoming months, and developing strategies to compensate for cash flow shortfalls such as a business line of credit or business credit card (Griffen, 2002).

### **2.10 MANAGEMENT INFORMATION SYSTEMS AND RESTAURANT REPORTING**

All of our company restaurants utilize computerized management information systems, which are designed to improve operating efficiencies, provide restaurant and Support Center management with timely access to financial and operating data and reduce administrative time and expense (Ansel, 1999).

With our current information systems, we have the ability to query, report and analyze this intelligent data on a daily, weekly, period, quarter and year-to-date basis and beyond, on a company-wide, regional or individual restaurant basis.

Together, this enables us to closely monitor sales, food and beverage costs and labor and operating expenses at each of our restaurants. We have a number of



systems and reports that provide comparative information that enables both restaurant and Support Center management to supervise the financial and operational performance of our restaurants and to recognize and understand trends in the business (Ansel, 1999).

Our accounting department uses a standard, integrated system to prepare monthly profit and loss statements, which provide a detailed analysis of sales and costs, and which are compared both to the restaurant-prepared reports and to prior periods. We have satellite technology at the restaurant level, which serves as a high-speed, secure communication link between the restaurants and our Support Center as well as our credit and gift card processor (Ansel, 1999).

## **2.11 ONLINE FOOD ORDERING**

Online food ordering services are websites that feature interactive menus allowing customers to place orders with local restaurants and food cooperatives. Much like Online Shop, many of these allow customers to keep accounts with them in order to make frequent ordering convenient. A customer will search for a favorite restaurant, choose from available items, and choose delivery or pick-up. Payment can be amongst others by Credit card or cash, with the restaurant returning a percentage to the online food company (Ansel, 1999).

### **(a) Service Types**

While e-commerce has been around for over a decade, closing the gap between food and the Internet has taken longer. The first restaurants to adopt online food ordering services were corporate franchises such as Domino's and Papa

John's. Other pizza franchises such as Pizza Hut have been quick to adopt online food ordering (Ansel, 1999).

Local companies have teamed up with e-commerce companies to make ordering quicker and more precise. Annie (2001), director of operations for the Original Pizza Pan, Inc. of Cleveland, Ohio comments that "the system is good for customers who don't speak English." Some restaurants have adopted online ordering despite their lack of delivery systems, using it to manage pick-up orders or to take reservations.

### **(b) Independent**

Independent online food ordering companies offer two solutions. One is a software service whereby restaurants purchase database and account management software from the company and manage the online ordering themselves. The other solution is a Net-based service whereby restaurants sign contracts with an online food ordering website that may handle orders from many restaurants in a regional or national area (Ansel, 1999).

One difference between the systems is how the online menu is created and later updated. Managed services do this via phone or email, while unmanaged services require the customer to do it. Some websites use wizards to find the best-suited menu for the customer (Ansel, 1999).

### **(c) Food Cooperatives**

Food cooperatives also allow consumers the ability to place an order of locally grown and/or produced food online. Consumers place an order online based

on what is available for the ordering cycle (month, week) and then pick up and pay for their orders at a central location (Ansel, 1999).

#### **(d) Online Menus**

**As an offshoot of online food ordering services, websites archiving restaurant menus online have appeared.**

#### **2.11.1 Advantages for Online Ordering**

There are advantages for both the customer and for the restaurants who participate in online ordering. First, a customer can order at will when they have time to. Also, the customer is able to customize their order the way they like it without errors in communication between the customer and the person taking the order. In addition to customer advantages, the restaurant is able to take more orders with less staff. The restaurant does not need a waiter or hostess to be on the phone to take the order. The order can go straight to the kitchen (Irvine, 2008).

#### **2.11.2 Disadvantage for Online Ordering**

Customers are not able to ask about quality of food or ask for any specialized diet foods. It is more difficult to ask for gluten free or allergy free foods with online ordering. Also, it is more possible for a customer to place an order, but never pick up the order which can lead to waste of food and possibly a loss of profits (Irvine, 2008)..

### **2.11.3 Online Ordering with Phone Apps**

Today, many restaurants offer the technology to place an order with an app. Many restaurants will offer a special if the order is placed online. Subway offers a free cookie while Papa Johns offers specials only available on the app. Restaurants do this because they are able to reach a larger market with this technology. They are able to reach a target market that is tech friendly. Many people these days have a smart phone and that percentage continues to rise (Irvine, 2008)..

### **2.12 MULTI-RESTAURANT MANAGEMENT SYSTEM SOLUTION**

Food a necessity of our daily life and many have over the years build this industry into a very challenging and highly competitive market to penetrate and set up as a new business.

The main reason is the capital investment and the location of the premises where the restaurant or the takeaway to be established. So one of the top model businesses of the 21st century is to build a business around these restaurants and takeaways. Please read the below model that will give a very clear understanding as to what a multi-restaurant management system is (David, 2009).

### **2.13 OVERVIEW OF THE PROJECT/BUSINESS MODEL**

Customer comes to RESTAURANT WEB PORTAL front-end of the multi-restaurant online ordering system and given the option to enter their postcode or town/city name to search for a local RESTAURANT to place either a collection or a delivery order.

Upon entering a valid postcode or selecting the area, a list of pre-added restaurants names will be displayed sorted by various criteria as per the restaurant(s) to the clients given postcode/area during the search. All sorting options within the list should be available for the customer to select the best recommended one or the ones which has more votes & reviews from customers.

Once the **Customer** selects the **Restaurant** to place the order they will be then displayed the electronic menu with the items listed to add to the shopping basket/cart. Customers should be able to add the items very quickly without having to refresh the page on every addition of the menu items to the cart.

Once the customer adds all the menu items they wish to order they would then proceed to the **Checkout**. If the customer is logged in, they move straight to the first checkout which will give the customer options to add more items or delete items from the cart along with discount code and special vouchers redemption option. If the customer is a new customer they will have to register with the **WEB PORTAL** and verify their email address.

Customer will have to select the order type (Delivery or Collection) and based on the selection the order date and time will change according to the closing and opening hours of the Restaurant/Takeaway.

The same page will show how many loyalty points customers have collected and give the option to redeem the points based on a order-based point system, configured in the back-office per restaurant or the main company.

