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**A STUDY ON EFFECTIVENESS OF MRP SYSTEM AT  
COGNIZANT TECHNOLOGY SOLUTIONS COIMBATORE**

By

**K.S. ABILASH**  
71205631002

Of  
Department of management studies  
**Kumaraguru College of Technology**  
COIMBATORE.

A PROJECT REPORT

Submitted to the

**FACULTY OF MANAGEMENT SCIENCES**

In the partial fulfilment of the requirements  
for the award of the degree

Of

**MASTER OF BUSINESS ADMINISTRATION**

**June, 2007**

*Certificate*

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**KCT Business School**  
**Department of management studies**  
**Kumaraguru College of Technology**  
**Coimbatore – 641006**

### **BONAFIDE CERTIFICATE**

Certified that this project report titled “**A Study on Effectiveness of MRP System at Cognizant Technology Solutions**”, **Coimbatore** is the bonafide work of **K.S.Abilash, 71205631002** who carried this research under my supervision. Certified further , that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

**Prof. K. R. Ayyasamy**  
**Project guide**

**Director**

Evaluated and Viva Voce conducted on 2/07/07

**Examiner 1**

**Examiner 2**



**Cognizant**

May 9, 2007

Cognizant Technology Solutions India Private Ltd.

Kumaraguru College of Technology,

STPI - IT Park,

Mountain View Campus,

Coimbatore - 641006, INDIA.

Phone : (+91-422) 3984000

Fax : (+91-422) 3984060

[www.cognizant.com](http://www.cognizant.com)

### CERTIFICATE

This is to certify that **Mr. Abilash K S** ( Roll No: 05MBA02) a 2<sup>nd</sup> Year MBA student of KCI Business School, Coimbatore has completed his Project Work on "Effective Study of MRP System" under the guidance of Mr. Raja Sankar, Manager - Projects. The duration of the project was from 16<sup>th</sup> January 2007 to 20<sup>th</sup> April 2007.

For **Cognizant Technology Solutions India Private Ltd.**

**Prabhu Chari**  
**Assistant Manager - HR**

*Declaration*

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## DECLARATION

I, hereby declare that this project report entitled as “**A Study on Effectiveness of MRP Systems at Cognizant Technology Solutions, Coimbatore**” has been undertaken for academic purpose submitted to Anna University in partial fulfillment of the requirements for the award of the degree of Master of Business Administration. The project report is the record of the original work done by me under the guidance of Prof.K.R.Ayyasamy during the academic year 2006 – 2007.

I, also declare hereby, that the information given in this report is correct to best of my knowledge and belief.

Date : 01/06/07.

Place: Coimbatore



K.S. Abilash

# *Acknowledgement*

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I express my sincere gratitude to our beloved Correspondent **Prof. Dr. K. Arumugam**, the prime guiding spirit of Kumaraguru College of Technology.

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# *Executive Summary*

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## **EXECUTIVE SUMMARY**

The Existing system is the Xelus which is used to capture the sufficient knowledge of the data's from the customers. The objective is to capture sufficient knowledge about the System. To enable phased take-over of maintenance of the system, by the Cognizant team. To be able to set up plans and procedures to perform maintenance activities conforming to the existing Customer.

The problems which are faced by the present system is mainly the manual works which are going in the current system. Because of manual work, the company finds very tough to maintain the stocks in order in the warehouse. There may arise some problems like stock calculation, bill's accounting in the present system due to manual work.

For overcoming the above manual works the company asked me to develop a new system using Visual Basic, MS Access and Oracle. The system is developed based on how to overcome the manual works in the present system. With the use of the above designed system the company has planned to do some changes in the present system.

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# *Introduction*

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## **INTRODUCTION**

### **1.1 Background**

Research is a systematized effort to gain knowledge. The research methodology adopted for the study is described in this chapter. The methodology includes objectives, data collection and design. The research design adopted for the study is DESCRIPTIVE RESEARCH. Research is undertaken with an idea to know about the effectiveness of existing Material Resource Planning system at Cognizant Technology Solutions, Coimbatore.

## **1.2 OBJECTIVES OF THE STUDY**

The study is conducted to fulfill the following objectives.

### **Primary Objectives**

The primary objectives are

- To evaluate the effectiveness of existing system.
- To analyze and identify the factors affecting the present system.
- To make suitable suggestions and recommendations to improve the present system.

### **Secondary Objectives**

- To assess the cost effectiveness of the suggested improvements.

## **EXISTING SYSTEM AND ITS PERFORMANCE:**

The Existing system is the Xelus which is used to capture the sufficient knowledge of the data's from the customers. The objective is to capture sufficient knowledge about the System. To enable phased take-over of maintenance of the system, by the Cognizant team. To be able to set up plans and procedures to perform maintenance activities confirming to the existing Customer.

To be able to mutually agree upon service levels for various types of services offered by Cognizant. It is a web application that provided inventory stock operations and back office operations. The system s used to supply the spare parts from the department thru supply chain management.

The system will calculate how much spares the engineers needs to develop a system. The users must login to the web address which s specified by the company and they have to order the spares thru the site which will be send to the web server and it will pass to the Xelus Server and it will look for the spares information in the database. The database used is Oracle.

In this system the customer will give an order to the inventory control that s the Xelus plan which contains both the inventory control and the Material requirement planning. After planning the requirements they will send to the manufacturing sector and it will pass to the national distribution center and regional distribution center and it will be delivered to the customers. If there s any problem with the parts delivered it will send to the repair shop immediately to change the spares.



### 1.3 STATEMENT OF THE PROBLEM

- **Xelus is not in sync with Sabre**

SABRE is a warehouse in Venray .Xelus database was not updated with the data from SABRE.This could be a product ional issue or SABRE transactions were not recorded properly by SABRE support team

- **User has an order that needs to be deleted**

Xelus users can place manual orders using the Worksheet. One user placed excess quantity which he wanted to delete.

- **Xelus plan Spares-Part deletion**

User has placed a Quantity of 10 for a part. But the Manufacturing unit shipped the quantity in installments out of which 7 where shipped in two transactions. User suddenly decided that he did not want the rest 3 quantity of the part. This could be because of the wrong forecast of Demand by the user.

- **Reopen Closed order in Xelus for part 094e02770**

A part is said to be in closed status if all the transaction of the part is over for the customer who has placed the order, ie the user would have received the quantity of a part as requested. In this incident, He wanted to reopen the closed order ,in order to request for some more quantity of the same part.

- **MCO orders not in worksheet**

MCO-Manage Customer Orders----User has placed the order but the order was not reflected in Xelus. This was a production issue. Feed from a SABRE was not updated in Xelus D/B due to which the data was not reflected in Xelus Worksheet.

## **1.4 METHODOLOGY**

### **TYPE OF STUDY**

Descriptive research, also known as statistical research, describes data and characteristics about the population or phenomenon being studied. Descriptive research answers the questions who, what, where, when and how.

Exploratory research is a type of research to solve a identified problem has not been clearly defined. Exploratory research helps determine the best research design< data collection method and selection of subjects. Given its fundamental nature, exploratory research often concludes that a perceived problem doesn't actually exist.

The study describes the data and the phenomenon being studied and it also tries to define a problem that has not been clearly defined, with the help of informal discussions. Thus the research includes the descriptive study.

## **DATA COLLECTION**

The study uses both primary as well as secondary data. The primary data were collected from the persons who are using the system and from the handbook of the existing system.. Secondary data were collected from existing system records.

## **DATA ANALYSIS**

Analysis is the computation of certain indices or measures along with searching for patterns of relationship that exist among the data groups. The collected primary data is used to develop a new system using Visual Basic, MS Access and Oracle.

## **TOOLS OF ANALYSIS**

The tools used for identifying the rejected products are:

- Microsoft Access 2002
- Visual basic 6.0 (front end)
- Oracle database (back end)

### **Microsoft Office Access 2002**

With its new Microsoft Office Fluent user interface and interactive design capabilities that do not require deep database knowledge, Microsoft Office Access helps you track and report information with ease. Get started quickly with prebuilt applications that you can modify or adapt to changing business needs. Collect information through forms in e-mail or import data from external applications. Create and edit detailed reports that display sorted, filtered, and grouped information in a way that helps you make sense of the data for informed decision-making. Share information by moving your Office Access files to a Windows SharePoint Services Web site, where you can audit revision history, recover deleted information, set data access permissions, and back up your information at regular intervals.

### **Quickly get started tracking information**

Start working immediately with the results-oriented features in Office Access: Prebuilt solutions. The new Getting Started screen includes a variety of Prebuilt database solutions. Use these applications right out of the box to track contacts, events, issues, assets, tasks, and more or treat them like templates, and enhance and refine them to accommodate the kind of information you want to track or the way in which you want to track it. As other application templates become available from Microsoft Office Online, they will be advertised in the Getting Started screen.

### **Improved navigation**

The new Navigation Pane provides a comprehensive view of tables, forms, queries, and reports. You can even create custom groups to organize and see all the forms and reports related to a single table.

### **Quickly create tables**

Office Access makes it easier to work directly within a datasheet to create and customize tables. Enter information into a data cell — just as you do in Microsoft Office Excel. When you enter a new value, Office Access automatically adds a new field and detects the data type (for example, date, number, or text). You can even paste Excel tables into a new datasheet, and Office Access will build all the fields and recognize the data types automatically.

Import contact records from Microsoft Office Outlook. Office Access makes it easy to exchange an individual Access contact record with Office Outlook. You can import an Outlook contact record into Office Access; you can also export a contact record from Office Access and save it as a contact in Office Outlook.

### **Filter and sort data**

Office Access makes it easier to filter data, bringing clarity to business questions. Different filter options are available for text, numbers, and date data types. For example, new filtering options make it easy to filter a date column for all records in Today, Yesterday, Last Week, Next Month, Future, Past, and so on. The filtering

experience is consistent between Office Excel and Office Access so that you don't need to learn a new way to find the information they need.

- **Work with multivalued fields**

Office Access supports complex data types, so you can create columns that accept more than one value in a cell. For example, if you assign a task to more than one person, you can include both names in the cell. Windows Share Point Services technology is compatible with these complex data types to help ensure data symmetry between the local and Web-based data stores.

- **Attach documents and files to your database**

Your applications can hold information that is more interesting and helpful than ever before. You can attach

- **Interactive forms design**

Office Access features a what-you-see-is-what-you-get (WYSIWYG) forms design interface. You can design and modify the form layout in real time on the screen — and preview your form as you build it. With the WYSIWYG design interface, you can build forms very quickly, spending more time doing the work and less time on design and formatting issues.

- **Rich text**

Bold text? Italics? No problem. Office Access provides rich text support for data stored in tables.

## **Create and adapt meaningful reports**

Use Office Access to make sense of complexity by consolidating information into meaningful reports that facilitate informed decision-making.

Interactive report design mode editing. With new functionality in Office Access, you can see how data will appear in a report while you are creating it. Using the new WYSIWYG interface, you can manipulate the report layout directly while browsing the data in the report designer, so you don't need to run the report to see

how it looks on the page. This makes it easier to create a great-looking report and saves you time.

### **Interactive report browse**

The new report browse mode makes user reports more accessible. Use CTRL+F to find records, copy the data into other applications, and get to detailed records to edit the data. With the new filtering functionality, you can get clearer information on which to base decisions.

