Material Management & Customer Requirements Customization In SAP MM Implementation

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Abstract:
This paper examines the implementation of the SAP MM module in managing material resources within an organization. The study details the enterprise structure, purchasing, inventory management, and master data management, alongside an analysis of the advantages and disadvantages of using SAP ERP systems compared to other tools.

Keywords – **SAP MM, Material Management, Warehouse, Stock, Enventory, Bill Box, Check list.**

I. INTRODUCTION

SAP, started in 1972 by five former IBM employees in Mannheim, Germany, states that it is the world's third-largest independent software vendor. The original name for SAP was German: Systeme, Anwendungen, Produkte. It means "Systems Applications and Products." The goal of the company was to provide large enterprise customers with the ability to interact with a corporate database in real-time. Today, the company states that its goal is "to offer the industry's most comprehensive portfolio of business performance and optimization solutions for companies of all sizes."

SAP's first software application was a financial accounting software suite that ran on a mainframe and was known for its stability. It eventually became known as the R/1 system. The "R" stands for real-time. During the 1980s, the company went international, and the second iteration of the R system (R/2) accommodated different languages and currencies. In the 1990s, the third iteration (R/3) moved from the mainframe to a client/server three-tier architecture composed of a database, software applications and a common graphical user interface (GUI). SAP used the name R/3 until the 5.0 release. At that time the name was changed from R/version to ERP Central Component (ECC). The most current version as of November 2009 is ECC 6.0.

When the Internet became pervasive, SAP responded by providing companies with the software they needed to sell goods and services online. Their product portfolio got a Web interface and was rebranded MySAP.com. My SAP was designed to be a corporate Web portal with role-based permissions for

employees . The company promoted how SAP "solutions" could link commerce conducted over the Internet (e-commerce) with traditional bricks and mortar commerce to provide one seamless view of the business. Next came SAP NetWeaver, the company's development and integration platform and middleware component, and Business Suite, a bundling of SAP's enterprise resource planning (ERP), customer relationship management (CRM), supply chain management (SCM), product lifecycle management (PLM) and supplier relationship management (SRM) applications. In 2008, SAP purchased Business Objects, a French enterprise software company that specializes in business intelligence (BI), which marked a major change in the company's BI strategy, which was previously focused around SAP's Business Explorer tools.

A Literature Review (Heading2)

ERP Systems - ERP systems, particularly SAP, play a crucial role in integrating various business processes across an organization, reducing data redundancy, and improving efficiency

3.1 SAP ADVANTAGES:

1. **Integration**

Integration can be the highest benefit of them all. The only real project aim for implementing ERP is reducing data redundancy and redundant data entry. If this is set as a goal, to automate inventory posting to G/L, then it might be a successful project. Those companies where integration is not so important or even dangerous tend to have a hard time with ERP. ERP does not improve the individual efficiency of users, so if they expect it, it will be a big disappointment. ERP improves the cooperation of users.

2. **EFFICIENCY**

Generally, ERP software focuses on integration and tend to not care about the daily needs of people. I think individual efficiency can suffer by implementing ERP. the big question with ERP is whether the benefit of integration and cooperation can make up for the loss in personal efficiency or not.

3. **COST REDUCTION**

It reduces cost only if the company took accounting and reporting seriously even before implementation and had put a lot of manual effort in it. If they didn't care about it, if they just did some simple accounting to fill mandatory statements and if internal reporting did not exists of has not been fincancially-oriented, then no cost is reduced.

4. **LESS PERSONNEL**

Same as above. Less reporting or accounting personnel, but more sales assistants eVECV.

5. **ACCURACY**

No. People are accurate, not software. What ERP does is makes the lives of inaccurate people or organization a complete hell and maybe forces them to be accurate (which means hiring more people or distributing work better), or it falls.

3.2 Disadvantages

1. Expensive

This entails software, hardware, implementation, consultants, training, eVECV. Or you can hire a programmer or two as an employee and only buy business consulting from an outside source, do all customization and end-user training inside. That can be cost-effective.

2. NOT VERY FLEXIBLE

it depends. SAP can be configured to almost anything. In Navision one can develop almost anything in days. Other software may not be flexible.

3.3 WHY SAP?

SAP ERP:

BUSINESS BENEFITS

SAP ERP delivers a comprehensive set of integrated, cross-functional business processes. With SAP ERP, you can gain the following benefits:

IMPROVE ALIGNMENT OF STRATEGIES AND OPERATIONS

Run your enterprise in accordance with strategy and plans, accessing the right information in real time to identify concerns early.