Once the Customers are happy with the order date and time, shopping cart items, special offer/promotional discounts and loyalty points redemption, they will

continue to the second checkout where they will have the option to select the mode of payment (Credit/Debit card or Cash on Delivery/Collection)

Once the payment is process for credit/debit card transactions (preferably PayPal), these LIVE order(s) are then displayed in the live order section of the back-office. All orders are saved in the Company Central Server (dedicated server) saving detailed description of the order along with the restaurant, customer details, payment type along with payment details and all other necessary information required to process and invoice the order. Every restaurant that is connect to the website will each have their own restaurant portal to login to see their live orders along with their own menu items list and prices.

Restaurant will have the option to Confirm or Decline the order based on their decisions or can AUTO COMPLETE an order. Once the order is confirmed and accepted, an email will be send to the customer automatically saying the order is accepted and the order is in preparing mode.

These orders will automatically be sent to three individual owner/manager email addresses set for the restaurant in their individual back-office. If the system is connected to an automatic receipt print system, it will print the order or restaurant will receive a fax if they do not have the facilities to confirm or decline orders.

Once the order is finally completed (either delivery or collection), each order will have to be completed by the Restaurant to update the company that the order was successfully completed and the order to be added to the invoice module to invoice the restaurant weekly/monthly. The whole operation will be atomised

giving a detailed report through the company central server dashboard per day. The reports should be able to be printed or saved in the server for future usage.

All agents will fill in a form when a sale is made taking all the necessary signatures from the restaurant and then pass it to the users who will add the restaurant to the system and do the tests before it goes live into the main website.

Restaurants can be added by the agents who will be on a commission based either on per sale or per order (This is an extra module). The system should also give an agent back-office, so that they can see how many restaurants they have added and what is the turn-over from these restaurants. Strategic decisions can be made based on these data to see the performance of the agent and restaurant/area performance.

## **2.14 RESTAURANT BOOKING SYSTEMS**

According to Miller (2007) the two key components of the restaurant reservation system are the live table management system and the live booking pages. The former manages your restaurant's availability for the latter, which is a conduit for new restaurant bookings.

### **(a) Live Reservations**

The restaurant continues to use a paper diary, allocating a number of tables for online. If these tables are otherwise used, their availability is modified with a very easy to use restaurant control console.

The control console also stores all booking details and cross-references customers when each new booking is made. This gives you a complete database of your customers, without duplication or missing details.

### **(b) Live Table Management**

The restaurant computerises its diary, and all bookings, whether online, telephone or walk in are recorded. Live table management allows you to plan out and organise your bookings. It is custom built for your restaurant and includes your specific booking rules and restrictions (Brandau, 2007).

The system also records who is eating at the restaurant, together with useful information such as eating preferences, average spend, address, telephone number etc. This database is updated with each new booking, helping you keep accurate and useful records of your customers.

## **2.15 MANAGEMENT INFORMATION SYSTEM AND THE COMPUTER**

Translating the real concept of the MIS into reality is technically, an infeasible proposition unless computers are used. The MIS relies heavily on the hardware and software capacity of the computer and its ability to process, retrieve communicate with no serious limitations. The variety of the hardware having distinct capabilities makes it possible to design the MIS for a specific situation. For example, if the organization needs a large database and very little processing, a computer system is available for such a requirement. Suppose the organization has multiple business location at long distances and if the need is to bring the data at



one place, process, and then send the information to various location, it is possible to have a computer system with a distributed data processing capability. If the distance is too long, then the computer system can be hooked through a satellite communication system (Brandau, 2007).

The ability of the hardware to store data and process it at a very fast rate helps to deal with the data volumes, its storage and access effectively. The ability of the computer to sort and merge helps to organize the data in a particular manner and process it for complex lengthy computations. Since the computer is capable of digital, graphic, word image, voice and text processing, it is exploited to generate information and present it in the form which is easy to understand for the information user. The ability of a computer system to provide security of data brings a confidence in the management in the storage o data on a magnetic media in an impersonal mode (Brandau, 2007).

The computer system provides the facilities such as READ ONLY where you cannot delete to UPDATE. It provides an access to the selected information through a password and layered access facilities. The confidence nature of the data and information can be maintained in a computer system. With this ability, the MIS become a safe application in the organization. The software, an integral part of a computer system, further enhances the hardware capability. The software is available to handle the procedural and nonprocedural data processing. For example, if you want to use a formula to calculate a certain result, an efficient language is available to handle the situation. If you are not use formulas but have to resort every time to a new procedure, the nonprocedural languages are available. The software is available to transfer the data from one computer system to another. Hence, you can compute the results at one place and transfer them to a computer

located at another place for some other use. The computer system being able to configure to the specific needs helps to design a flexible MIS(Brandau, 2007).

The advancement in computers and the communication technology has the distance, speed, volume and complex computing an easy task. Hence, designing the MIS for a specific need and simultaneously designing a flexible and open system becomes possible, thereby saving a lot of drudgery of development and maintenance (Burkingham, 1998).

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY AND ANALYSIS OF THE EXISTING SYSTEM**

#### **3.1 RESEARCH REVIEW**

Since it has been established that physical archives are not always helpful, a much better alternative is therefore, to use automated management information. This implies the creation of a Database management System (DBMS), which ensures that computer records are kept up to date and made available on demand to those who need them for planning and operational purposes.

For a retailer, like Jeveniks Restaurant Ltd Enugu, Automated Management Information System is critical to gathering and applying information effectively in today's ultra competitive markets. It offers a wide selection of features to improve control of your business and save time spent on inventory, purchasing and accounting. The features listed here are all available in the Jeveniks Restaurant Ltd Enugu though manually done.

- Manual count of the food, snacks, and drinks to be sold for a day is done, and recorded on a paper by the sales dept.
- Customer make an order based on the varieties of foods, snacks and drinks available, the order is punched in a cash register which automatically generate receipt manually, then issued to the buyer.

## 3.2 METHODOLOGY

A research methodology is a systematic programming approach of well defined procedure that should be followed in carrying out a thorough research project. An adequate suitable methodology would ensure a very detailed research work and ensure that a higher degree of accuracy and efficiency is adopted.

The research methodology used helps to ensure that a thorough study of the present system is effectively carried out, thus helping the project research team to completely understand the modus operandi of the present existing system so as to know the new system should be structured and the functionalities needed in it to address the seemingly, existing problems discovered.

This helps to know if there should be a total overhauling of the existing system or if only improvements should be made. Hence, after duly considering the above reasons, the structured Analysis and Design Methodology (SSADM) is adopted. Due to this fact, there is importance of carrying out a thorough, adequate and completely comprehensive evaluation of the existing system with a view to identifying its strengths and weakness

For a very sensitive topic like this, especially as it concerns critical issue like sales and profit making to avoid liquidation of company, i used the following fact finding method.