### **Group information in reports**

The improved Grouping Pane provides a clear display of data groupings so that you can preview changes as you are applying them to reports. You can easily add totals, subtotals, counts, and other elements that help you analyze the data. You can also group the information in one or more layers and add subtotals.

### **Manage and audit sensitive information**

Office Access makes it easier for you to meet your information management needs with improved data transparency in a manageable environment.

### **Improved security**

To make Office Access even safer and more consistent with other Microsoft Office system programs, Office Access includes improved as well as new security features. Unified trust decisions are integrated with Office Trust Center. Trusted locations make it easy to trust all databases in security-enhanced folders. Conversely, you can load an Access application with code or macros disabled to help provide a safe experience.

### **Visual basic 6.0**

Visual Basic (VB) is an event driven programming language and associated development environment from Microsoft for its COM programming model. VB has been replaced by Visual Basic .NET. The older version of VB was derived heavily from BASIC and enables the rapid application development (RAD) of graphical user

interface (GUI) applications, access to databases using DAO, RDO, or ADO, and creation of ActiveX controls and objects.

A programmer can put together an application using the components provided with Visual Basic itself. Programs written in Visual Basic can also use the Windows API, but doing so requires external function declarations.

In business programming, Visual Basic has one of the largest user bases. In a survey conducted, 62% of developers reported using some form of Visual Basic, it currently competes with C++, JavaScript, C# and Java for dominance in the business world.

Visual Basic was designed to be easy to learn and use. The language not only allows programmers to easily create simple GUI applications, but also has the flexibility to develop fairly complex applications as well. Programming in VB is a combination of visually arranging components or controls on a form, specifying attributes and actions of those components, and writing additional lines of code for more functionality. Since default attributes and actions are defined for the components, a simple program can be created without the programmer having to write many lines of code. Performance problems were experienced by earlier versions, but with faster computers and native code compilation this has become less of an issue. Forms are created using drag and drop techniques. A tool is used to place controls (e.g., text boxes, buttons, etc.) on the form (window). Controls have attributes and event handlers associated with them. Default values are provided when the control is created, but may be changed by the programmer. Many attribute values can be modified during run time based on user actions or changes in the environment, providing a dynamic application. For example, code can be inserted into the form resize event handler to reposition a control so that it remains centered on the form, expands to fill up the form, etc. By inserting code into the event handler for a keypress in a text box, the program can automatically translate the case of the text being entered, or even prevent certain characters from being inserted.

## **Oracle database**

Oracle is made up of a set of processes running in your operating system. These processes manage how data is stored and how it is accessed. I will cover these processes in detail in the future; but for now we just need to understand that Oracle is a program that is running in the background, maintaining your data for you and figuring out where it should go on your hard drive.

## **Overview**

Oracle is a multi-user database management system - A software package specializing in managing a single, shared set of information among many concurrent users. Oracle is one of many database servers that can be plugged into a client/server equation. Oracle works to efficiently manage its resource, a database of information, among the multiple clients requesting and sending data in the network.

Oracle has many important features that make it not only an exceptional database management system, but also an excellent database server choice for client/server computing. Oracle supports all major operating systems for both clients and servers, including MSDOS, NetWare, UnixWare, OS/2 and most Unix flavors. Oracle networking software, SQL\*Net, also supports all major network communication protocols, including TCP/IP, SPX/IPX, Named Pipes and DEC-Net. Therefore, Oracle can be the link which joins the many data stores and networks throughout the heterogeneous computing systems prevalent in most corporations.

## **Key features**

### **PL-SQL**

PL-SQL is a robust programming language in which stored procedures can be written. The procedures are stored in a compiled format, which allows for faster execution of code. Cursors are supported for row by row processing. Arrays are supported (using the table datatype), as well as structures (the record type). Since PL-SQL procedures cannot return a result set, returning rows to a calling application requires implementing arrays as "out" variables.



One powerful feature of PL-SQL is the ability to create custom functions which can be used within SQL statements.

### **Performance and scalability**

Oracle has always been known for its speed and performance. Oracle 8 supports over 15,000 active user connections. The patented record locking scheme made it an attractive candidate for canned applications marketed by Peoplesoft and the like. The ability to turn transaction logging on and off at will allows Oracle squeak by competitors during benchmark analysis runs.

Coming soon: benchmarks on Solaris and Linux machines.

### **Management and Development Tools (for Windows)**

SQL-Plus is the interactive query tool used with Oracle: it is useful for entering queries and stored procedures. Complex reporting capabilities are available for those willing to learn SQL-Plus extensions.

Oracle Enterprise ships with Enterprise Manager, a full featured front end to the intricacies of Oracle. The main areas of the system (security, storage, schemas) are managed by totally separate applications, which is cumbersome at times. The "best of breed" product in this category is DB-Artisan by Embarcadero Technologies.

Other Oracle system management tools (like the GUI manager for Context) have a lot to be desired. Oracle gained a reputation for poor quality development tools with the release of Oracle Forms for windows. Renamed Developer 2000, it is gaining acceptance within pure Oracle shops.

### **Storage Concepts**

Tables are stored in tablespaces; a tablespace is made up of one or more data files. Although it is possible to use raw devices within Oracle, it is not recommended. Control files, rollback segments, and redo logs are all stored in separate files within the operating system.

## **Security and Account Setup**

Oracle is shipped with several built-in accounts: system, internal, and sys. Operating system authentication is required in order for a login to be created with similar privileges. After a login is created, access is then granted to the tables within schemas as needed.

## **Data Types**

Supported data types include number, char, varchar2, date, long raw, clob, and blob. Blob and clob (Oracle 8 only) datatypes are implemented via pointers within the physical record structure ; the field contents are stored in dedicated blocks. As a result, each blob or clob field requires at least 2K of storage (depending on the database block size). Long raw datatypes are stored in-line, and are discouraged. For string data, the varchar2 type can be used for lengths up to 2000; the clob type can be used for longer field data.

( \*\* blob = binary large object, clob = character large object) Date fields are represented as a number of days, along with a decimals fraction (accurate to the minute). Additional accuracy can be obtained by purchasing a separate module. Sequences provide a means of auto incrementing an ID column - selecting sequence\_name.NEXTVAL automatically increments the sequence and returns the new value.

## 1.5 LIMITATIONS

There were certain limitations of the study conducted regarding the effectiveness of existing system..

- The study is limited only to Coimbatore city
- Time is one of the Limitation.
- Difficulty of getting access to some datas about the system due to confidential nature.

## 1.6 CHAPTER SCHEME

The chapter scheme includes an overall view of the project work. The report of the project work is organized into five chapters. The first chapter is an overview about the performance of the existing system. It includes the definition, purpose, objectives, factors affecting performance of the system, barriers to the existing system and steps to overcome these barriers.

The second chapter discusses the profile of the company. It includes the mission, objectives, quality policy, and organization profile, hierarchy of executives, achievements and uniqueness of the firm, human resource department's description like HR mission, HR vision, HR value statement and HR philosophy.

The research methodology adopted for the study is prescribed in the third chapter. It includes introduction, statement of problem, objectives of the study, data analysis, scope of the study, limitations of the study and the chapter scheme.

The Design layout of the system is discussed in chapter four. This chapter contains the layout designs like the input designs, output designs and the data flow diagrams of the newly developed system.

The last chapter contains a summary of the findings. It also gives some implications to be implemented in the company to improve the existing system.

# *Organizational Profile*

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## **ORGANIZATIONAL PROFILE**

### **2.1 HISTORY OF THE ORGANIZATION**

Software firms are the ones which are booming as the years move on. In India the major players are Cognizant, Infosys, Wipro and Satyam. Cognizant Technology Solutions is a leading provider of IT services. It is focused on delivering strategic information technology solutions that address the complex business needs of its clients. It has over 40,000+ employees, and is committed to partnerships that sustain long-term, proven value for customers by delivering high-quality, cost-effective solutions.

Cognizant constantly becomes more customer centric by creating new ways to deliver bottom-line benefits to customers. It provides the services to its customers through unique delivery model employing split project teams that combine technical/functional coordination and relationship management personnel at customer locations and larger execution and support teams at offshore centers in India. Its processes and procedures are tuned to make the best use of this model leveraging two time zones for faster delivery and cost effective solutions.

The Vision of the firm is “To be the most preferred software services partner for Fortune 1000 and blue chip customers, worldwide”. It has a well framed mission which is “To co-source perfectly engineered software solutions that add competitive advantage to our clients, through long-term partnerships”.

The firm has a own goal which is framed as “Making our customers' businesses stronger by empowering them to be more responsive to their customers and to the competitive environment”.

The firm which is headquartered in Teaneck, New Jersey has its presence throughout the globe. It has state-of-the-art software development centers, in India (Bangalore, Bombay, Chennai, Coimbatore, Hyderabad, Kolkata & Pune), United States and Canada. It has sales and marketing offices in Atlanta, Chicago, Dallas, Minneapolis, San Ramon, Irvine, New Jersey, Toronto, London, the Netherlands,

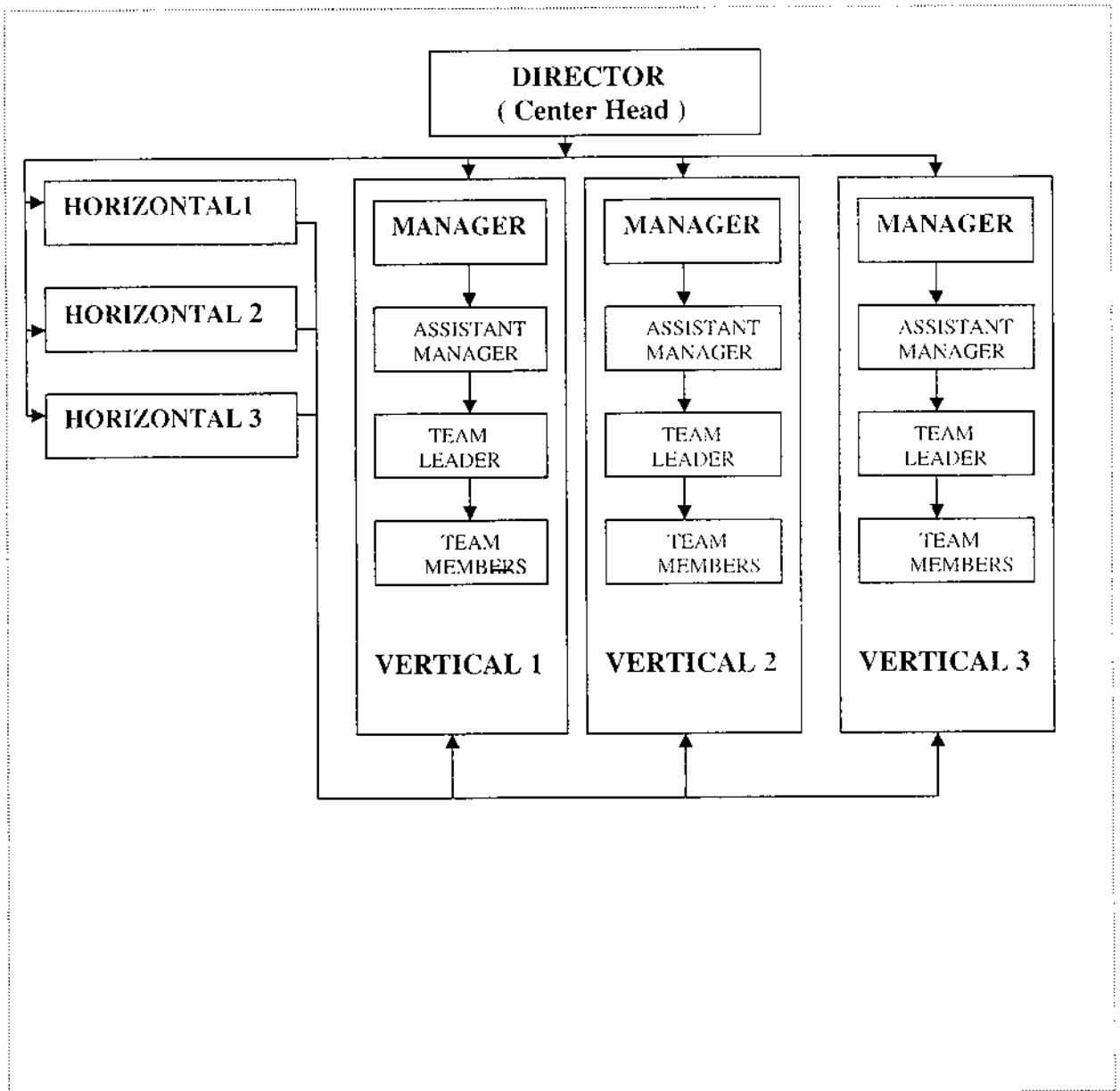
Frankfurt, Zurich, and Singapore and has plans to expand its presence to China and Eastern Europe.