Pursue opportunities proactively.
Achieve corporate objectives by aligning workforce and organizational objectives. Find the best people and

leverage their talent in the right job at the right time.

IMPROVE PRODUCTIVITY AND INSIGHT

Leverage self-services and analytics across your organization.
Improve operational efficiency and productivity within and beyond your enterprise.

REDUCE COSTS THROUGH INCREASED FLEXIBILITY

Use enterprise services architecture to improve process standardization, efficiency, and adaptability.

Extend transactions, information, and collaboration functions to a broad business community.
Understanding the SAP System Landscape

What exactly is SAP System Landscape? How does this phenomenon differ from SAP System Architecture? In this posting, I intend to answer the above mentioned, closely related questions in a very concise manner, with particular emphasis on the system landscape of SAP. Often times, SAP users, especially new comers misunderstands the two concepts.

The SAP architecture is typically the technology framework of the SAP system. SAP's architecture unlike the system landscape has changed over time (and more recently) with the advent of SAP ECC.
In a prior posting, I "x-rayed" they system architecture of SAP R/3.

They system landscape basically is the set-up or arrangement of your SAP servers. Ideally, in an SAP environment, a three-system landscape exists. A three-system landscape consists of the Development Server-DEV, Quality Assurance Server-QAS and the Production Server- PROD. This kind of set-up is not primarily designed to serve as server clusters in case of system failure, the objective to enhance "configuration pipeline management".

I.   RESEARCH METHODOLOGY

ASAP Methodology

The SAP ASAP (Accelerated SAP) methodology, used for the implementation, consists of five phases: Project Preparation, Business Blueprint, Realization, Final Preparation, and Go Live & Support. This structured approach ensures thorough planning, configuration, and testing before going live.

3.1 FEATURES

The implementation of your SAP System covers the following phases:

PROJECT PREPARATION

In this phase you plan your project and lay the foundations for successful implementation. It is at this stage that you make the strategic decisions crucial to your project:

Define your project goals and objectives.

Clarify the scope of your implementation.

Define your project schedule, budget plan, and implementation sequence Establish the project organization and relevant committees and assign resources.

BUSINESS BLUEPRINT

In this phase you create a blueprint using the Question & Answer database (Q&Adb), which documents your enterprise's requirements and establishes how your business processes and organizational structure are to be represented in the SAP System. You also refine the original project goals and objectives and revise the overall project schedule in this phase.

REALIZATION

In this phase, you configure the requirements contained in the Business Blueprint. Baseline configuration (major scope) is followed by final configuration (remaining scope), which can consist of up to four cycles. Other key focal areas of this phase are conducting integration tests and drawing up end user documentation.

FINAL PREPARATION

In this phase you complete your preparations, including testing, end user training, system management, and cutover activities. You also need to resolve all open issues in this phase. Atthis stage you need to ensure that all the prerequisites for your system to go live have been fulfilled.

GO LIVE & SUPPORT

In this phase you move from a pre-production environment to the live system. The most important elements include setting up production support, monitoring system transactions, and optimizing overall system performance.

ELEMENTS OF THE ENTERPRISE STRUCTURE

The enterprise structure consists of the following elements:

CLIENT

R/3 System clients have an independent status both in legal and organizational terms. The clients within the system can be distinguished by a three-character, alpha-numeric code andare defined in Customizing.

When your R/3 System is installed, it is set up with two clients:

CLIENT 000

Client 000 is the SAP standard client. The SAP original system is held in this client. Client 000 contains default values for all tables. SAP updates the default values with every systemupgrade and release upgrade.

3.2 The following objects are defined as client-independent:

- data structures, such as field definitions, table structures, and file set-ups
- client-independent tables
- transactions
- programs
- Standard reporting
- Authorization objects
- R/3 library

3.3 The following factors must be taken into consideration when you decide whether or not tocreate a client:

- You have to adapt the system client-specifically to the enterprise structure.
- You cannot access personnel data in other clients. Each client's personnel data is

protected from unauthorized access.

- You cannot perform reporting across all clients, and you cannot receive or assign client-independent access authorizations.
- You cannot exchange data between clients.
- If an employee moves between two clients, you must assign him or her a newpersonnel number.

3.4 COMPANY CODE

Within a client the company code represents the highest level of the enterprise structure. In Customizing, the company code is defined by a four-character, alpha-numeric code.