- a. **Structural Interviews:** This approach was adopted to ensure adequate and consistent response, because I took a visit to Jeveniks Restaurant Lagos, with well-structured and boldly printed questions, accompanied by some of my course mate, to seek for option, the survey attempted to capture both quality and quantitative data from both staffs of the company. This interview covered:

- The respondents themselves (Staffs)
- Knowledge of computer usage

We made sure the respondents understood the questions; they were open and happy to discuss their problems and mad suggestion on how it can be solved. This method helped us to have first-hand knowledge about their method of operation and some of the problems they encounter and how this project once implemented will be of great assistant to them.

b. **Questionnaire:** A well structured and simple question was prepared and share to the learned among them, for other personal information that may not be disclosed in public. Also some worker currently in services was given to seek their option on this. It really helped me and they were pleased that somebody is thinking towards improving their operation.

(c) **Others:** Data from this project was also sourced from:

- Journals:** Information for this project was also sourced from related write up and researches carried out by prominent people/authors on computerised management information system
- Internet:** I visited the internet for researches on Computerised Management Information System
- Articles**

### 3.3 THE OBJECTIVES OF THE EXISTING SYSTEM

As much as we want to improve on the current operation of the existing system has its aim and objectives which are:

- Reduce Costs of production

- Respond to trends faster
- Improve Customer Service
- Buy Smarter
- Improve Marketing
- Control the money

### 3.5 OUTPUT ANALYSIS

The input processes carried out mostly is from customer to the cashier (cash register), below are the input data:

<b>Items</b>	<b>Description</b>	<b>Width</b>	<b>Data type</b>
<b>Food</b>	Food menu available for the day	20	Character
<b>Drinks</b>	Drinks available for the day	20	Character
<b>Snacks</b>	Snacks available for the day	20	Character
<b>Total</b>	Total amount	12	Numeric
<b>Receipt Num</b>	Receipt ticket issued to customer	30	Character

**Table 3.1: Input Analysis**

### 3.6 INPUT ANALYSIS

Items	Width	Data type
Food	20	XXXXXX
Drinks	20	XXXXXX
Snacks	20	XXXXXX
Total	12	99,9999,99
Receipt	30	XXXXXXX

**Table 3.2: Input Analyses**

### 3.7 PROCESSING

The processing done here is working with the variety of product ordered for by the customer with the corresponding amount attached to it, this amount is summed up and a total amount is issued with a receipt to the customer.

### 3.8 PROBLEMS OF THE EXISTING SYSTEM

The main problem of the existing system is inventory doesn't match your tallies. Sales are going unrecorded. Staffs are spending far too much time chasing mistakes instead of tending to customers. These and other snafus suggest that it's time that your business did away with its manual cash registers and stepped up to a Computerised Management Information System.

### **3.9 JUSTIFICATION OF THE NEW SYSTEM**

From the analysis carried out of the present system of the restaurant, it is evidently clear that a new automated management information system is inevitable for effective and proper management information system of the restaurant. The new system will help to solve all the problems inherent in the existing system. The justification for the new system includes:

- Timely staff record registration.
- Timely processing of employee information
- Error free processing of data
- It is inexpensive to administrators
- Transactions are secured.

The new system will store information with ease, allow easy retrieval of existing sales transactions, and can print information from any date and year as hard copy (i.e. on a paper).

### **3.10 ADVANTAGES OF THE PROPOSED SYSTEM**

After conducting the investigation, there is a collection of relevant data exposing the flaws and inadequacies of the present system at the restaurant office. The investigation further revealed the need to develop a new system to take care of the inadequacies observed.

- The data collected revealed that an automated management information system could be developed
- This system could be structured to accommodate the large volume of information processed at the restaurant
- The software must keep track of the daily activities of the project for proper reporting and accountability.



## CHAPTER FOUR

### DESIGN, TESTING AND IMPLEMENTATION OF THE NEW SYSTEM

#### 4.1 DESIGN STANDARDS

A computerised management information system offers a wide selection of features to improve control of your business and save time spent on inventory, purchasing and accounting. A computerized management information system can drastically cut down on shrinkage, the inventory that disappears from your store or restaurant due to theft, wastage, and employee misuse. Because employees will know that inventory is being carefully tracked, internal shrinkage will dwindle. This chapter which explain the software aspect of the project, we will talk about the language use, data requirements, and features of the language flowchart.

#### 4.2 OUTPUT SPECIFICATION AND DESIGN

The output specification will be viewed from the receipt issued after sales, which contains the following:

<b>Items</b>	Description	Width	Data type
<b>Food</b>	Food menu available for the day	20	XXXXXX
<b>Drinks</b>	Drinks available for the day	20	XXXXXX
<b>Snacks</b>	Snacks available for the day	20	XXXXXX
<b>Quantity</b>	Quantity of each product bought	15	999
<b>Total</b>	Total amount	12	99,999,99
<b>Receipt Num</b>	Receipt ticket issued to customer	30	XXXXXXXX

**Table 4.1: Output Specification and Design**

### 4.3 INPUTSPECIFICATION

<b>Items</b>	<b>Description</b>	<b>Width</b>	<b>Data type</b>
<b>Food</b>	Food menu available for the day	20	Character
<b>Drinks</b>	Drinks available for the day	20	Character
<b>Snacks</b>	Snacks available for that day	20	Numeric
<b>Quantity</b>	Quantity of each product bought	15	Currency
<b>Total</b>	Total amount	12	Character
<b>Receipt</b>	Receipt ticket issued to customer	30	Character

**Table 4.2 Input Specifications**

### 4.4 FILE DESIGN

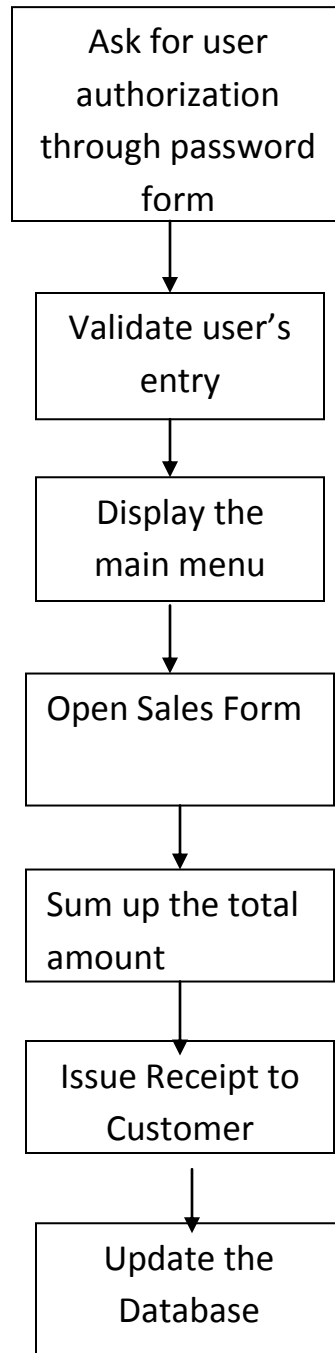
This face of the design illustrates the database used to store all data accepted and processed from the entry of the user.