Cognizant incubated as the technology arm of The Dun & Bradstreet Corporation in 1994 and by 1996 it started looking at third-party clients and began servicing the best across industry segments. In the period of 1998-2002, it became the IT company leveraging India to get listed on NASDAQ and the first company to be assessed enterprise-wide against mature industry process certifications such as P-CMM level 5, BS 7799, SEI-CMMi Level 5. By 2004

It was acknowledged as a leading provider of IT services by industry analysts such as Gartner, Forrester, AMR and IDC and was also added to the prestigious NASDAQ 100 Index among companies that defined newer business paradigms. In 2006 it became the fastest IT Services Company globally to clock a \$1 billion run rate in nearly 12 years.

## 2.2 ORGANIZATION STRUCTURE

The Organizational Structure in Cognizant is a top down structure with support areas functioning at all level.





## 2.3 **PRODUCT PROFILE**

The solutions is provided to both industries and services and they are as follows

### **SOLUTION INDUSTRIES**

The solutions are provided to various industries, the industries and the specific service provider are as follows

#### **BANKING & FINANCIAL SERVICES**

Cognizant has deep domain industry expertise and extensive experience across the Banking and Financial Services industry. The different banking services concentrated are Business Application Services, Retail Banking, Consumer Lending, Cards & Payments, Wholesale Banking, Risk Management, Investment Management, Investment Banking & Brokerage, Security Services, and Services. And the solution frame works are MiFID, Reference Data, Check 21, Basel II, AML, and Trading Solutions.

#### **HEALTHCARE**

Cognizant's Healthcare practice has been consistently ranked among the Healthcare Informatics Top 100 list for the past three years. With its strong team of PAHM and MHP certified domain consultants, Cognizant is valued by customers for delivering high-end total business solutions in the healthcare space. The areas in which service is provided are End-to-End Managed Care System, Regulatory Compliance Services, Consumer Directed Healthcare, Enterprise Reporting & Data Analytics, Business Process Assessment, eHealth & Self Services and Legacy Modernization.

#### **INFORMATION MANAGEMENT, MEDIA & ENTERTAINMENT**

Cognizant bring IT Strategy, BPR, Application Development and Maintenance and BPO to Media companies around the world. The areas concentrated are Information and media, Entertainment. Digital media solution center and Solution framework.

## INSURANCE

Cognizant combines deep domain expertise, proprietary intellectual property, and the onsite/Offshore delivery model to solve critical Insurance industry problems. The major areas concentrated are Property & Casualty and Life insurance.

## LIFE SCIENCES

Cognizant offers solutions across the value chain for the Pharmaceutical industry - from Research and Development to Sales and Marketing. The areas concentrated are Research & Development, Pharmacovigilance, Manufacturing, Sales & Marketing, Regulatory Compliance, IT Strategy Consulting, Validation Services, COTS Evaluation, and BPO.

## MANUFACTURING & LOGISTICS

Cognizant offers industry-specific solutions to the Manufacturing and Logistics industry. Combining its technical and business expertise, Cognizant have helped clients align their IT strategy with their business goals. The areas concentrated are Services overview, Sales & Marketing, , Supply Chain Management, ERP.

## RETAIL & HOSPITALITY

Cognizant works with retail customers across five continents, including 21 blue- chip customers worldwide and 6 out of the top 25 retailers in the U.S. Some of the major areas are Retail Services, Oracle Retail Services, Travel & Hospitality Services.

## TECHNOLOGY

Cognizant helps address the challenges of High Technology, Online, and Independent Software Vendors by providing Product Development and Product Value Management services. Cognizant improves the speed of go-to-market for new products and provides various services for growth and sunset cycles. The areas concentrated are Product Engineering, Re-architecture, Real-time Delivery, Testing Services.

## TELECOMMUNICATIONS

Cognizant provides end-to-end information technology consulting, systems integration, technical capabilities in core network technologies, and custom application development and maintenance services for the Telecommunications industry. The areas concentrated are Order and Service Management, Billing, Service Fulfillment, Customer Management and Interaction, Business Intelligence and Data Warehouse, Enterprise Management.

## 2.4 SOLUTION SERVICES

The solution services provided are as follows

- Advanced Solutions Delivery
- Business Process Outsourcing
- Business Technology Consulting
- Customer solutions Practice
- Data Warehousing & Business Intelligence
- Enterprise Resource Planning
- Information Security & Privacy
- IT Infrastructure Services
- Portals & Content Management
- Program Management
- Software Applications Services
- Supply Chain Management
- Testing Solutions
- Usability Engineering

## COMPETITIVE STRENGTH OF THE COMPANY (INGREDIENTS TO SUCCESS)

### BUSINESS CULTURE

Their business culture is neither India-centric nor exclusively Western in style, striking the best balance of all the offshore firms. Most of their Cognizant management team has extensive US or European experience, and understands their clients' culture.

In India, Cognizant is considered a 'local' player with a very strong reputation for excellence. Their clients benefit from their non-hierarchical, responsive "can-do" approach to business.

### DOMAIN EXPERTISE

Cognizant is the only major offshore company organized around verticals and horizontals rather than just regions and development centers. With their deep domain expertise in key verticals and large-scale horizontal solution, they are a highly project-

oriented firm that can take complete responsibility for large development and integration projects, and for delivering bottom line results from application management.

They have a strong track record of successfully executing very large scale, complex, transformational development and integration projects offshore. These are the kinds of projects that have not been traditionally considered "off-shorable". They have also developed proprietary CMM-Level 5 processes to successfully manage and deliver these projects offshore. Their level of success has not been matched by any other major offshore player.

#### TECHNICAL EXPERTISE

Cognizant has deep technology expertise across a wide range of competencies. Technology competency and the quality of their people are the highest-rated attributes in their Customer Satisfaction Survey.

#### QUALITY OF CLIENT BASE

Cognizant has a blue chip client base with many industry leaders that they are proud to partner with and to contribute to the growth of their businesses. Their clients go to extensive lengths to serve as references and champions of their growth and innovation.

#### NEVER LET CLIENT DOWN

Their client testimonials say Cognizant people go to extraordinary lengths to solve problems, or just help out. Their people model attracts talented, highly motivated, client- focused individuals with a "can-do" attitude.

They have never had a termination for project failure or for non-performance. This fact is reinforced by all of their customers in the annual customer satisfaction survey conducted by a third-party.

Their flexibility, responsiveness, ownership and the assurance that they will never let you down is core to their delivery model. If problems arise, they swarm around the challenge and quickly work to get the job done without arguing about who's at fault. Their people are proud of our track record and work hard to contribute to their stellar service reputations.

## FUTURE PLANS

Based on current visibility, the Company is now providing the following guidance:

- First quarter 2007 revenue anticipated to be approximately \$448 million, up 57% compared to the first quarter of 2006.
- First quarter 2007 diluted EPS expected to be \$0.47 on a GAAP basis, and \$0.52 on a non-GAAP basis, which excludes a stock-based compensation expense of \$0.05.
- Fiscal 2007 revenue anticipated to be at least \$2.04 billion.
- Fiscal 2007 diluted EPS expected to be at least \$2.10 on a GAAP basis, and at least \$2.31 on a non-GAAP basis, which excludes a stock-based compensation expense of \$0.21.
- Total headcount by end of 2007 expected to reach at least 56,000.
- They are also making investments in their infrastructure in India and expanding into more geography that will enable them to tap new sources of talent. For example, they recently opened a development center in Kochi, their eighth city in India.
- They are also making steady, long-term investments in China, as they continue to expand their global delivery platform.

# *Macro & Micro Analysis*

---

### 3. MACRO & MICRO ANALYSIS

The Indian IT software and services industry is maintaining a steady pace of growth and keeping its place as the spearhead of India's export attack.

Indian IT software and services industry has matured, become more refined and moved up the value chain in terms of solutions offered to customers. The customers, from all parts of the globe, have meanwhile continued to flock to India's corporate for help with their software needs. Major corporations are continuing to rely on Indian software companies for both legacy and new technology solutions. The wide span of the country's expertise across myriad technologies and platforms has provided the Indian software engine with awesome power to deal with any kind of IT requirement. The enormous base of skilled manpower, India's PhDs and computer science graduates is the envy of virtually every country, and in fact a major draw for global customers.

In Information technology (IT), India has built up valuable brand equity in the global markets. In IT-enabled services (ITES), India has emerged as the most preferred destination for business process outsourcing (BPO), a key driver of growth for the software industry and the services sector. India's most prized resource in today's knowledge economy is its readily available technical work force. India has the second largest English-speaking scientific professionals in the world, second only to the U.S.

In order to broaden the internet base, the Department Of Information technology has also announced a programme to establish State Wide Area Network (SWAN) up to the block level to provide connectivity for e-governance. The Department has also set up Community Information Centers (CICs) in hilly, far-flung areas of the North-East and Jammu and Kashmir to facilitate the spread of benefit of information and communication technology. It is also proposed to set up CICs in other hilly, far-flung areas of the country like Uttaranchal, Andaman & Nicobar and Lakshadweep.



India stands tall today among global contemporaries in the software market, its name having become synonymous with expertise in this discipline. A World Bank- funded study has confirmed that foreign vendors rated India as their top choice for software outsourcing. The list of these companies is as long as it is illustrious. It includes General motors, British Airways, Wal-Mart, Coke, General Electric, Ford, Sony, Nokia, Siemens, United Airlines, Pepsi, Boeing and Citibank.