If the Controlling, Financial Accounting, Materials Management or Sales and Distribution application components are set up in addition to the Personnel Administration component, you must set up the company code so that it also meets their requirements. This is not tantamount to a restriction: You define all of the HR System's most important control data at the level of the personnel subareas, and these levels belong to Personnel Administration.

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3.4.1 At the company code level, the following control features are assigned which are relevant for Personnel Administration:

- The company code is used to generate default values for data entry, for example, an employee's payroll accounting area.

- The company code is a selection criterion for reporting.

- The company code constitutes an authorization check unit.

3.4.2 PERSONNEL AREA

Personnel areas divide a company code into sub-units. The individual personnel areas in a company code are defined in Customizing and have a four-digit alpha-numeric identifier.

The personnel area has the following functions:

- The personnel area is used to generate default values for data entry, for example, an employee's payroll accounting area.

- The personnel area is a selection criterion for reporting.

- The personnel area constitutes an authorization check unit.

3.4.2.1 PERSONNEL SUBAREA

Personnel subareas are a subdivision of the personnel area. Organizational control of the main HR subareas, namely the pay scale and wage type structures and work schedule planning, takes place at the personnel subarea level. In Customizing, the personnel subarea is defined by a four-character, alpha-numeric code. The respective country-specific control features are stored here.

The personnel subarea has the following organizational functions:

- Specifying the country grouping; this controls the dialog for entering country-specific personnel data and the setting up and processing of wage types and pay scale groups in payroll accounting; within a company code, the country grouping must be unambiguous

- Assigning a legal entity to differentiate between the individual companies from a legal point of view

- It specifies groupings for Time Management. This enables you, for example, to set up work

schedules, substitution types, absence types, and leave types on the basis of a specific personnel subarea.

- The personnel subarea is a selection criterion for evaluations.

- The personnel subarea is used to generate default values for pay scale area and pay

scale type for an employee's basic pay.

- It specifies the public holiday calendar.

- Defining personnel subarea-specific wage types per personnel area

3.4.3 Comparison of SAP and ORACLE

|	Item	SAP	ORACLE
Company Information	**Headquarter**	· Germany	· USA
	Position inMarket	· The largest venderof managementsoftware; · Third-largest independent software company	· The largest vender of data base software · Second largest independent software company
	Product Line	· ERP (including Financial, Human Resource, eVECV) · Customer Relationship ManagementSoftware · Enterprise Performance ManagementSoftware · Internal Audit& Compliance Software · Supply Train Management Software · Business Intelligence · NetWeaver Tech Platform · Core System	· Oracle · Oracle Business Intelligence (Financial) · PeopleSoft · Data Base Software Siebel Client Management Software · Hyperion Enterprise Performance Management Software · BEA middleware products · Oracle business
Experience in Insurance Domain	**Product Line**	· Policy Administration System · Claim Administration System · Reinsurance	No core system for insurance industry. To purchase thirdparty software vender to fulfill the project

		Administration System· Commission Administration System· Billing& Payment Administration System· Insurance Industry Client Relationship Administration System· Financial Assets Administration System· ERP	
	Partner	· IBM· Accenture· PWC	
Software Package& Technical Support	**Modules of Finance Sub System**	· Financial Accounting· Management Accounting· Capital Management· Asset Management· Financial Reporting Platform· Budget Management· Expense Management· Financial Performance Management· Audit Information System· GRC· New-Version Budget planning	· Oralce Financial· OFSA· I-Expense· Treasury· Hyeperion
	Other Function	· Software package includes system performance monitor, Backup& Restore, System function, eVECV	· There is no System function in the software package
	Purchase Method	· Not based on module	· Base on module· User accounts& licenses
			will also be taken into price consideration

		· Financial accounting and managementaccounting are independent, to support cost management and analysis in more efficient way	· Complicate in COA setting, not flexible
	Expense Allocation	· Management accounting is flexible	· There is no expense allocation function
	Interface between Bank andInsurance	· Experienced in interface between bank and insurance	· No such experience
	Focus on	· Business user capability	· IT capability
	Satisfy CIRC regulation	· Easy	· Not very easy
	Enhancement	· Configuration can satisfy many enhancement requirement	· Many enhancement Need to be developed
	MaintenanceIssue	· User orientation	· IT orientation
	Technicalsupport	· SAP worldwide technical support	· Oracle worldwide technical support
Platform	**Develop Language**	· Java · Open-SQL	· Java
	Data Base	· IBM DB2 · Oracle · MS SQL	· Oracle
	Open Source	· Yes	· No

3.4.3.1 IMPLEMENTATION OF SAP IN ERP:

1. SAP Labs is the research and development organization of the parent company. SAP has its development organization spread across the globe. Many, but not all, labs locations are hosting SAP Research groups.