<b>Items</b>	<b>Description</b>	<b>Width</b>	<b>Data type</b>
<b>Food</b>	Food menu available for the day	20	XXXXXXX
<b>Drinks</b>	Drinks available for the day	20	XXXXXXX
<b>Snacks</b>	Snacks available for that day	20	XXXXXXX
<b>Quantity</b>	Quantity of each product bought	15	999
<b>Total</b>	Total amount	12	99,999.99
<b>Receipt</b>	Receipt ticket issued to customer	30	XXXXXXXX

**Table 4.3: File Design**

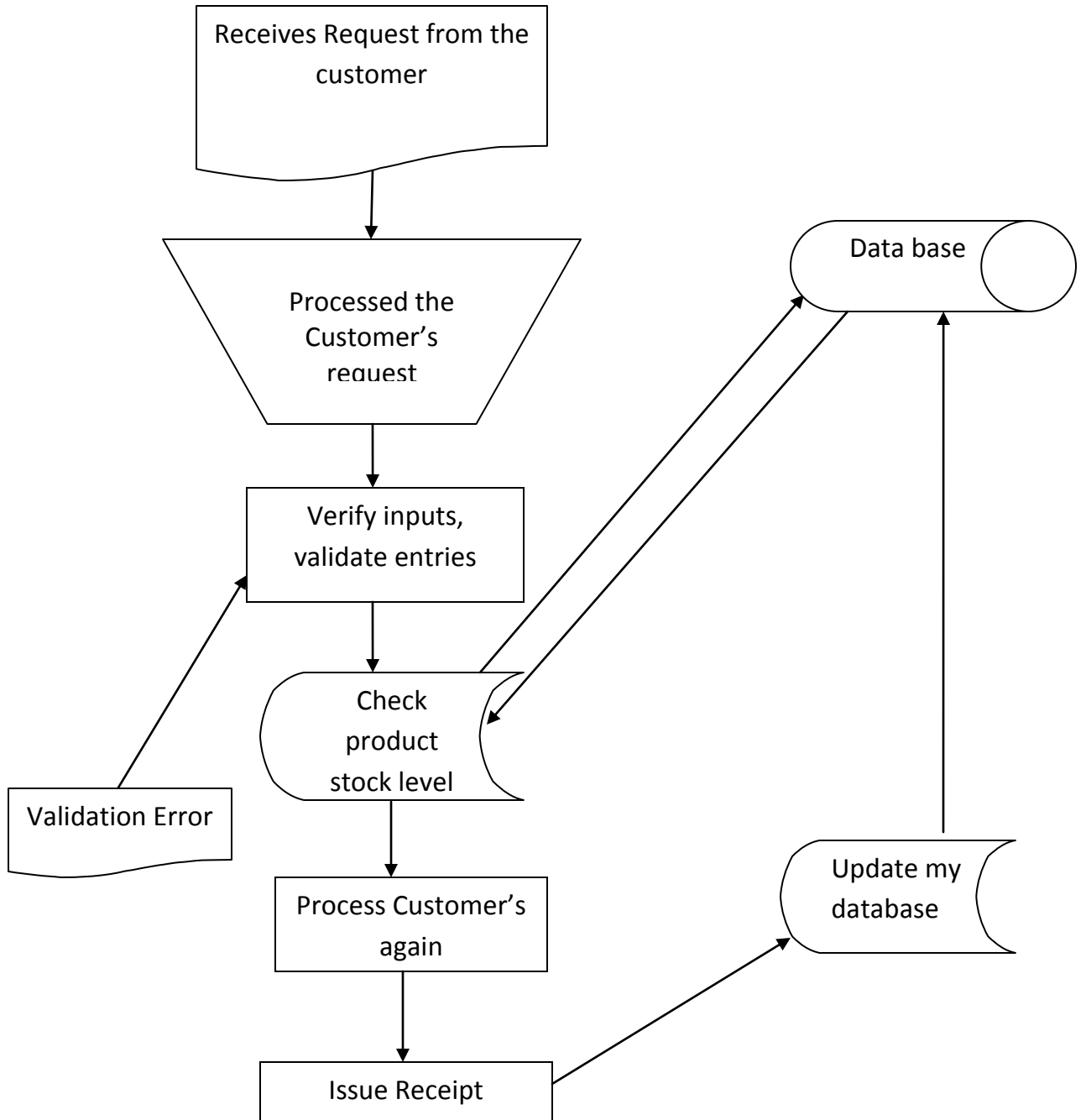
## 4.5 PROCEDURE CHART

This phase of the project shows the procedure used to design the system using charts, as shown below:



**Fig 4.1: Procedure Chart**

## 4.6 SYSTEM FLOWCHART



**Fig 4.2: System Flowchart**

## 4.7 SYSTEM REQUIREMENTS

We look at the system from the hardware, and soft application used for effective implementation of the new design.

**(a) Hardware Requirement:** For effective use of the new design, the minimum requirement for the hardware components specifications is:

Processor speed speed	Pentium 4 board with 1GHZ
Ram size	12MB
Hard Disk	40GB
Display Unit	14" Monitor (VGA)
CD ROM Writer	X54
Keyboard	Window enhance
Mouse	Optical
Printer	LaserJet

### **(b) Software Requirements**

The least operating system that must be used is Window 2000 Professional, although Window XP I better. Also other software like Microsoft Office 2000 and above, Visual Basic.

## 4.8 IMPLEMENTATION OF THE NEW SYSTEM

### 4.8.1 Program design

The new system was design in menu format, as follows:

- Enter the user name and password to check for authorization
- If password is correct the main menu is displayed, if not the system request for the correct user password.
- From the menu display, the user select from FILE
- FILE contain submenu like New, Display, and Exist
- **New Form**—if selected from the submenu, the automated management information system form will be displayed, here the officer fill in the customer's request.
- **Retrieve Form** -This form displays day to day transactions of the restaurant.
- **Prints Form**—if selected, it prints customer's receipts and daily sales.