Indian software companies are increasingly providing sophisticated solutions for e-commerce, e-banking, CRM, SCM, telecom software, mobile internet, WAP, network integration, application development, robotics, embedded software, microelectronics design and software engineering among others.

India's software and services industry has and will continue to remain in the driver's seat of the country's IT sector. India's success in the software arena is attributed to the software industry's knowledge and expertise in cutting edge technologies and skilled manpower base. Both these strengths are likely to contribute towards the industry's future growth. In fact, India's prowess in emerging technologies is also helping the software and services industry obtain new customers, even in the face of a debilitating U.S. economy slowdown> There is only one way that the Indian software industry is headed and that is up. The coming years will only reiterate this trend.

As more companies farm out their business tasks to India, Cognizant keeps riding the outsourcing wave. The bulk of the New Jersey-based outsourcer's sales come from managing enterprise applications for corporations in its development centers scattered across India. But it developed a twist on the formula that has given it an advantage over the increasingly crowded field. Rather than setting up shop solely in India, it was one of the first outsourcers to focus on building a U.S.-based management team so that it could develop closer relationships with customers.

The strategy is working like a charm. About 87% of its sales come from customers in North America, most of which are large corporations that want to cut their tech costs -- such as JP Morgan Chase and united Healthcare. Now, Cognizant is seeing growth from testing software code and is mowing upstream into consulting.

Cognizant Technology Solutions is a provider of custom IT consulting and technology services as well as outsourcing services for Global 2000 Companies located in North America, Europe and Asia/ Its core competencies include Technology Strategy Consulting, Complex Systems Development, Enterprise Software Package Implementation and Maintenance, Data Warehousing & Business Intelligence, Application Testing, Application Maintenance, Infrastructure Management, and Vertically-Oriented Business Process Outsourcing. Cognizant tailor its services to specific industries, and utilize an integrated on-site/offshore business model. This seamless on-site/offshore business model combines technical and account management teams located on-site at the customer location and offshore at dedicated development centers located primarily in India. Its business is organized and managed primarily around its four vertically-oriented business segments: Financial Services; Healthcare; Manufacturing, Retail & Logistics; and Other - which include Telecommunications, Information Services, Media and High Technology.

The Company is organized around industry verticals, and it reports the operations of its business in the following four business segments: Financial Services, Healthcare, Manufacturing/Retail/Logistics and Others.

In September 2006, they acquired Aim Net Solutions, Inc. (Aim Net), a U.S. based managed infrastructure and professional services firm for initial net cash consideration of approximately \$14.8 million. They completed this acquisition to strengthen their IT infrastructure management capabilities. They will continue to look for acquisitions that will strengthen their presence in a particular geographic area and increase their capacity

Cognizant (CTSH) is a rapidly growing IT Services provider. Future earnings growth is likely to moderate for a number of reasons: 1) depreciation expense is likely to grow faster than sales; 2) operating margins are higher than the company's long-term target; 3) the company currently enjoys tax holidays on a large portion of its revenue, and the holidays are set to expire in 2009; 4) revenue growth of 57 per cent annually will likely slow. However, the near-term growth outlook appears undeterred by these concerns. Investors should keep an eye on unbilled receivables and the

relationship between cash flow and net income, which are the most significant blemishes on a fairly attractive fundamental picture.

### **Income statement analysis**

**Sales growth** – overall revenues increased 57.1 per cent. By segment (in order of size), financial services customers grew 51.4 per cent, healthcare grew 77.2 per cent, manufacturing/retail/logistics grew 25.2 per cent and “other” grew 103.0 per cent. The “other” category grew as a result of the Fathom acquisition in Q205 and the addition of new customers, primarily media and new technology customers.

### **Sales quality**

**Revenue recognition** – fixed contracts (about 25 per cent of the total) are recognized under the percentage of completion method, which allows for significant management discretion as to the timing of revenues. Unbilled receivables grew 50 per cent sequentially in the first quarter, to more than \$33 million, which was faster than either sales or billed receivables. A sharp rise in unbilled receivables sometimes indicates that management’s estimate of the percentage of work completed is too aggressive.

**Other** – The top five and top ten customers accounted for approximately 30% and 42%, respectively, of total revenues in Q106 as compared to approximately 35% and 47%, respectively, for Q105. As the company adds new customers and increases penetration at existing customers, the percentage of revenues from top five and top ten customers should continue to trend down over time. However, the loss of one or more major customers could have a significant negative impact. In Q106 no customer accounted for more than 10 per cent of sales, though in Q105 there was one such customer (JPMorgan Chase.)

**Seasonality** – Rapid growth has obscured any seasonality to the company’s fundamentals. From a trading perspective, the stock tends to do best from September through February.

## **Earnings quality**

Operating margins decreased to 18.6 per cent in Q106 from 20.5 per cent in Q105, due entirely to the requirement to expense stock options. Without that requirement operating margins would have increased to 21.5 per cent, which is above the company's long-term target range of 19-20 per cent excluding option expense.

**Stock options** – reduced earnings per share by \$0.04 (11.1 per cent) in the first quarter. Although the company did not record option expense on the income statement in 2005, the valuation assumptions it used for its footnote disclosure changed. In 2006, the company used a lower volatility estimate (which reduced option expense) a longer average expected life for the options (which increased expense) and a higher risk-free interest rate (which increased expense.) Altogether, the changes in assumptions resulted in a 2.5 per cent higher option expense than the previous assumptions would have. (Source: [Trading Today Option Calculator](#))

**Anomalous tax rates** – from the 10Q: “Our Indian subsidiary, Cognizant India, is an export-oriented company, which, under the Indian Income Tax Act of 1961, is entitled to claim tax holidays for a period of ten consecutive years.... The majority of the Company's (operations) in India are currently entitled to a 100% exemption from Indian income tax. Under current law, these tax holidays will be completely phased out by March of 2009. On March 31, 2006, the tax holiday expired for one (facility).... The effective tax rate of 17.8% for the three months ended March 31, 2005 decreased to 16.6% for the three months ended March 31, 2006 primarily due to the Company's overall growth, which resulted in a greater percentage of Cognizant India's revenue falling under the income tax holiday.” By 2009, with the tax holidays expiring, the tax rate should increase toward the Indian statutory rate of 33.6 per cent. This will act as a one-time reduction in earnings growth as the tax rate steps up. (After the change the rate will remain higher but should not get incrementally higher in future years.)

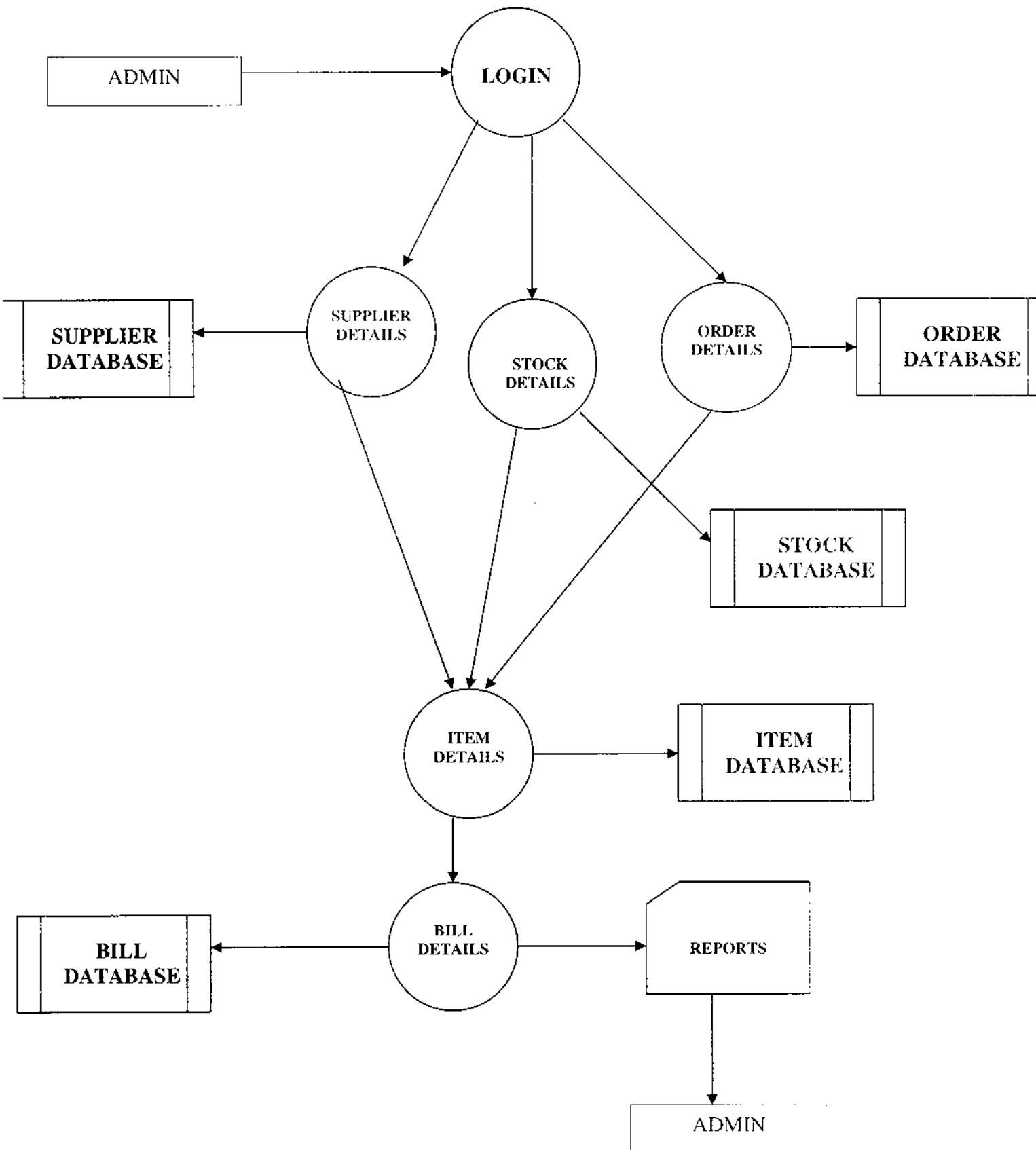
**Other** – the majority of Cognizant's sales are booked in US dollars, but a majority of its expenses are in Indian rupees. Fluctuations in the exchange rate could have a significant impact on operating margins. diluted share count increased by five million year/year (2.5 per cent.)

