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## 1.0. Introduction

This document addresses the case of DYAMCO Design and Wood Art in Ciudad Obregón, a company dedicated to the manufacturing and design of custom furniture and kitchens. This final project for Information Technology for Businesses aims to develop a strategic information technology plan that allows DYAMCO to improve the efficiency and competitiveness of its operations.

### 1.1. Introduction

*Company Name:* DYAMCO Design and Wood Art in Ciudad Obregón

*Business Type:* Manufacturing and design of custom wood furniture and kitchens.

**History:** DYAMCO is a company with a solid trajectory in the carpentry and interior design market. Founded in 1995 as a modest carpentry workshop in Ciudad Obregón, Sonora, DYAMCO has experienced notable growth over the years. Initially, it focused on the manufacturing of custom furniture and kitchens, working closely with residential and commercial clients to meet their specific needs. Dedication to high-quality work and attention to detail soon earned DYAMCO a solid reputation in the industry, resulting in a steady increase in clientele and sales.

**Primary Customers:** DYAMCO's customer base includes both individuals and businesses, with a strong presence in the Mayo Region, Sonora. Residential customers seek custom furniture and kitchens that reflect their style and personality, while commercial clients turn to DYAMCO for interior design projects that enhance the functionality and aesthetics of their commercial spaces.

**Products and Services:** DYAMCO specializes in the manufacturing and design of a wide variety of wood furniture and kitchens, including cabinets, tables, chairs, kitchen cabinets, and more. All products are crafted using high-quality materials and artisanal techniques, ensuring durable and aesthetically pleasing finishes. Additionally, the company offers complete interior design services, including conceptualization, planning, and execution of residential and commercial design projects.

**Competition:** In a competitive market, DYAMCO stands out for its commitment to quality, craftsmanship, and customer service. While there are local and regional competitors in the carpentry and interior design industry, DYAMCO's reputation as a leader in innovation and quality has allowed it to maintain a solid position in the market.

## **SWOT Analysis**

*Strengths:* DYAMCO has several key strengths that have allowed it to stand out in the market. Its commitment to quality and craftsmanship is reflected in each of its products, which has generated a solid reputation among customers. Additionally, the company has demonstrated a consistent ability to adapt to changing market needs, allowing it to remain relevant and competitive over the years.

*Weaknesses:* Despite its success, DYAMCO also faces some weaknesses. Dependence on manual tools and traditional processes may limit the company's ability to scale and meet growing demand. Additionally, information management is currently done through electronic spreadsheets and a physical agenda, which can be inefficient and prone to errors.

*Opportunities:* DYAMCO has several opportunities to grow and expand in the market. Market expansion and growing demand for customized designs provide significant opportunities to increase sales and market share. Additionally, the company can leverage technological advances in the industry to improve operational efficiency and customer experience.

*Threats:* Despite its solid position in the market, DYAMCO faces some external threats. Competition in the market may intensify as new competitors enter the market or existing competitors increase their presence. Additionally, technological advances in the industry could pose a threat if DYAMCO cannot quickly adapt to changes.

## **2.0 Strategic profile of the company**

### **2.1. Mission and Vision Statement**

#### *Mission:*

At DYAMCO, we are dedicated to exceeding our customers' expectations in the design and manufacturing of wood furniture and kitchens. Our mission is to merge craftsmanship with personalized attention to create unique and functional spaces that reflect the essence and style of each client. We are committed to providing creative, durable, and aesthetically stunning solutions that enrich the lives of those who enjoy them.

#### *Vision:*

Our vision at DYAMCO is to be recognized leaders nationally and internationally in innovation and quality in the design and manufacturing of wooden furniture. We aim to transcend the boundaries of conventional design and set new standards of excellence in the industry. We aspire to be a source of inspiration for our clients, collaborators, and the community at large, transforming spaces and creating memorable experiences through our wood art.

## **2.2. Strategic Lines**

### *Diversification of Products and Services:*

At DYAMCO, we recognize the importance of adapting to the changing needs of the market. Therefore, we commit to diversifying our range of products and services to meet a wide range of customer demands and preferences. In addition to our traditional line of wood furniture and kitchens, we will explore new product categories such as home accessories, decor, and outdoor furniture. We will also expand our services to include interior design consultancy and turnkey projects, providing our customers with a comprehensive and personalized experience.

### *Technological Innovation and Efficient Processes:*

To stay at the forefront of the industry, we will invest in cutting-edge technology and efficient processes that enhance the quality, speed, and precision in the manufacturing and design of our products. We will implement computer-aided design (CAD) and computer-aided manufacturing (CAM) systems to optimize the creation and production of furniture. Additionally, we will explore new techniques of sustainable production and innovative materials to reduce our environmental impact and offer more eco-friendly solutions.