## 4.9 PROGRAM FLOWCHART

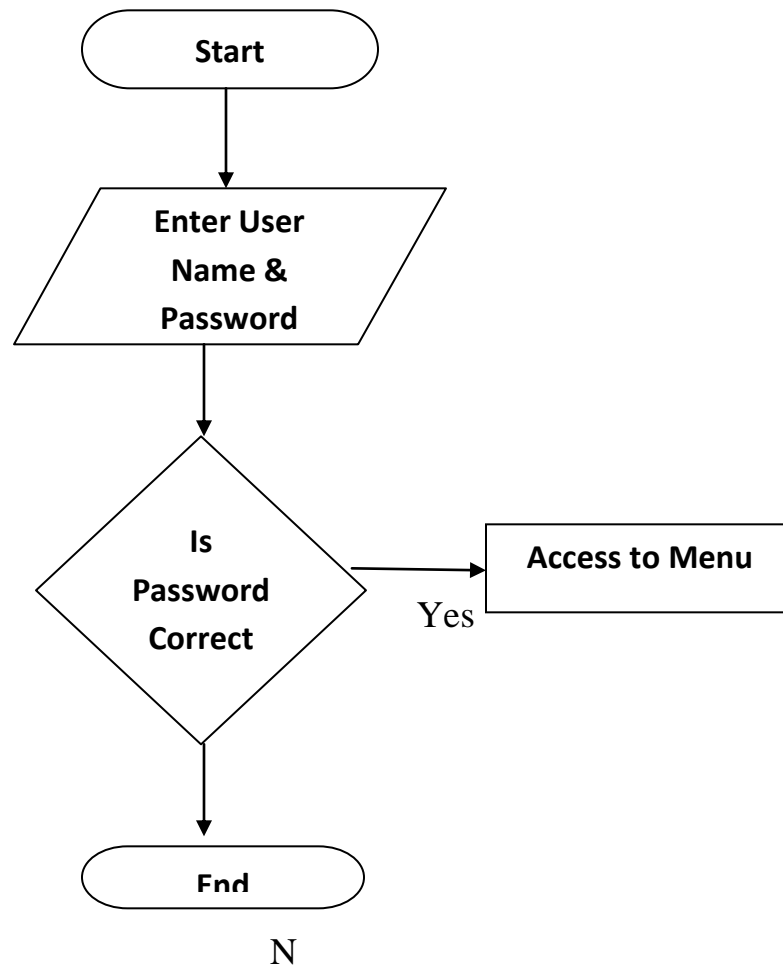
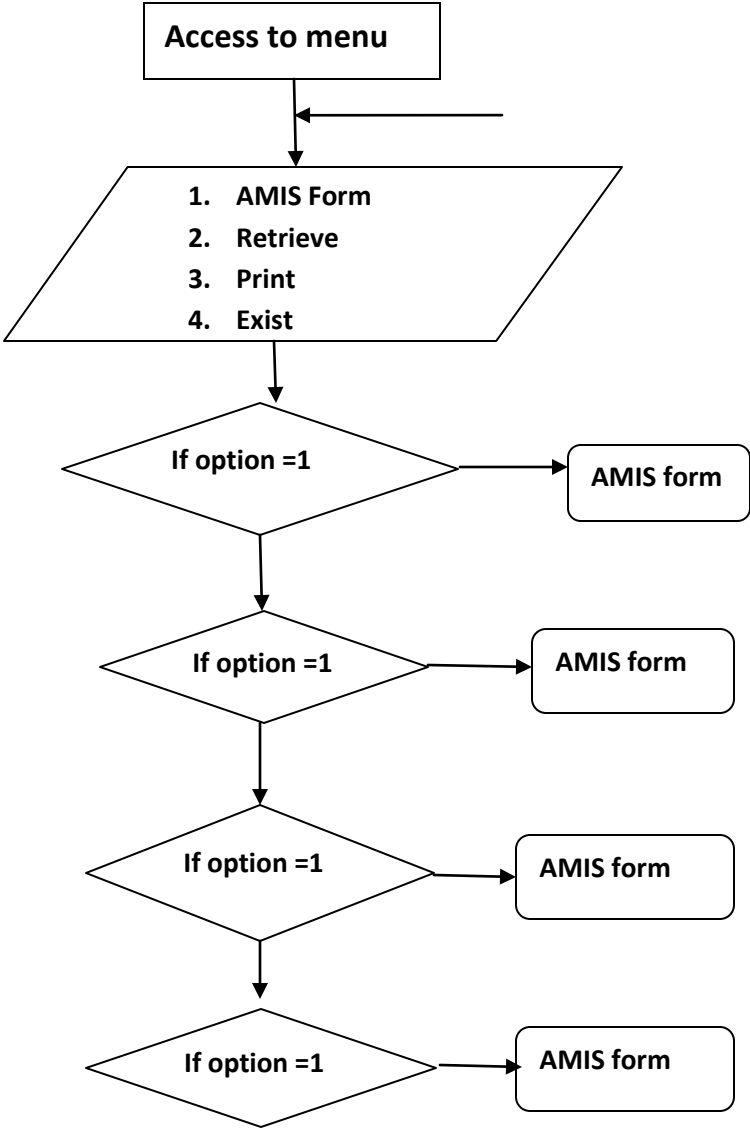


Fig 4.3: Program Flowchart

**4.10 MAIN MENU DESIGN FLOWCHART**



**Fig 4.4: Main Menu Flowchart**

**Note:** AMIS: Automate Management Information System



## **4.11 DOCUMENTATION**

### **4.11.1 System Documentation**

This phase of the project talks about how the system works, because the system is menu driven, all that is required are:

#### **Stage 1: Welcome Page**

Once the program is loaded, the welcome page is displayed, after few seconds (say 10 sec)

#### **Stage 2: Authorization Page**

This stage displays the authorization form where user will enter his/her username and password, then the system authenticates the password before moving to the next stage

#### **Stage 3: Main Menu Page**

This phase contains menu like **FILE, DISPLAY AND PRINT**, the file menu contains sub menu like New Job Record, Daily Completed Job and Exist, the Display Menu contain submenu like: Display All Record, Display One Record, and Print Menu contain submenu like: Print All, Print One.

## **4.12 PROGRAM DOCUMENTATION**

The new system is design with **VISUAL BASIC PROGRAMMING LANGUAGE**; this is because VB is real time, Object Oriented Programming (OOP) language and can work across other platforms of operating systems. The Database is designed in Micro Soft Access which is a flexible and reliable database

package and can found on every computer, which makes the installation and operating of the software easier.