2. SAP customer support, also called Active Global Support (AGS) is a global organization to provide support to SAP customers worldwide.

3. User Groups are independent, not-for-profit organizations of SAP customer companies and partners within the SAP Ecosystem that provide education to their members, influence SAP product releases and direction, exchange best practices, andprovide insight into the market needs

4. In 2007, the SAP User Group Executive Network (SUGEN) has been established to foster the information exchange and best practice sharing among SAP User Groups and to coordinate the collaboration with SAP for strategic topics.

5. Partnerships are core to SAP's strategy and in its 35 years of history the network of software solution providers, value-added resellers, distributors, technology and services partners has developed into a
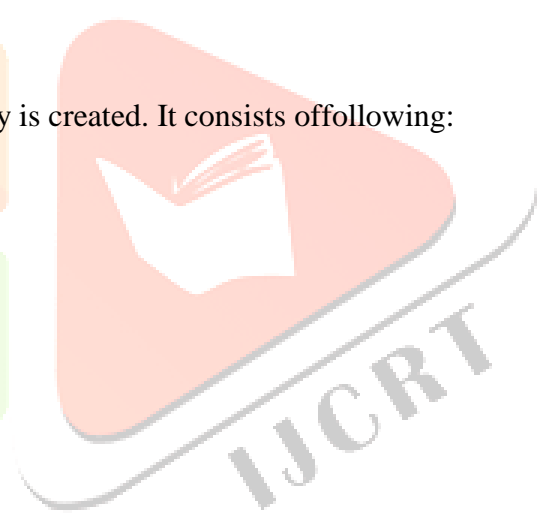
broad ecosystem that is among the industry'slargest.
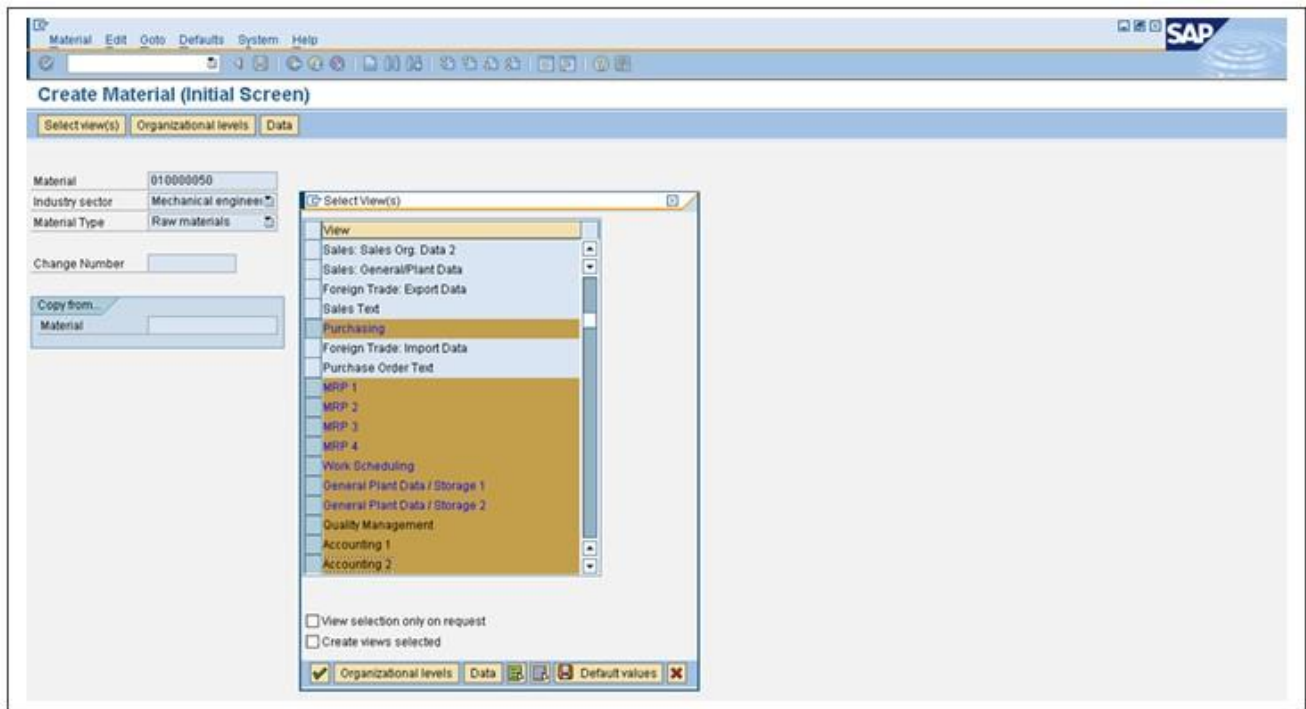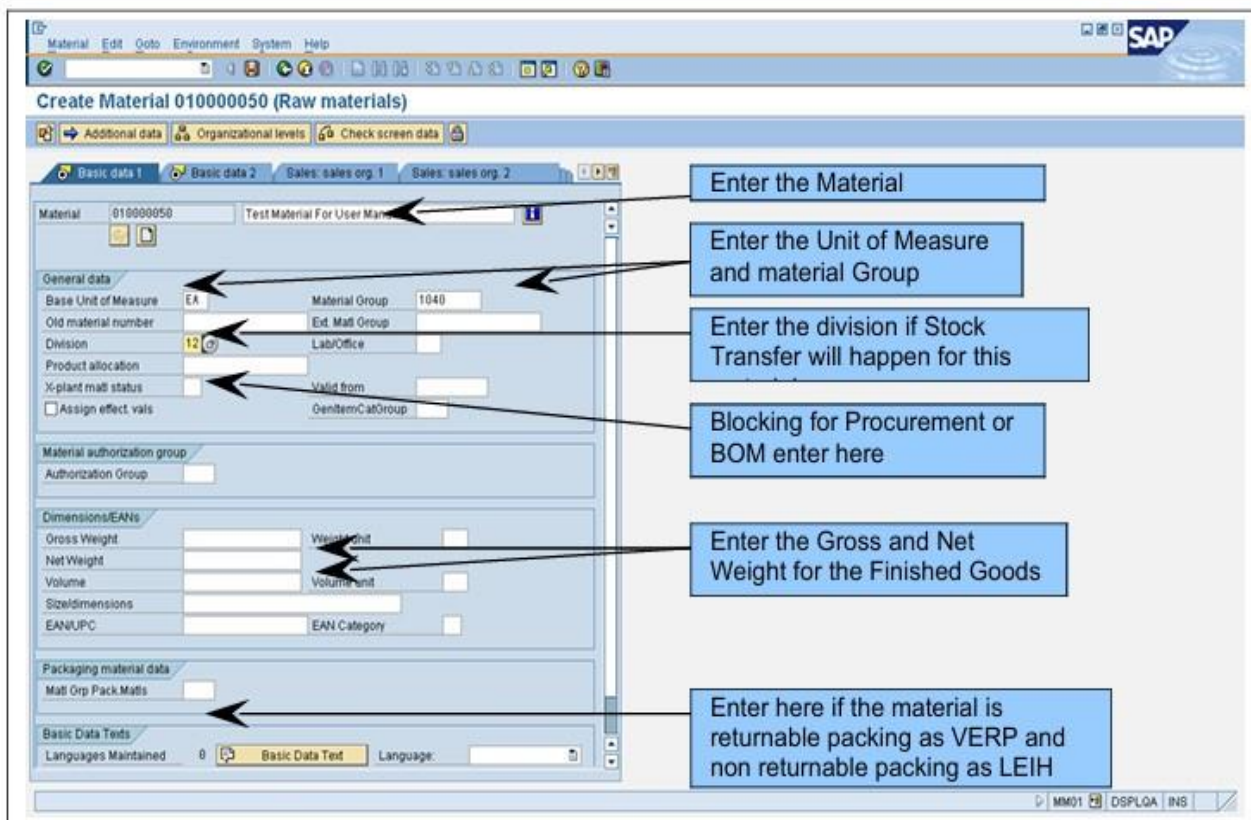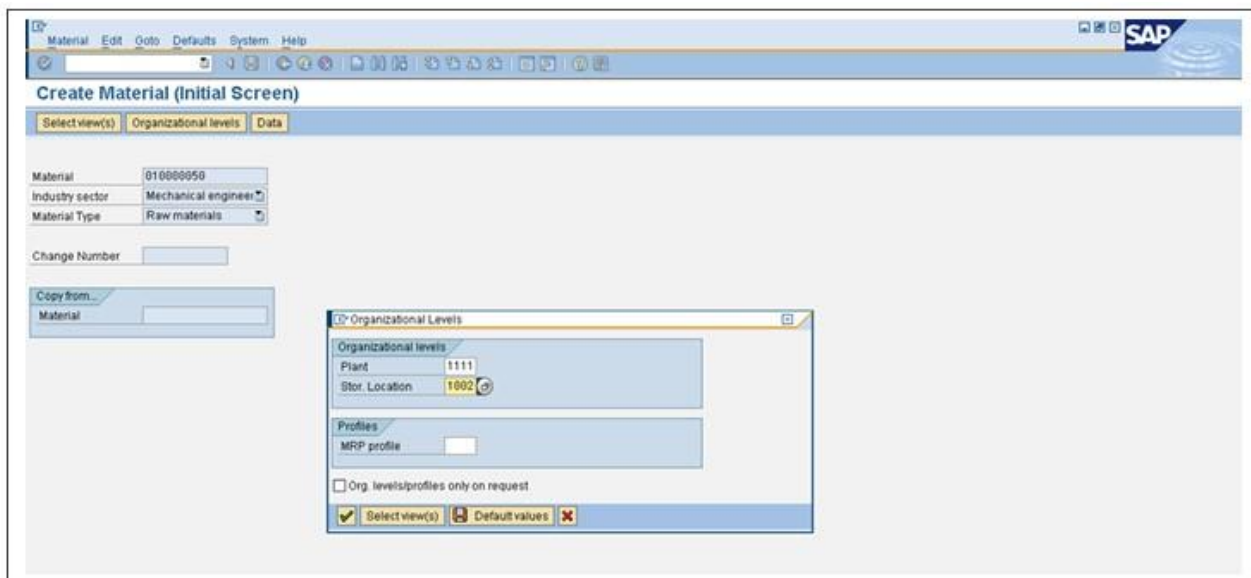