### *Geographical Expansion and Market Consolidation:*

As part of our growth strategy, we will focus on expanding our geographical presence and consolidating our market positioning. In addition to strengthening our presence in the Mayo Region, we will explore expansion opportunities in other regions of Mexico and abroad. To achieve this, we will establish strategic partnerships with local distributors and trade associations, as well as targeted marketing campaigns to increase brand awareness and reach new market segments.

These strategic lines represent our commitment to excellence, innovation, and sustainable growth at DYAMCO. They will guide our actions and decisions as we progress towards our goal of becoming leaders in the wood furniture design and manufacturing industry.

## **3.0. Business Processes**

In this section, we will explore in detail the business processes of DYAMCO, as well as the services offered by similar companies in the wood furniture and kitchen design and manufacturing industry.

### **3.1. Services Provided by Similar Companies**

When researching companies similar to DYAMCO on the internet, it is observed that they offer a wide variety of specialized services related to the design and manufacturing of wood furniture and kitchens. These services go beyond simple

furniture manufacturing and encompass key aspects of interior design and customization of living and commercial spaces. Among the most common services offered by similar companies are:

Custom design of furniture and kitchens according to the specific needs and preferences of each client.

Artisanal manufacturing of furniture and kitchens using high-quality wood and advanced carpentry techniques, ensuring durability and aesthetics.

Interior design consultancy and furniture selection for space optimization and the creation of harmonious and functional environments.

Installation and assembly of furniture and kitchens in the desired location by the client, ensuring impeccable finishing and seamless integration with the surroundings.

Maintenance and repair services for existing furniture, including restoration, refurbishment, and renewal of old or damaged pieces.

Consultancy on remodeling and renovation projects for residential and commercial spaces, offering personalized and creative solutions for environment transformation.

These services reflect the growing demand for customized and high-quality solutions in the interior design and wood furniture manufacturing market, as well as the need for specialized companies like DYAMCO to efficiently and professionally meet these demands.

### **3.2. Company Value Chain**

DYAMCO's value chain in the wood furniture and kitchen design and manufacturing industry encompasses a series of interrelated activities that contribute to the creation and delivery of value to customers. These activities are divided into two main categories: primary activities and support activities.

#### **Primary Activities:**

Product Design and Development.

Procurement of Raw Materials and Supplies.

Furniture and Kitchen Manufacturing and Assembly.

Quality Control and Assurance.

Sales and Marketing.

Customer Service and After-Sales.

Support Activities:

Research and Development (R&D) of new designs and manufacturing techniques.

Human Resources Management for recruitment, training, and staff development.

Supply Chain Management for efficient supplier management and logistics.

Information Technology for data management, processes, and internal communications.

These activities are integral to DYAMCO's operation and interrelate to create value for customers and ensure efficiency and quality at all stages of the business process.

### 3.3. Process Description

Below is a detailed description of DYAMCO's primary and support processes, along with their justification and the involved functional areas:

Process	Type	Description	Justification	Functional Areas Involved
<b>Product Design and Development</b>	Primary	Creation of customised furniture and kitchen designs in collaboration with customers, using CAD/CAM and design software.	It drives differentiation and innovation.	Design, Sales
<b>Procurement of raw materials</b>	Support	Sourcing, selection and procurement of high quality raw materials, such as wood and fittings, for the manufacture of furniture.	Ensures quality and availability of inputs.	Shopping
<b>Manufacturing and Assembly</b>	Primary	Transformation of raw materials into furniture and kitchens by means of cutting, assembly and finishing processes, following designs.	Essential for the production and delivery of products.	Production, Warehouse
<b>Quality Control</b>	Support	Assessment and verification of product quality at all stages of the manufacturing process, ensuring standards.	It ensures customer satisfaction and reputation.	Quality
<b>Sales and Marketing</b>	Primary	Promotion of products and services, customer management and closing sales through marketing and sales strategies.	It drives business growth and profitability.	Sales, Marketing
<b>Customer Service and After Sales</b>	Support	Customer service, order tracking, handling claims and warranties, and maintaining long-term relationships.	Encourages customer loyalty and repeat sales.	Customer Service

These processes play a crucial role in DYAMCO's daily operation, ensuring efficiency, quality, and customer satisfaction at all stages of the product life cycle, from design to delivery and after-sales service.

