**RIPHAH INTERNATIONAL UNIVERSITY**

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**Faculty of Computing**

**FINAL YEAR PROJECT INITIAL PROPOSAL**

**ERP for Wires Manufacturing Company**

**Project Team**

| **Full Name of Student** | **SAP Id** | **Program** | **Contact Number** | **Email Address** |
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**Dr. Naveed Ikram**

Professor

**Project Proposal**

**Project Title:** ERP for Wire Manufacturing Company

# **Description:**

**Project Overview:**

Our project focuses on the customizing, configuring and implementing of an ERP system using ERPNext an open source ERP based on Frappe framework written in python for a real life manufacturing company. This initiative aims to modernize and streamline the company's operations by integrating various business processes into a unified software solution. The ERP system will increase efficiency, facilitate informed decision-making and support the company's growth goals.

**Objective:**

The primary goal of this project is to implement an ERP system that simplifies and integrates business processes across departments to improve operational efficiency, improve decision-making, and support business growth.

Specific objectives include:

* Automation of raw material procurement processes such as copper rods and PVC.
* Optimization of production processes for the production of wires.
* Effective inventory management to minimize inventory and excess inventory.
* Streamlining sales order processing and customer relationship management.
* Expansion of financial management options, including accounting and reporting.

**Scope:**

The project scope includes developing an ERP system for wire manufacturing company. It encompasses the following modules and functionalities within the ERP system:

1. Purchase and supplier management:

* This module will facilitate the process of purchasing raw materials such as copper rod and PVC.
* It will include functions for managing supplier information, creating purchase orders, tracking deliveries and evaluating supplier performance.
* In addition, it will streamline communication and collaboration with suppliers to ensure timely procurement of materials.

2. Inventory management:

* The Inventory Management module will be responsible for tracking the movement and storage of raw materials, work-in-progress (WIP) and finished goods within the organization.
* It will provide real-time insight into inventory levels, locations and pricing, enabling effective inventory management, inventory optimization and timely replenishment of materials to support production requirements.

3. Manufacturing operations:

* This module will automate and streamline production processes for the production of wires from raw materials.
* It will include functions such as BOM management, work order creation and tracking, production planning, production control.

4. Sales order processing and customer relationship management (CRM):

* The Sales Order Processing module will process customer orders, sales quotes and invoicing processes.
* It will allow sales representatives to create and track orders and generate invoices for customer shipments.
* In addition, integrated CRM (Customer Relationship Management) features will help manage customer interactions, track leads and analyze customer data to increase customer satisfaction and loyalty.

5. Payables and receivables:

* This module will manage the company's financial transactions related to supplier payments and customer invoicing.
* Accounts Payable functions will include recording supplier invoices, processing payments and managing supplier credits.
* Accounts receivable functions will include generating customer invoices, tracking payments, managing credit limits and processing collections.
* The module will ensure accurate and timely processing of financial transactions, improve cash flow management and relationships between suppliers and customers.

6. General ledger and financial reporting:

* The General Ledger module will serve as a central repository for recording all financial transactions and maintaining the company's financial records.
* In addition, the financial reporting function will enable the generation of financial statements such as profit and loss statements, balance sheets and cash flow statements.

7. Production Planning and Execution:

* Production Planning:
  + This module will enable efficient planning and scheduling of production activities to meet customer demand and at the same time optimize the use of resources.
  + It will include functions for creating production schedules and allocating resources such as labor, equipment, and materials.
  + The module will consider factors such as production capacity, material availability and order priorities to create feasible production plans.
* Manufacturing Execution:
  + Once production plans are finalized, this module facilitates the execution of manufacturing activities on the shop floor.
  + It will provide tools for issuing work orders, tracking work-in-progress (WIP), recording production activities and capturing real-time production data.

**Contributions towards Society:**

By helping this wire manufacturing company to implement an ERP system, we aim to contribute to the wider adoption of technology among small and medium-sized enterprises (SMEs). By incorporating digitization and automation, this company can increase productivity, reduce waste and contribute to sustainable business practices.

**Expected Outcomes:**

For Client:

* Increased operational efficiency: Streamlining business processes and automating routine tasks.
* Improved Decision Making: Access real-time data and analytics for informed decision making.
* Cost savings: Reduction of manual effort, optimization of inventory levels and better allocation of resources.

For us as Student team:

* Technological Proficiency: Through hands-on experience with ERPNext, as a student team we expect to gain proficiency in configuring, customizing, and implementing ERP systems, enhancing our technical skills and knowledge.
* Real-Life Application: Applying theoretical concepts to practical scenarios, bridging academic learning with real-world challenges.
* Business Understanding: Gain insights into manufacturing industry operations and challenges.

**Limitations:**

* Learning Curve: For students new to ERPNext Frappe, there may be a learning curve involved in understanding the platform and its features.
* Time Constraints: Limited project timeline and resources can affect the depth of customization and implementation of features.