3.4.3.2 ENTERPRISE STRUCTURE

A Enterprise structure is the option where new company is created. It consists offollowing:

Company:

* ❖ Company Code
* ❖ Plant
* ❖ Storage Location
* ❖ Purchase Organization

The SPRO → IMG screen is shown in the figure

IV. RESULTS AND DISCUSSION

4.1 Results of Descriptive Statics of Study Variables

SAP MM provides significant advantages in material management through its comprehensive integration capabilities, though it requires substantial investment and careful planning. The case study of VOLVO EICHER illustrates practical applications and the tangible benefits realized through SAP MM implementation.

COMPANY

In order to create a company, click on SPRO ☐ IMG ☐ Enterprise Structure ☐Definition ☐ Financial Accounting ☐ Define CompanyClick on New Entries as shown above.

Fill the entries as described below:

Company:**VECVTD**

Company name:**VOLVO EICHER COMMERCIAL VEHICLE**

Company 2:**CORPORATE OFFICE**

Street:**RAILWAY ROAD, KUMARA PARK WEST**

PO Box:**1234**

Postal Code:**560020**

City:**BANGALORE**

Country:**IN**

Language Key : **EN**

Currency   : **INR**

Once Company is created, Company Code is to be created.

COMPANY CODE

Path: SPRO ☐ IMG ☐ Enterprise Structure ☐ Definition ☐ Financial Accounting ☐ Edit, Copy, Delete, Check Company Code ☐ Edit CompanyCode Data.

The Company Code Overview screen appears.Click on new entries.

Enter the following details:

Company Code: **CORG**

Company Name: **COORG OIL ESTATE**

City: **COORG**

Country: **IN**

Currency: **INR**

Language: **EN**

II. ACKNOWLEDGMENT

Before I get into thick of things, I would like to add a few words of appreciation for the people who have been a part of this project right from its inception. The writing of this project has been one of the significant academic challenges I have faced and without the support, patience and guidance of the people involved, this task would not have been accomplished. It is to them I owe my deepest gratitude and respect.

It gives me an immense pleasure in presenting this project report on **"Material Management & Customer Requirements Customization in SAP MM Implementation"**. It has been my privilege to have a project guide who has assisted me from the commencement of this project. The success of this project is a result of shear hard work, zeal and determination put in by me with the help of my project guide. I hereby take this opportunity to add special note of gratitude towards **Mr. Sayyad Shafik R., Dr. Mr. Qazi F. Z.** and who undertook to act as our mentor despite their many other academic and professional commitments. Their wisdom, knowledge and commitment to the highest standards inspired and motivated me. Without their insight, support and energy this project would not have been kick started and neither would have been reached to fruitfulness.

I also feel heartiest sense of obligation for our parents for their constant faith in me and to all the other people who played a role big or small in making this project successful. This isto all of you.

Kadam Shrinath Sanjay

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