### **a) Installation**

It is easy to visual basic programming language on the system, insert VB CD in the CDROM drive and following the instruction, also make sure the system has Microsoft Office.

### **b) User Documentation**

The project has seven forms namely:

- Home form
- Authentication form
- Menu form
- Sales order form
- Summary
- Retrieve form (for specific daily record)
- Retrieve form (for all data)

#### **A. Home Form**

This form functions as a security measure whereby the user will have to enter his/her username and password to gain access to the system.

#### **B. Authentication**

This form ensures that the username and password entered by the user is valid.

#### **C. Menu form**

This form acts as a navigation form. It has links to all the other forms in the project.

The menu file has these submenus:

- **New order:** this activates the sales order form
- **Retrieve record:** this menu has two submenus namely :
  - daily record; which activates retrieve form (for daily record)
  - all record: which activates retrieve form (for all record)
- **Exist:** this takes the user back to the homepage form.

#### (d) **Sales order form**

This form shows all the sale items available. The user will only be selecting items and the system will be calculating the total automatically. when the summary button is clicked, the summary form will be activated.

#### (b) **Summary form**

This form displays the summary of all the order made by a customer. It can also print the summary.

#### (c) **Daily Sales Retrieval Form**

This form shows all the sales made in a group of days in a month. It can also print the days and the sales of the days.

#### (d) **All sales retrieval form**

This form shows all the sales ever made by the company. It can also print these sales.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMENDATION**

#### **5.1 SUMMARY**

Few purchases can have as dramatic an effect on your retail or hospitality business as an automated management information system. The right of the automated management information system will give you a new level of control over your operations, increasing efficiency, boosting profits, and helping you fine-tune your business model.

The wrong system, however, can be waste of money and a source of ongoing frustration. Switching from a traditional cash register to a computerized management information system can be difficult- there are many factors to consider and some pitfalls to avoid. However the return on investment and benefits to your business can really make it worth your time and effort. As a result, the need for a computerized management information system can not be overemphasized.

#### **5.2 CONCLUSION**

At any point of the day, a computerised management information system can instantly tell you how many of a particular product has been sold today (or last week, or last month) how much money you have in your cash drawer, and how much of that money is profit. Detailed sales reports make it much easier for you to keep the right stock on hand. Track your remaining inventory, spot sales trends, and use historical data to better forecast your needs. Often, the software can alert

you to reorder when stocks run low. Many store owners think they know exactly what trends affect them find a couple of surprises once they have this data.

### **5.3 RECOMMENDATIONS**

The following are the commendation required in order to effectively use the new design are:

The hardware and software required in order to effectively use the new design are:

- Staff should have basic knowledge of computer operations
- The original Visual Basic CD should be installed
- Staffs should be trained on the job, no special training is needed to achieve full implementation

## REFERENCES

- Ansel, D., & Dyer, C. (1999). *A framework for restaurant information technology. Cornell Hotel and Restaurant Administration Quarterly*, 40, (3), 74-84.
- Brandau, M. (2009). *Restaurants reap the rewards of loyalty initiatives. Nations Restaurant News*, 43, (22), 1-3.
- Berry, C. (1998). *Tips to help operators take a nutritious "Byte" out of technology. Nations Restaurant News*, 18, (22), 38-40.
- Bojanic, D. C., & Rosen, L. D. (1994). *Measuring service quality in restaurants: An application of the SERVQUAL instrument. Hospitality Research Journal*, 18, (1), 3-14.
- Berkun, S. (2005). *Sales Management. Cambridge, MA: O'Reilly Media*
- Brooks, F. (1995). *The Mythical Man-Mouth, 20<sup>th</sup> Anniversary Edition*  
Adison Wesley
- Chamoun, Y. (2006). *Professional Sales Project Management, THE GUIDE, 1<sup>st</sup>. Edition, Monterrey, and NL MEXICO: McGraw Hill Publishers, California, USA, and New York.*
- Comminos, D and, Frigenti E (2002). *The Practice of Management Information System-A Guide to the Business –Focused Approach.* Kogan Page.
- Flyvbjerg, B.(2006). *“Distribution and Management Information System: Getting Risks Right.”* Flybourne. NLK Press and Co
- Griffin, R. (1998). *Data warehousing: The latest weapon for the lodging industry? Cornell Hotel and Restaurant Administration Quarterly*, 39, (4), 28-46.

- David, F. R. (2009). *Strategic management: concepts and cases* (11th ed., Rev.). Upper Saddle River, NJ: Pearson Education.
- Garver, M. (2002). *Using data mining for customer satisfaction research. Marketing Research*, 14, (1), 8-13.
- Harrison, J. (2003). *Strategic analysis for the hospitality industry*. Cornell Hotel and Restaurant Administration Quarterly, 44, (2), 139-152.
- Harrison & St. John (2008). *Foundations in strategic management (4th ed., Rev)*. Thomson/ South-western.
- Heerkens, G.(2001). *Effective Sales of Point Systems (The Briefcase Book Series)*. McGraw-Hill New York
- Irvine, W., Anderson, A. (2008). *ICT (information communication technology), peripherally and smaller hospitality businesses in Scotland, International Journal of Entrepreneurial Behaviour & Research*, 14, (4) 200.
- Jin-zhao, W. & Jing, W. (2009). *Issues, Challenges, and Trends, that Facing Hospitality Industry*.  
Management Science and Engineering, 3, (4), 53-58. Journal of American Academy of Business, Cambridge 12, (1), 113-119. Journal of Applied Business and Economics vol. 12(1) 2011
- Kerzner, H. (2003). *Sales Order Processing: Approach Sales and Distribution, 8<sup>th</sup> Ed. Wiley. International Indianapolis, India*.
- Lee, S. C., Barker, S. & Kandampully, J.(2003). *Technology, service quality, and customer loyalty in hotels: Australian managerial perspectives. Managing Service Quality*, 13, (5), 423-432.