## **4.0 Proposals for Process Improvement Through the Use of Technology**

In this section, specific improvements to DYAMCO's processes are proposed through the strategic application of innovative technology. These proposals are designed to have a significant impact on the company's value chain and to support its competitive strategy.

### **4.1. Identification of Processes with Improvement Potential**

Processes presenting opportunities for improvement will be identified, focusing on those directly impacting DYAMCO's value chain and aligned with the three previously defined strategic priorities.

#### *Justification:*

Improving these processes will be crucial for strengthening DYAMCO's competitive position in the market, enabling greater operational efficiency and better responsiveness to customer needs.

By focusing on high-priority strategic processes, it ensures that the proposed improvements are aligned with the company's vision and mission, maximizing their impact on achieving business objectives.

### **4.2. Technological Improvement Proposals**

Below are three technological improvement proposals, each aimed at enhancing a specific strategic process within DYAMCO's value chain:

*Technological Proposal 1:* Implementation of a Computer-Aided Manufacturing (CAM) System

*Process to Improve:* Furniture and Kitchen Manufacturing and Assembly.



**Description:** The CAM system will enable automated programming of manufacturing machinery, such as cutters and routers, based on previously developed CAD designs. This will streamline the manufacturing process, reducing production times, and improving the accuracy of cuts and assemblies.

**Justification:** This proposal will enhance efficiency and quality in the manufacturing process, allowing DYAMCO to consistently meet delivery deadlines and offer higher quality products to its customers.

#### *Technological Proposal 2:* Implementation of a Supplier Relationship Management (SRM) System

*Process to Improve:* Procurement of Raw Materials and Supplies.

**Description:** The SRM system will centralize supplier relationship management, facilitating communication, performance evaluation, and negotiation of terms and prices. Additionally, it will enable automated order tracking and real-time inventory management.

**Justification:** This proposal will optimize DYAMCO's supply chain, ensuring a steady supply of high-quality raw materials at the best possible price, thereby reducing operating costs and improving profitability.

#### *Technological Proposal 3:* Implementation of a Project Management System (PMS)

*Process to Improve:* Product Design and Development.

**Description:** The PMS will facilitate planning, coordination, and monitoring of design projects, allowing efficient resource allocation, effective deadline management, and transparent communication between design teams and clients.

**Justification:** This proposal will improve efficiency and effectiveness in the design process, enabling DYAMCO to offer customized, high-quality solutions more quickly and consistently, thereby strengthening its competitive position in the market.

## **Specification Sheet 1: Computer-Aided Manufacturing (CAM) System**

<b>General Data</b>	
<b>Code</b>	CAM-001
<b>Description</b>	CAM system to automate CNC machinery programming based on previous CAD designs for custom furniture and kitchen manufacturing.

<b>Details</b>	Optimizes fabrication workflows, reduces material waste and enables high-precision productions. Integrates design, machining, simulation and production control modules.
<b>Remarks</b>	Complete solution covering entire product life cycle - from design to final manufacturing.
<b>Images</b>	[Attractive CAM system rendering] [Photo of CNC machine operating with the system]
<b>Multimedia</b>	[Video demo of CAM system in operation]
<b>Classification</b>	
<b>Catalog</b>	Manufacturing Solutions
<b>Family</b>	CAM Systems
<b>Solution Type</b>	Software and Hardware for Custom Furniture Industry
<b>Business Area</b>	Custom Furniture and Kitchen Manufacturing
<b>Logistics</b>	
<b>Dimensions</b>	Control Cabinet: 60x45x25cm   Requires plant area for CNC machines
<b>Weight</b>	Control Cabinet: 15kg
<b>Volume</b>	0.5m3
<b>Packaging</b>	Control cabinet in reinforced cardboard box with foam protection. Machinery packaged per size.
<b>Commercial</b>	

<b>Minimum Sale</b>	1 software license + 1 CNC machine
<b>Sale Increment</b>	Additional licenses and machines
<b>Benefits</b>	Up to 40% productivity increase. Up to 20% material waste reduction. Improved quality control. Higher automation.
<b>Estimated Investment</b>	\$150,000 USD (initial configuration)
<b>Projected Return</b>	18 months
<b>Implementation</b>	
<b>Timeline</b>	14 months (Planning 1 month, Procurement 1 month, Training 2 months, Pilot 3 months, Full 6 months, Adjustments 1 month)
<b>Key Milestones</b>	Hardware delivery, training completion, start of commercial operations
<b>Resources</b>	1 Project Engineer, 2 Installation Technicians, 2 Instructors (included by supplier)
<b>Licensing</b>	
<b>Model</b>	Perpetual license per workstation. Annual maintenance renewals.
<b>Pricing</b>	Software License: \$50,000 USD   5-axis CNC Machine: \$100,000 USD
<b>Promotion</b>	20% discount on initial licenses and machinery purchase during first year
<b>Integrations</b>	