# *Design Layouts*

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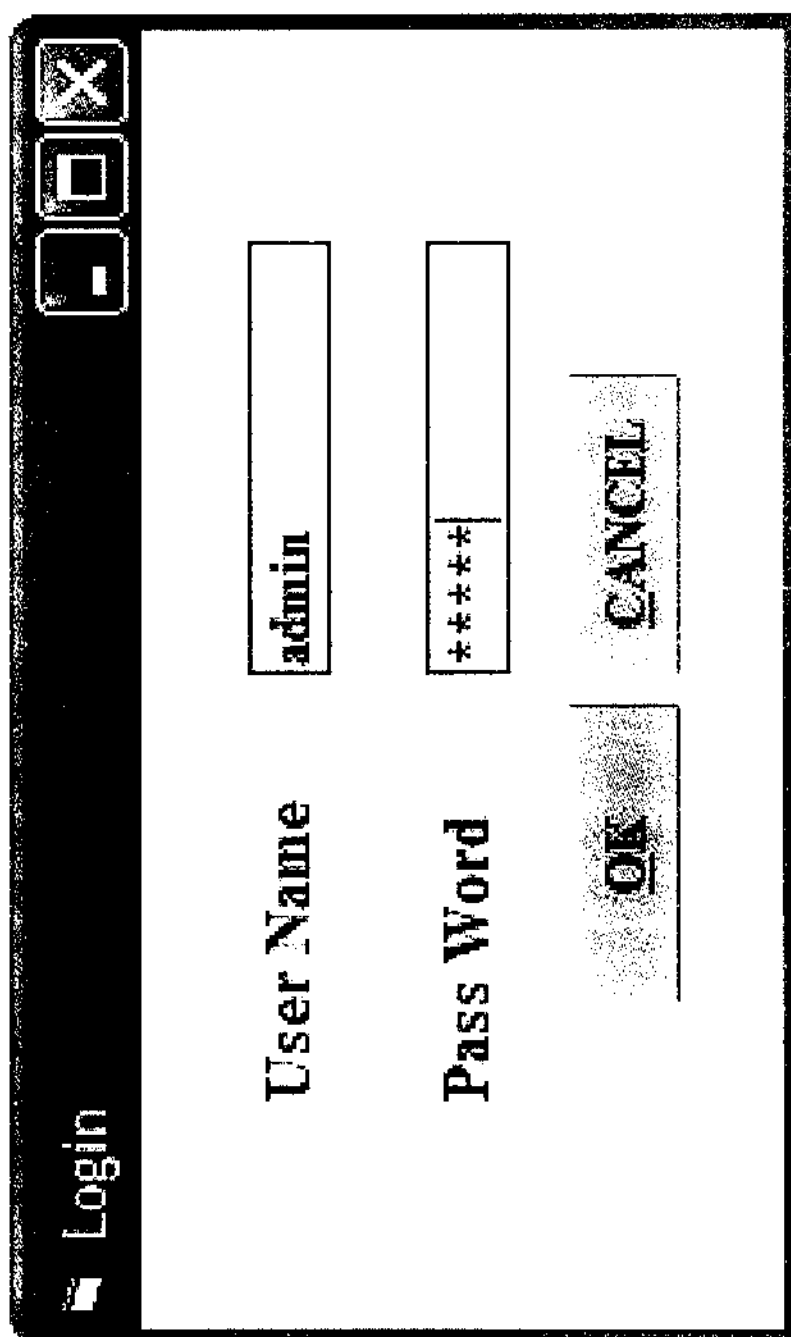
## DESIGN LAYOUTS

## 4.1 DATA FLOW DIAGRAMS:



## 4.2 SCREEN LAYOUTS

## LOGIN SCREEN



The image shows a screenshot of a login window. The window has a title bar with the text "Login" and three standard window control buttons (minimize, maximize, close). The main content area contains two input fields. The first field is labeled "User Name" and contains the text "admin". The second field is labeled "Pass Word" and contains five asterisks "\*\*\*\*\*". Below the input fields are two buttons: "OK" and "CANCEL".