- Leahy K. (2008). *Chain links. Restaurants & Institutions*,118, (18) 48. Journal of Applied Business and Economics vol. 12(1) 2011 79
- Luebke, P. (2010). *Social Media 101 for independent operators*.*Restaurant Start up and Growth*, 17-23.
- Lewis, J. (2002). *Fundamentals of Sales Management, 2<sup>nd</sup>Ed.*, American Management Association. Washington.
- Magnini, V., Honeycutt, E., & Hodge, K. (2003).*Data mining for hotel firms: Use and limitations*
- Meredith,A., Jack R. and Mantel B. and Samuel J.(2002). *Sales Decisions : A Management Approach, 5<sup>th</sup>Ed.*, Wiley. International Publishers Indiana.
- Miller,C.C., & Cardinal L.B. (1994). *Strategic planning and firm performance: A synthesis of more than two decades of research. Academy of Management Journal, 37, (6), 1649-1665.*
- Oparanma, O., Hamilton, D.I. & Seth J.A. (2009). *Strategies for Managing Hospitality in a Turbulent Environment: Nigerian Experience.*  
International Journal of Management and Innovation, 1, (1), 24-37.
- O'Sullivan, O. (1996). *Data warehousing- without the warehouse. ABA Banking Journal, 88, (18), 30-34.*
- Pettee, R. (2005). *As-Built Problems and Proposed Solutions.* Construction Management Association of American.



- Piccoli, G. (2008). *Information technology in hotel management: A framework for evaluating the sustainability of IT-dependent competitive advantage*. *Cornell Hospitality Quarterly*, 49, (3), 282.
- Piccoli, G., Spalding, B. R., & Ives, B. (2001). *The customer-service life cycle: A framework for improving customer service through information*. *Cornell Hotel and Restaurant Administration Quarterly*, 42, (3), 38-45.
- Rubinstein, E. (1998). Virtual private networks: Intranets on the cheap. *Nations Restaurant News*, 32, (16) 73.
- Robinson, T. (1996). *It all starts good clean data*. *Sentry Market Research*, S, 15.
- Ross, J.R. (2006). *Online reservation technology gains ground*, *Nations Restaurant News*, 40, (26), 68.
- Rubinstein, E. (1997). *Outsourcing IT functions*. *Nations Restaurant News*, 31, (27)
- Sanson, M. (2004). *Revved and ready*. *Restaurant Hospitality*, 88, (2), 41-49.
- Siguaw, J. A., & Enz, C. A. (1999). *Best practices in information technology*. *Cornell Hotel and Restaurant Administration Quarterly*, 40, (5), 58-71.
- Stevens, P., Knutson, B., & Patton, M. (1995). DINESERV: *A tool for measuring service quality*. *Cornell Hotel and Restaurant Administration Quarterly*, 36, (2), 56.
- Tanyeri, D. (2007). *High tech takes on small business*. *Restaurant Business*, 106, (12) 30-38.
- Vandermerwe, S. (1993). *Jumping into customer's activity cycle: A new role for customer service in the 1990's*. *Journal of World Business*, 28, (2), 48.
- Verzuh, E. (2005). *The Fast Forward MBA in Sales Management*, 2<sup>nd</sup>, Indiana.

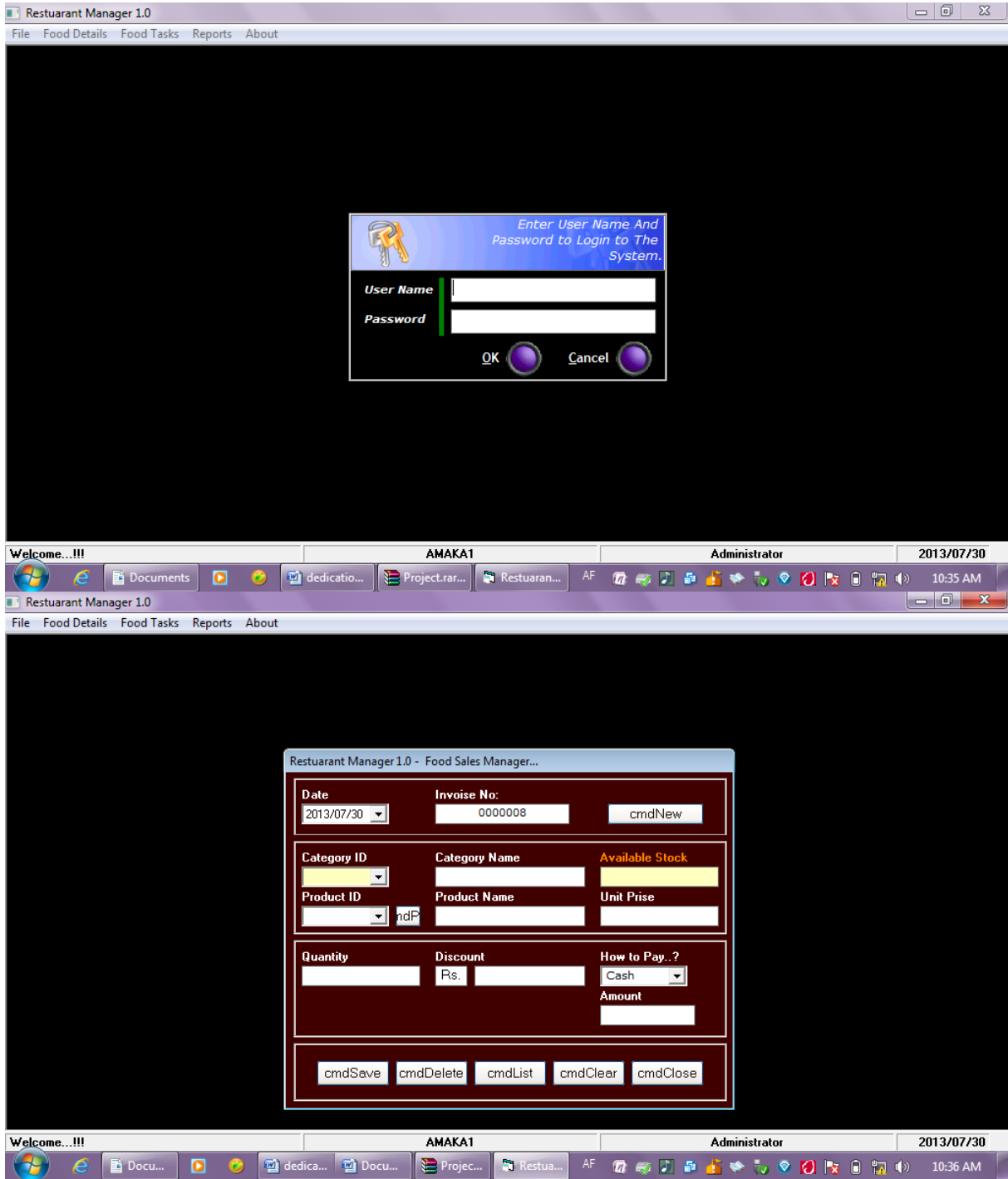
Whitty, S.J. and Schulz, M.F. (2007). *The Impact of Puritan Ideology On Aspects Of Management. International Journal of Sales Management*