Close	Maximize	Minimize
Login		
User Name	admin	
Pass Word	*****	
OK	CANCEL	

### INSERTION OF ITEMS IN THE ITEM DATABASE

Item

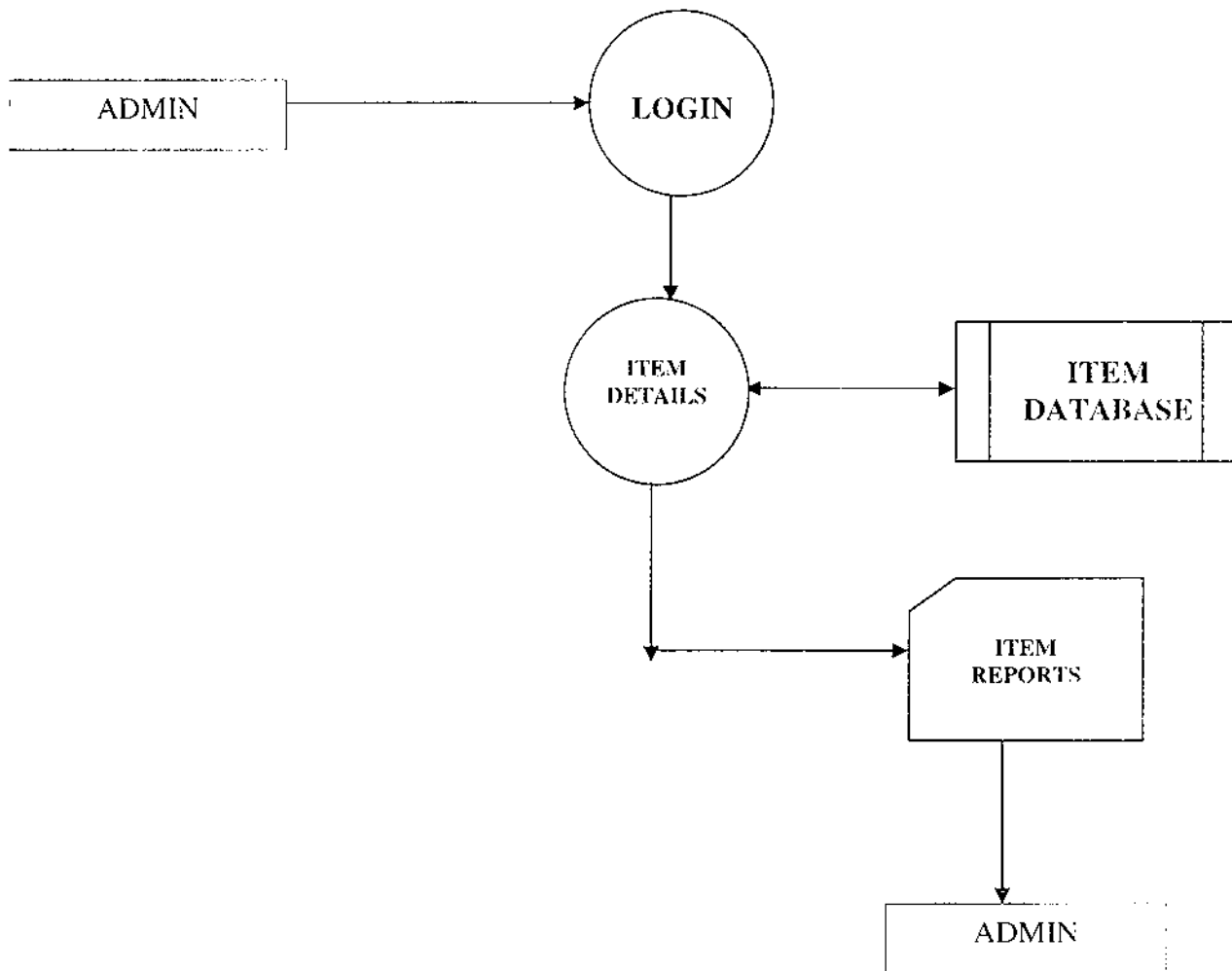
## ITEM DETAILS

Supplier Code	dg				
Item Code	p001				
Item Name	pen				
Price	10				

CLEAR    SAVE    DELETE    EDIT    EXIT



## DATA FLOW DIAGRAM



# INSERTION OF STOCK DETAILS INTO THE STOCK DATABASE

**Stock**

**STOCK DETAILS**

Item Code: p002

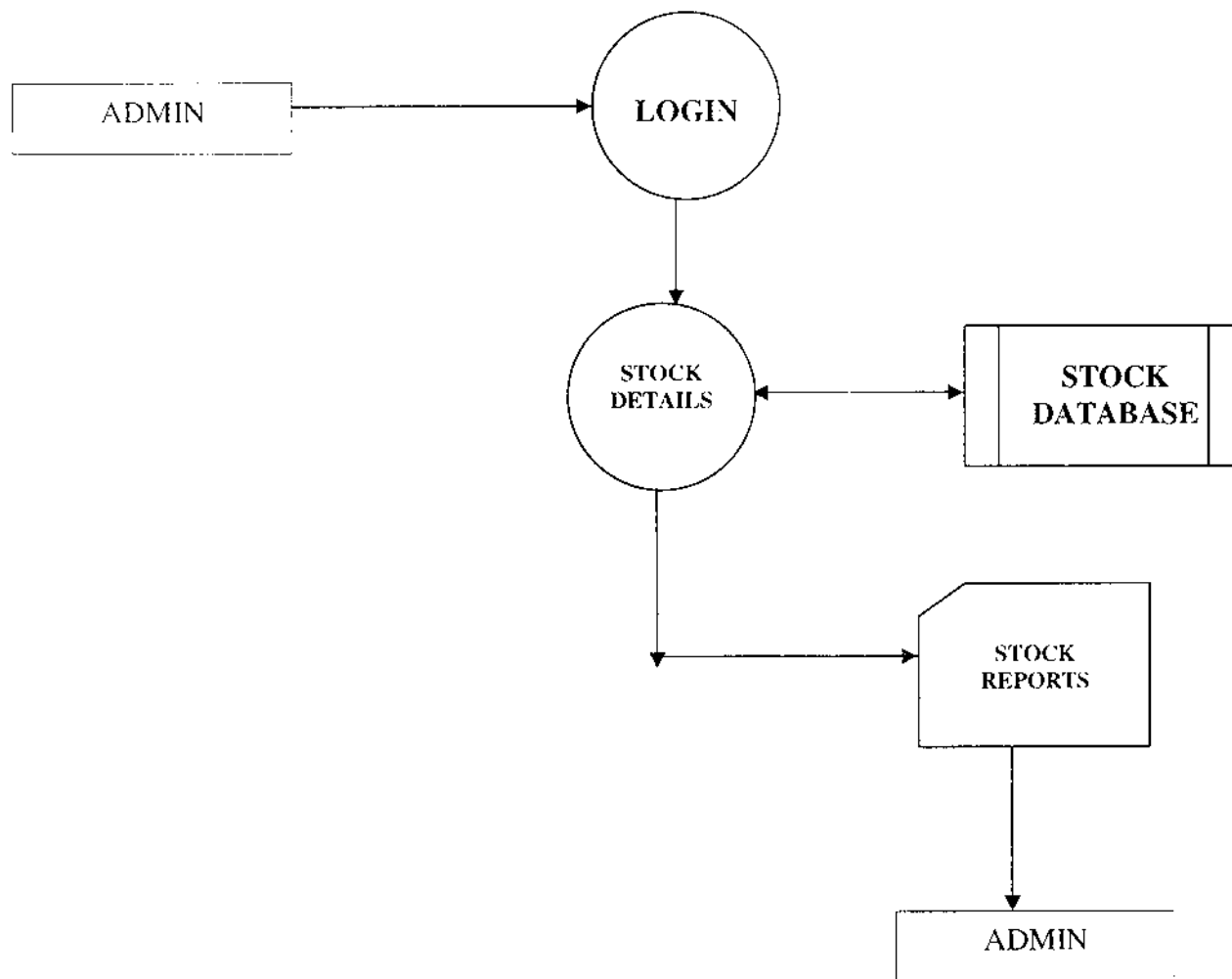
Item Name: Soap

Stock: 100

CLEAR SAVE DELETE EDIT EXIT

SEARCH

## DATA FLOW DIAGRAM



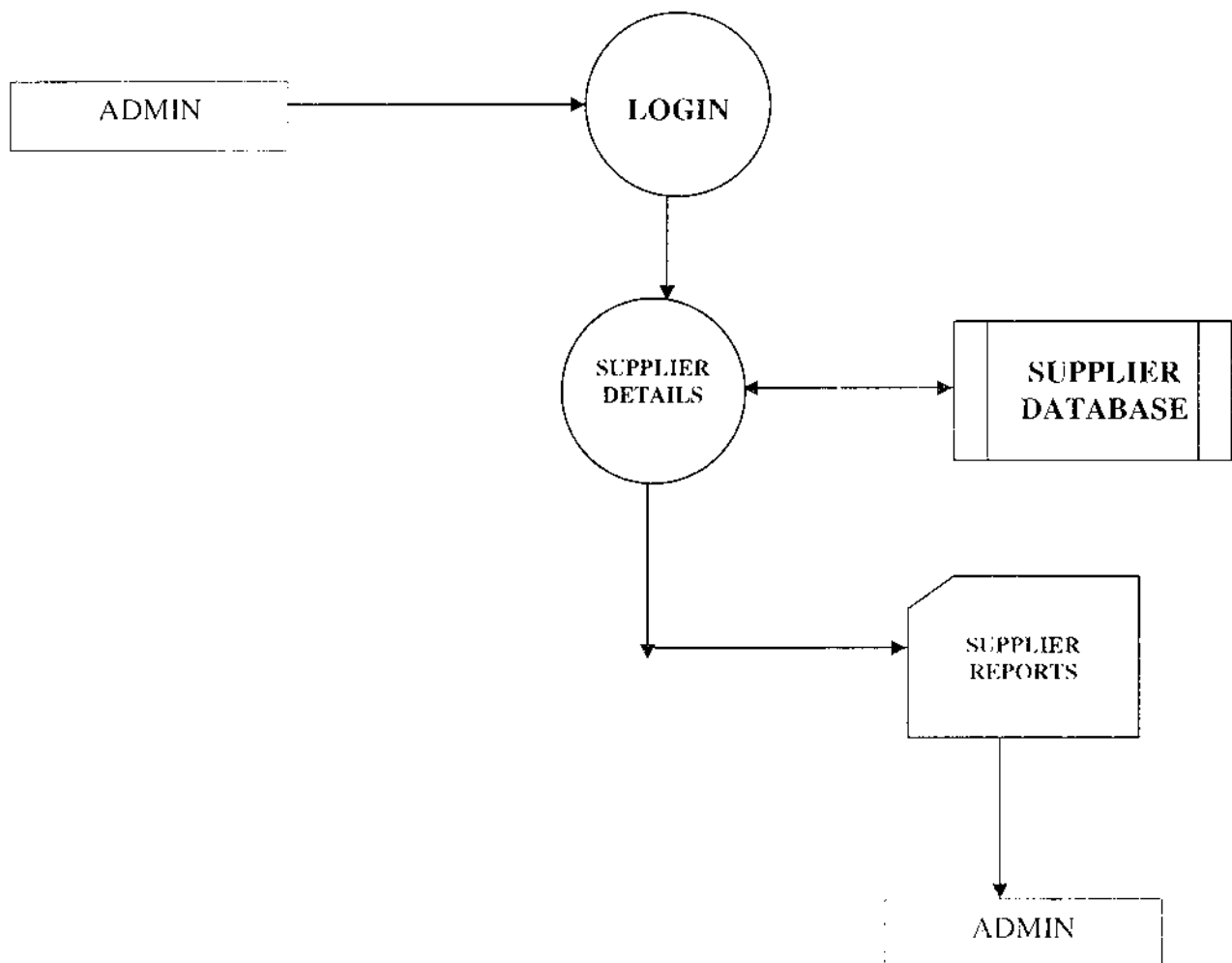
### INSERTION OF SUPPLIER DETAILS

The screenshot shows a window titled "Supplier" with a standard Windows-style title bar (minimize, maximize, close buttons). The main content area is titled "SUPPLIER DETAILS" and contains a form with the following fields and controls:

- Supplier Code:** A dropdown menu with the value "s001" selected.
- Supplier Name:** A text input field containing "Krishnan".
- Address:** A text input field containing "Town Hall".
- Contact Number:** A text input field containing "23545455".

At the bottom of the form, there are five buttons arranged horizontally: CLEAR, SAVE, DELETE, EDIT, and EXIT.

## DATA FLOW DIAGRAM



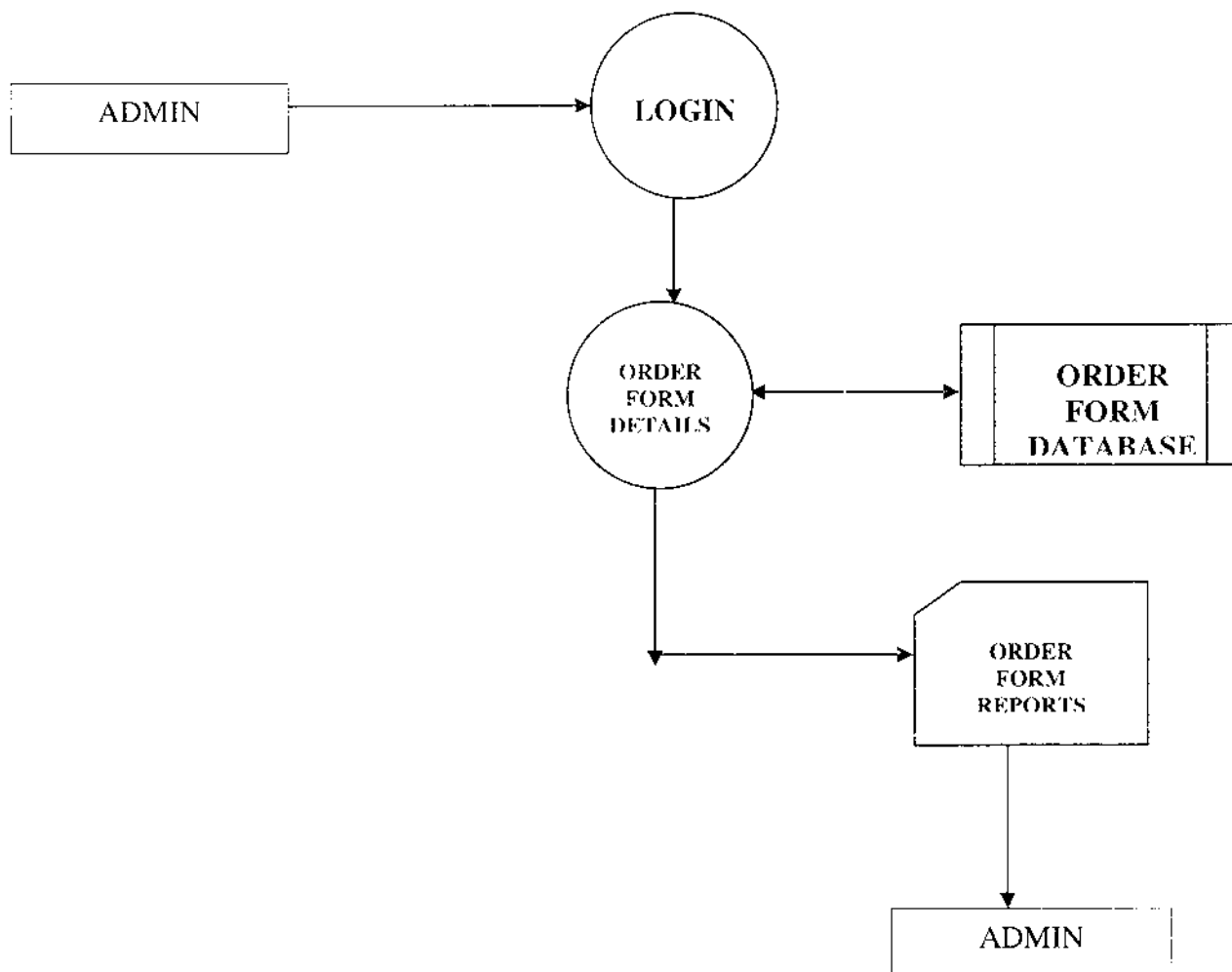
# CHECKING WHETHER THE STOCK IS AVAILABLE IN THE WAREHOUSE

OrderOrder

### ORDER DETAILS

Date	<input type="text" value="05/29/2007"/>			
Order No	<input type="text" value="3"/>			
Customer Name	<input type="text" value="a"/>			
Item Code	<input type="text" value="p001"/>	<input type="text" value="p001"/>		
Item Name	<input type="text" value="pen"/>			
Quantity	<input type="text" value="100"/>			
Requested Date	<input type="text" value="12/05/2007"/>			

Sales  
Material Available

**DATA FLOW DIAGRAM**

### BILLING OF MATERIALS

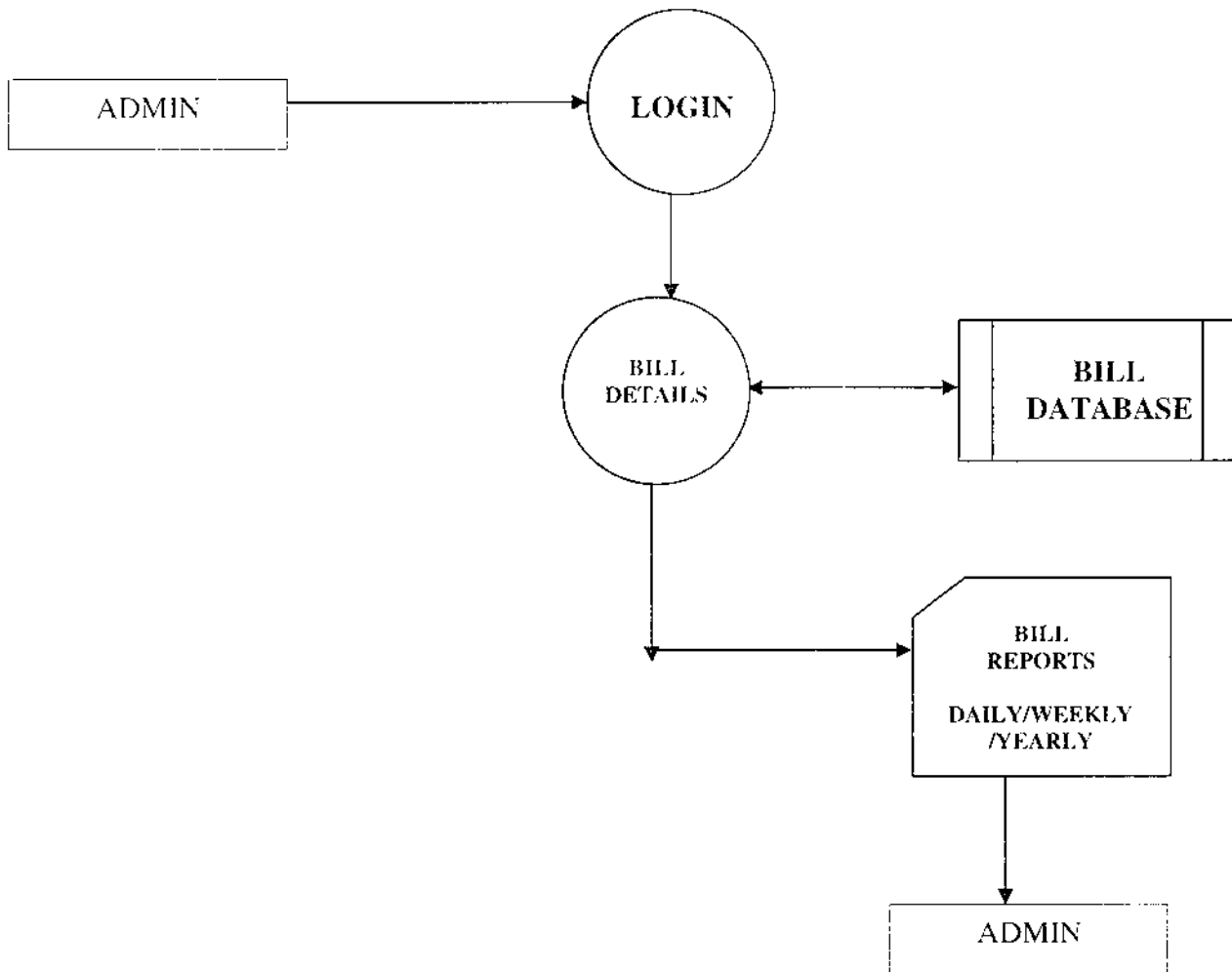
<b>BILLING DETAILS</b>	
Date	<input type="text" value="05/29/2007"/>
BHI No	<input type="text" value="4"/>
Order No	<input type="text" value="2"/>
Customer Name	<input type="text" value="dfgd"/>
Item Name	<input type="text" value="Soap"/>
Quantity	<input type="text" value="10"/>
Price	<input type="text" value="150"/>
Total Amount	<input type="text" value="1500"/>



Billings



## DATA FLOW DIAGRAM



# REPORTS

## REPORT OF SUPPLIER DETAILS.

**SUPPLIER REPORT**

Supplier Code	Supplier Name	Address	Contact No
561	Kirubani	Long Hall	255455
562	srffg	fdg	fg

Supplier  
Zoom 100%  
Page: 1/1

**ITEM REPORT**

Supplier Code	Item Code	Item Name	Price
dg	p001	pen	10
s002	p002	Soap	10

Item | Zoom: 100% | Pages: 1/1 | start

REPORT OF ITEM DETAILS.

Stock

Zoom 100%

### STOCK REPORT

Item Code	Item Name	Stock
p001	pen	1000
p003	Soap	90
p002	Soap	90

Pages: 1/1/1

start Home Material Manager project OverOff

9:58 AM

REPORT OF STOCK DETAILS.

Billing

Zoom 100%

Pages: 1/1

Start

9:59 AM

### BILL REPORT

Date	Ord No	Cus Name	Item Name	Qty	Price	Tot Amt
02/07	1	MD	KJ	1	10	10
04/21/2007	2	ndtt	ptn	10	354	3540
04/21/2007	3	dlgd	Sarp	10	10	100

REPORT OF BILL DETAILS.

*Conclusion*

---

## CONCLUSION AND SUGGESTIONS

### RESULTS :

- The Manual works such as billing, ordering of stocks, maintaining the stocks has been reduced and it is fully automated.
- The Stock is properly accounted and if it reaches the buffer level, there will be a message shows that the stock is reached its minimum quantity.
- The Customer orders have been placed in the excel sheet properly.
- The present system is now synchronizing with other databases also..

## **RECOMMENDATIONS**

Various recommendations like how to automate the system without any manual works are given to the management for improving the existing system. It helps them in improving their performance. Thus the existing system are replaced by newly developed system which is created with Visual Basic as Front end and MS-Access and Oracle as Back end tool ie; they are going to make some changes in the existing system.



# *Appendices*

---

## APPENDICES

### CODING

#### CODE FOR STOCK DETAILS FORM:-

```
Dim con As New ADODB.Connection
Dim rs As New ADODB.Recordset
Dim rs1 As New ADODB.Recordset

Private Sub Command1_Click()
    icode.Text = ""
    iname.Text = ""
    stock.Text = ""
    icode.SetFocus
End Sub

Private Sub Command2_Click()
    If icode.Text = "" Or iname.Text = "" Or stock.Text = "" Then
        MsgBox "Please Enter All Values then Save", vbInformation
    Else
        rs.AddNew
        rs.Fields(0) = icode.Text
        rs.Fields(1) = iname.Text
        rs.Fields(2) = stock.Text
        rs.Update
        MsgBox ("Saved")
    End If
    icode.Text = ""
    iname.Text = ""
    stock.Text = ""
End Sub
```

```

Private Sub Command3_Click()
Dim d As Integer
If icode.Text = "" Or iname.Text = "" Or stock.Text = "" Then
MsgBox "Please Search Any One Item Code then Delete", vbInformation
Else
d = MsgBox("Arc U Sure U Want To Delete?", vbYesNo)
If d = 6 Then
con.Execute "delete from stock where icode=" + icode.Text + ""
MsgBox ("Deleted")
Else
Exit Sub
End If
icode.Text = ""
iname.Text = ""
stock.Text = ""
End If
End Sub

Private Sub Command4_Click()
If icode.Text = "" Or iname.Text = "" Or stock.Text = "" Then
MsgBox "Please Search Any One Item Code then Edit", vbInformation
Else
con.Execute "update stock set iname=" + iname.Text + ",stock=" +
stock.Text + " where icode=" + icode.Text + ""
MsgBox ("Updated")
icode.Text = ""
iname.Text = ""
stock.Text = ""
End If
End Sub
Private Sub Command5_Click()
Unload Me
End Sub

```

```
Private Sub Command6_Click()  
    Dim str As String  
    str = InputBox("Enter Any Item Code")  
    If rs.RecordCount = 0 Then  
        Else  
            rs.MoveFirst  
            While Not rs.EOF  
                If rs(0) = str Then  
                    icode.Text = rs(0)  
                    iname.Text = rs(1)  
                    stock.Text = rs(2)  
                End If  
                rs.MoveNext  
            Wend  
        End If  
    End Sub
```

```
Private Sub Form_Load()  
    con.ConnectionString = "Provider=microsoft.jet.oledb.4.0; data source = " &  
App.Path & "\sales.mdb"  
    con.Open  
    rs.Open "select * from stock", con, adOpenDynamic, adLockOptimistic  
    rs1.Open "select * from item", con, adOpenDynamic, adLockOptimistic  
    If rs1.RecordCount = 0 Then  
        Else  
            rs1.MoveFirst  
            While Not rs1.EOF  
                icode.AddItem (rs1(1))  
                rs1.MoveNext  
            Wend  
        End If  
    End Sub
```

```
Private Sub Form_Unload(Cancel As Integer)
```

```
rs.Close
```

```
rs1.Close
```

```
con.Close
```

```
End Sub
```

```
Private Sub icode_Click()
```

```
If rs1.RecordCount = 0 Then
```

```
Eise
```

```
rs1.MoveFirst
```

```
While Not rs1.EOF
```

```
    If icode.Text = rs1(1) Then
```

```
        iname.Text = rs1(2)
```

```
    End If
```

```
    rs1.MoveNext
```

```
Wend
```

```
End If
```

```
End Sub
```



P-1938

**CODE FOR ITEM DETAILS FORM:-**

```
Dim con As New ADODB.Connection
Dim rs As New ADODB.Recordset
Dim rs1 As New ADODB.Recordset
```

```
Private Sub Command1_Click()
```

```
scode.Text = ""
```

```
icode.Text = ""
```

```
iname.Text = ""
```

```
price.Text = ""
```

```
scode.SetFocus
```

```
End Sub
```

```
Private Sub Command2_Click()
```

```
If scode.Text = "" Or icode.Text = "" Or iname.Text = "" Or price.Text = ""
```

```
Then
```

```
MsgBox "Please Enter All Values Then Save", vbInformation
```

```
Else
```

```
rs.AddNew
```

```
rs.Fields(0) = scode.Text
```

```
rs.Fields(1) = icode.Text
```

```
rs.Fields(2) = iname.Text
```

```
rs.Fields(3) = price.Text
```

```
rs.Update
```

```
MsgBox ("Saved")
```

```
End If
```

```
icode.Clear
```

```
If rs.RecordCount = 0 Then
```

```
Else
```

```
rs.MoveFirst
```

```
While Not rs.EOF
```

```
icode.AddItem (rs(1))
```

```
rs.MoveNext
```

```

    Wend
End If

```

```

scode.Text = ""
icode.Text = ""
iname.Text = ""
price.Text = ""
End Sub

```

```

Private Sub Command3_Click()

```

```

    Dim d As Integer

```

```

    If scode.Text = "" Or icode.Text = "" Or iname.Text = "" Or price.Text = ""

```

```

Then

```

```

    MsgBox "Please Select Any One Item Code Then Delete", vbInformation

```

```

Else

```

```

    d = MsgBox("Are U Sure U Want To Delete?", vbYesNo)

```

```

    If d = 6 Then

```

```

        con.Execute "delete from item where icode=" & icode.Text & ""

```

```

        MsgBox ("Deleted")

```

```

    Else

```

```

        Exit Sub

```

```

    End If

```

```

    icode.Clear

```

```

    If rs.RecordCount = 0 Then

```

```

    Else

```

```

        rs.MoveFirst

```

```

        While Not rs.EOF

```

```

            icode.AddItem (rs(1))

```

```

            rs.MoveNext

```

```

        Wend

```

```

    End If

```

```

scode.Text = ""
icode.Text = ""
iname.Text = ""
price.Text = ""
End If
End Sub

```

```

Private Sub Command4_Click()
If scode.Text = "" Or icode.Text = "" Or iname.Text = "" Or price.Text = ""
Then
MsgBox "Please Select Any One Item Code Then Delete", vbInformation
Else
con.Execute "update item set scode='" + scode.Text + "',iname='" +
iname.Text + "',price='" + price.Text + "' where icode='" + icode.Text + "'"
MsgBox ("Updated")
End If
icode.Clear
If rs.RecordCount = 0 Then
Else
rs.MoveFirst
While Not rs.EOF
icode.AddItem (rs(1))
rs.MoveNext
Wend
End If

scode.Text = ""
icode.Text = ""
iname.Text = ""
price.Text = ""

End Sub