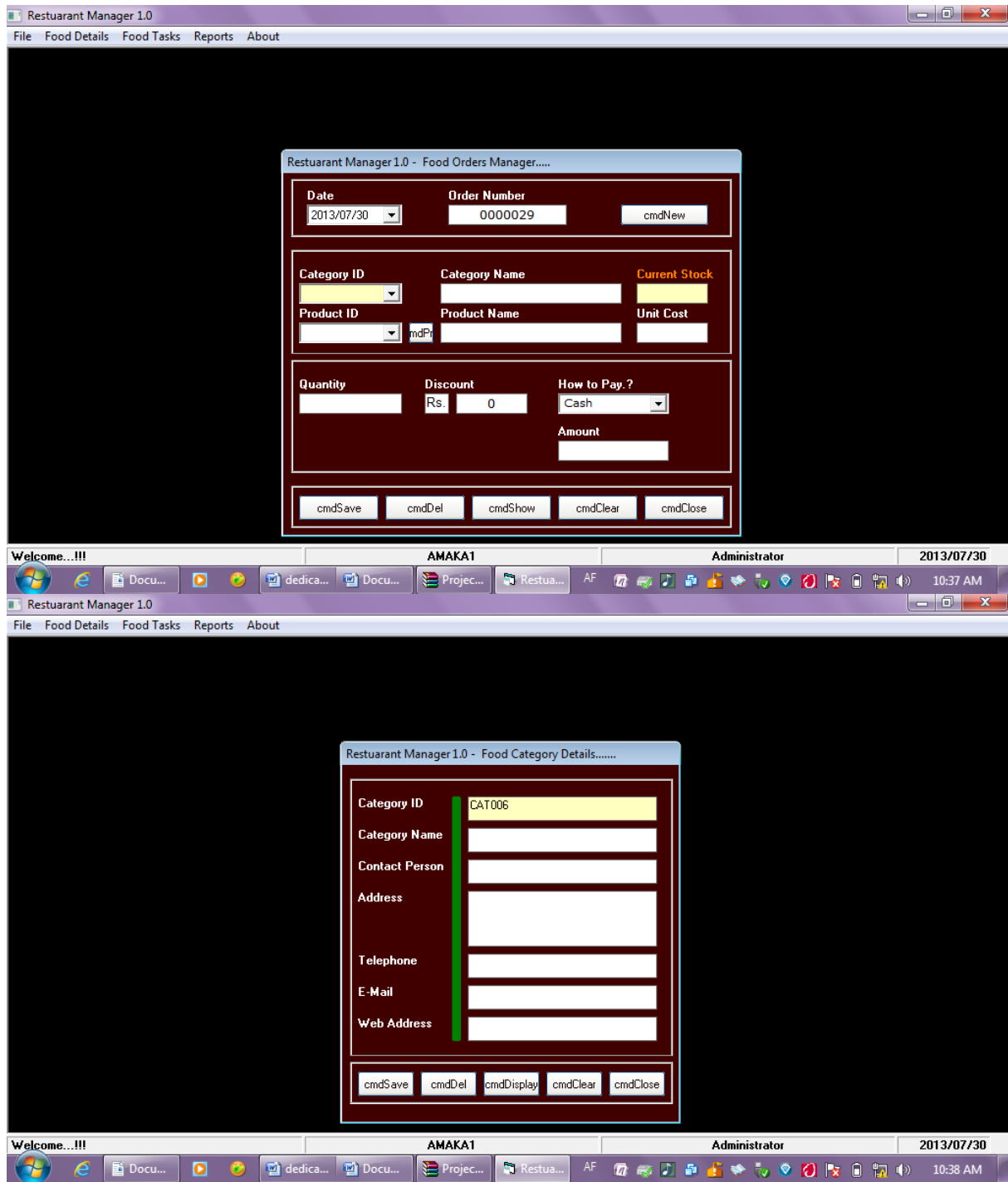
Whitty, S. and Jonathan A. (2005). *A Emetic Paradigm of Sales Management. International Journal of Project Management.*

Woolf, M. (2007). *Faster Construction Management Information System with CPM Scheduling*, 1<sup>st</sup>, McGraw-Hill. California USA. *Cornell Hotel and Restaurant Administration Quarterly*, 44, (2), 94-105.

Yang, H. O. & Fu, H.W. (2007). *Creating and Sustaining Competitive Advantages of Hospitality Industry.*

# APPENDIX





<Global.Microsoft.VisualBasic.CompilerServices.DesignerGenerated()> \_

## **Partial Class accounts**

**Inherits System.Windows.Forms.Form**

**'Form overrides dispose to clean up the component list.**

**<System.Diagnostics.DebuggerNonUserCode()> \_**

**Protected Overrides Sub Dispose(ByVal disposing As Boolean)**

**Try**

**If disposing AndAlso components IsNot Nothing Then**

**components.Dispose()**

**End If**

**Finally**

**MyBase.Dispose(disposing)**

**End Try**

**End Sub**

**'Required by the Windows Form Designer**

**Private components As System.ComponentModel.IContainer**

**'NOTE: The following procedure is required by the Windows Form Designer**

**'It can be modified using the Windows Form Designer.**

**'Do not modify it using the code editor.**

**<System.Diagnostics.DebuggerStepThrough()> \_**

**Private Sub InitializeComponent()**

**Me.DateTimePicker1 = New System.Windows.Forms.DateTimePicker()**

**Me.DateTimePicker2 = New System.Windows.Forms.DateTimePicker()**

**Me.Label1 = New System.Windows.Forms.Label()**

**Me.Label2 = New System.Windows.Forms.Label()**

**Me.Button1 = New System.Windows.Forms.Button()**

**Me.DataGridView1 = New System.Windows.Forms.DataGridView()**

**Me.Label3 = New System.Windows.Forms.Label()**

**Me.TextBox1 = New System.Windows.Forms.TextBox()**

**Me.Label4 = New System.Windows.Forms.Label()**

**Me.TextBox2 = New System.Windows.Forms.TextBox()**

**Me.Label5 = New System.Windows.Forms.Label()**

**Me.TextBox3 = New System.Windows.Forms.TextBox()**

```
Me.Button2 = New System.Windows.Forms.Button()

CType(Me.DataGridView1,
System.ComponentModel.ISupportInitialize).BeginInit()

Me.SuspendLayout()

,

'DateTimePicker1
```