```



```
Private Sub Command5_Click()  
Unload Me  
End Sub
```

```
Private Sub Form_Load()  
con.ConnectionString = "Provider=microsoft.jet.oledb.4.0; data source = " &  
App.Path & "\sales.mdb"
```

```
con.Open  
rs.Open "select * from item", con, adOpenDynamic, adLockOptimistic  
rs1.Open "select * from supplier", con, adOpenDynamic, adLockOptimistic  
If rs1.RecordCount = 0 Then  
Else  
rs1.MoveFirst  
While Not rs1.EOF  
scode.AddItem (rs1(0))  
rs1.MoveNext  
Wend  
End If
```

```
If rs.RecordCount = 0 Then  
Else  
rs.MoveFirst  
While Not rs.EOF  
icode.AddItem (rs(1))  
rs.MoveNext  
Wend  
End If  
End Sub
```

```
Private Sub Form_Unload(Cancel As Integer)  
rs.Close  
rs1.Close  
con.Close  
End Sub
```

```
Private Sub icode_Click()  
If rs.RecordCount = 0 Then  
Else  
rs.MoveFirst  
While Not rs.EOF  
    If icode.Text = rs(1) Then  
        scode.Text = rs(0)  
        iname.Text = rs(2)  
        price.Text = rs(3)  
    End If  
    rs.MoveNext  
Wend  
End If  
End Sub
```

**CODE FOR BILL DETAILS FORM:-**

```

Dim rs As New ADODB.Recordset
Dim con As New ADODB.Connection

Private Sub Command1_Click()
scode.Text = ""
sname.Text = ""
saddr.Text = ""
spno.Text = ""
scode.SetFocus
End Sub

Private Sub Command2_Click()
If scode.Text = "" Or sname.Text = "" Or saddr.Text = "" Or spno.Text = ""
Then
MsgBox "Please Enter All Values Then Save", vbInformation
Else
rs.AddNew
rs.Fields(0) = scode.Text
rs.Fields(1) = sname.Text
rs.Fields(2) = saddr.Text
rs.Fields(3) = spno.Text
rs.Update
MsgBox ("Saved")
End If
scode.Clear
If rs.RecordCount = 0 Then
Else
rs.MoveFirst
While Not rs.EOF
scode.AddItem (rs(0))
rs.MoveNext
Wend
End If

```

```

scode.Text = ""
sname.Text = ""
saddr.Text = ""
spno.Text = ""
End Sub

```

```
Private Sub Command3_Click()
```

```
Dim d As Integer
```

```
If scode.Text = "" Or sname.Text = "" Or saddr.Text = "" Or spno.Text = ""
```

Then

```
MsgBox "Please Select Any One Supplier Code then Delete", vbInformation
```

```
Else
```

```
d = MsgBox("Are U Sure U Want To Delete?", vbYesNo)
```

```
If d = 6 Then
```

```
con.Execute "delete from supplier where scode=" + scode.Text + ""
```

```
MsgBox ("Deleted")
```

```
Else
```

```
Exit Sub
```

```
End If
```

```
End If
```

```
scode.Clear
```

```
If rs.RecordCount = 0 Then
```

```
Else
```

```
rs.MoveFirst
```

```
While Not rs.EOF
```

```
    scode.AddItem (rs(0))
```

```
    rs.MoveNext
```

```
Wend
```

```
End If
```

```

scode.Text = ""
sname.Text = ""
saddr.Text = ""
spno.Text = ""
End Sub

```

```

Private Sub Command4_Click()
If scode.Text = "" Or sname.Text = "" Or saddr.Text = "" Or spno.Text = ""
Then
MsgBox "Please Select Any One Supplier Code then Edit", vbInformation
Else
con.Execute "update supplier set sname=" + sname.Text + ".saddr=" +
saddr.Text + ".spno=" + spno.Text + " where scode=" + scode.Text + ""
MsgBox ("Updated")
End If
scode.Clear
If rs.RecordCount = 0 Then
Else
rs.MoveFirst
While Not rs.EOF
scode.AddItem (rs(0))
rs.MoveNext
Wend
End If
scode.Text = ""
sname.Text = ""
saddr.Text = ""
spno.Text = ""
End Sub

```

```

Private Sub Command5_Click()
Unload Me
End Sub

```

```
Private Sub Form_Load()  
    con.ConnectionString = "Provider=microsoft.jet.oledb.4.0; data source = " &  
App.Path & "\sales.mdb"  
    con.Open  
    rs.Open "select * from supplier", con, adOpenDynamic, adLockOptimistic  
    If rs.RecordCount = 0 Then  
    Else  
        rs.MoveFirst  
        While Not rs.EOF  
            scode.AddItem (rs(0))  
            rs.MoveNext  
        Wend  
    End If  
End Sub  
  
Private Sub Form_Unload(Cancel As Integer)  
    rs.Close  
    con.Close  
End Sub  
  
Private Sub scode_Click()  
    if rs.RecordCount = 0 Then  
    Else  
        rs.MoveFirst  
        While Not rs.EOF  
            If scode.Text = rs(0) Then  
                sname.Text = rs(1)  
                saddr.Text = rs(2)  
                spno.Text = rs(3)  
            End If  
            rs.MoveNext  
        Wend  
    End If  
End Sub
```

**CODE FOR ORDER DETAILS FORM:-**

```

Dim rs As New ADODB.Recordset
Dim rs1 As New ADODB.Recordset
Dim rs2 As New ADODB.Recordset
Dim con As New ADODB.Connection

Private Sub bcheck_Click()
If icode.Text = "" Then
MsgBox "Please Select Any One Item Code", vbInformation
Else
Dim i As Integer
If rs2.RecordCount = 0 Then
Else
rs2.MoveFirst
While Not rs2.EOF
If icode.Text = rs2(0) Then
i = rs2(2)
End If
rs2.MoveNext
Wend
End If
If i <= 100 Then
MsgBox ("It's Time to Reorder")
Else
MsgBox ("Material Available")
End If
End If
End Sub

Private Sub bclear_Click()
cname.Text = ""
icode.Text = ""
iname.Text = ""

```

```

qty.Text = ""
rdate.Text = ""
If rs.RecordCount = 0 Then
ono.Text = 1
Else
rs.MoveLast
ono.Text = Val(rs(1)) + 1
End If

ccode.SetFocus
End Sub

Private Sub bdel_Click()
If odate.Text = "" Or ono.Text = "" Or cname.Text = "" Or icode.Text = "" Or
iname.Text = "" Or qty.Text = "" Or rdate.Text = "" Then
MsgBox "Please Search Any One Order No Then Delete", vbInformation
Else
d = MsgBox("Are U Sure U Want To Delete?", vbYesNo)
If d = 6 Then
con.Execute "delete from order where ono=" + ono.Text + ""
MsgBox ("Deleted")
Else
Exit Sub
End If
End If
cname.Text = ""
icode.Text = ""
iname.Text = ""
qty.Text = ""
rdate.Text = ""
If rs.RecordCount = 0 Then
ono.Text = 1
Else
rs.MoveLast

```



```
ono.Text = Val(rs(1)) + 1
```

```
End If
```

```
End Sub
```

```
Private Sub bedit_Click()
```

```
    If odate.Text = "" Or ono.Text = "" Or cname.Text = "" Or icode.Text = "" Or  
iname.Text = "" Or qty.Text = "" Or rdate.Text = "" Then
```

```
        MsgBox "Please Search Any One Order No Then Delete", vbInformation
```

```
    Else
```

```
        con.Execute "update order set odate=" + odate.Text + ",cname=" +  
cname.Text + ",icode=" + icode.Text + ",iname=" + iname.Text + ",qty=" +  
qty.Text + ",rdate=" + rdate.Text + " where ono=" + ono.Text + ""
```

```
        MsgBox ("Updated")
```

```
    End If
```

```
    cname.Text = ""
```

```
    icode.Text = ""
```

```
    iname.Text = ""
```

```
    qty.Text = ""
```

```
    rdate.Text = ""
```

```
    If rs.RecordCount = 0 Then
```

```
        ono.Text = 1
```

```
    Else
```

```
        rs.MoveLast
```

```
        ono.Text = Val(rs(1)) + 1
```

```
    End If
```

```
End Sub
```

```
Private Sub bexit_Click()
```

```
    Unload Me
```

```
End Sub
```

```
Private Sub bsave_Click()
```

```

    If odate.Text = "" Or ono.Text = "" Or cname.Text = "" Or icode.Text = "" Or
iname.Text = "" Or qty.Text = "" Or rdate.Text = "" Then

```

```

    MsgBox "Please Enter All Values Then Save", vbInformation

```

```

Else

```

```

rs.AddNew

```

```

rs.Fields(0) = odate.Text

```

```

rs.Fields(1) = ono.Text

```

```

rs.Fields(2) = cname.Text

```

```

rs.Fields(3) = icode.Text

```

```

rs.Fields(4) = iname.Text

```

```

rs.Fields(5) = qty.Text

```

```

rs.Fields(6) = rdate.Text

```

```

rs.Update

```

```

MsgBox ("Saved")

```

```

End If

```

```

cname.Text = ""

```

```

icode.Text = ""

```

```

iname.Text = ""

```

```

qty.Text = ""

```

```

rdate.Text = ""

```

```

If rs.RecordCount = 0 Then

```

```

ono.Text = 1

```

```

Else

```

```

rs.MoveLast

```

```

ono.Text = Val(rs(1)) + 1

```

```

End If

```

```

End Sub

```

```

Private Sub bsearch_Click()

```

```

Dim str As String

```

```

str = InputBox("Enter Any Order No")

```

```

If rs.RecordCount = 0 Then

```

```

Else

```

```

rs.MoveFirst

```

```
While Not rs.EOF
```

```
  If rs(1) = str Then
```

```
    odate.Text = rs(0)
```

```
    ono.Text = rs(1)
```

```
    ename.Text = rs(2)
```

```
    icode.Text = rs(3)
```

```
    iname.Text = rs(4)
```

```
    qty.Text = rs(5)
```

```
    rdate.Text = rs(6)
```

```
  End If
```

```
  rs.MoveNext
```

```
Wend
```

```
End If
```

```
End Sub
```

```
Private Sub Form_Load()
```

```
  con.ConnectionString = "Provider=microsoft.jet.oledb.4.0; data source = " &  
App.Path & "\sales.mdb"
```

```
  con.Open
```

```
  rs.Open "select * from orddet", con, adOpenDynamic, adLockOptimistic
```

```
  rs1.Open "select * from item", con, adOpenDynamic, adLockOptimistic
```

```
  rs2.Open "select * from stock", con, adOpenDynamic, adLockOptimistic
```

```
  odate.Text = Format(Date, "MM/DD/YYYY")
```

```
  If rs1.RecordCount = 0 Then
```

```
  Else
```

```
    rs1.MoveFirst
```

```
      While Not rs1.EOF
```

```
        icode.AddItem (rs1(1))
```

```
        rs1.MoveNext
```

```
      Wend
```

```
    End If
```

```
  If rs.RecordCount = 0 Then
```

```
    ono.Text = 1
```

```
Else
rs.MoveLast
ono.Text = Val(rs(1)) + 1
End If
End Sub

Private Sub Form_Unload(Cancel As Integer)
rs.Close
rs1.Close
rs2.Close
con.Close
End Sub

Private Sub icode_Click()
If rs1.RecordCount = 0 Then
Else
rs1.MoveFirst
While Not rs1.EOF
    If icode.Text = rs1(1) Then
        iname.Text = rs1(2)
    End If
    rs1.MoveNext
Wend
End If

End Sub
```

# *Bibliography*

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## **BIBLIOGRAPHY**

- **Visual Basic 2005** by **Matthew MacDonald** Published by **O'Reilly**
- **Visual Basic Black Book – 2000** **McGraw Hill Publications**
- **Oracle - Jonathan Gennick** Published by **O'Reilly**