<b>Related Systems</b>	Existing CAD System, ERP
<b>Support</b>	7x24 remote support, software updates
<b>Vendor</b>	
<b>Brand</b>	MasterCam
<b>Company</b>	CNC Software Inc.
<b>Contact</b>	<a href="http://www.mastercam.com">www.mastercam.com</a> - 1 (800) 228-2877

## Specification Sheet 2: Supplier Relationship Management (SRM) System

<b>General Data</b>	
<b>Code</b>	SRM-100
<b>Description</b>	SRM system for centralized management of relationships with raw materials and supplies vendors.
<b>Details</b>	Facilitates communication, performance evaluation, negotiation of terms and prices with vendors. Includes purchase order, inventory control and spend analysis modules.
<b>Remarks</b>	All-in-one solution to optimize the supply chain and procurement spend.
<b>Images</b>	<p>[Screenshot of intuitive system interface]</p> <p>[Image of executive and analytical reports]</p>
<b>Multimedia</b>	[Demonstrative video of subscription process and initial setup]

<b>Classification</b>	
<b>Catalog</b>	Supply Management Solutions
<b>Family</b>	SRM Systems
<b>Solution Type</b>	Cloud Software for Vendor Management
<b>Business Area</b>	Procurement and Logistics
<b>Logistics</b>	
<b>Dimensions</b>	Web application, no on-site installation required
<b>Weight</b>	N/A
<b>Volume</b>	N/A
<b>Packaging</b>	N/A
<b>Commercial</b>	
<b>Minimum Sale</b>	5 user licenses
<b>Sale Increment</b>	Additional user licenses and modules
<b>Benefits</b>	10-15% procurement cost reduction. Better inventory visibility and control. Shorter cycle times and legal risks.
<b>Estimated Investment</b>	\$80,000 USD (5 users, first year)
<b>Projected Return</b>	12-18 months
<b>Implementation</b>	

<b>Timeline</b>	9 months (Planning & Selection 1 month, Customization 2 months, Training 1 month, Pilot 3 months, Full 2 months)
<b>Key Milestones</b>	Contract signed, configuration completed, system go-live
<b>Resources</b>	1 SRM Project Manager, 1 Systems Integration Specialist
<b>Licensing</b>	
<b>Model</b>	Annual subscription per user
<b>Pricing</b>	Annual User License: \$12,000 USD   Extended Spend Intelligence Module: \$8,000 USD/year
<b>Promotion</b>	3 months free on extended module subscription
<b>Integrations</b>	
<b>Related Systems</b>	ERP (SAP Business One), CRM, Accounting Systems
<b>Support</b>	24x7 web and phone support, version updates included
<b>Vendor</b>	
<b>Brand</b>	Ariba
<b>Company</b>	SAP SE
<b>Contact</b>	<a href="http://www.ariba.com">www.ariba.com</a> - (+52) 55 1234 5678

### ***Specification Sheet 3: Project Management System (PMS)***

<b>General Data</b>	
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<b>Code</b>	PMS-200
<b>Description</b>	PMS system for planning, coordination and monitoring of furniture and kitchen design projects.
<b>Details</b>	Enables efficient resource allocation, deadline management and seamless communication between design teams and clients for an enhanced service experience.
<b>Remarks</b>	Modular and scalable solution that can grow as the company's needs evolve.
<b>Images</b>	[Attractive UI showcasing a project management dashboard] [Image of client collaboration functionality]
<b>Multimedia</b>	[Video highlighting key PMS capabilities]
<b>Classification</b>	
<b>Catalog</b>	Productivity Solutions
<b>Family</b>	PMS Systems
<b>Solution Type</b>	PMS Software for Project Management
<b>Business Area</b>	Product Design and Development
<b>Logistics</b>	
<b>Dimensions</b>	Web application, no special requirements
<b>Weight</b>	N/A
<b>Volume</b>	N/A
<b>Packaging</b>	N/A

<b>Commercial</b>	
<b>Minimum Sale</b>	10 user licenses
<b>Sale Increment</b>	Additional licenses and modules (Portfolio Management, Human Resources, etc.)
<b>Benefits</b>	20%+ productivity increase. Better project visibility and control. Reduced reworks. Customer satisfaction.
<b>Estimated Investment</b>	\$150,000 USD (10 users, first year)
<b>Projected Return</b>	18-24 months
<b>Implementation</b>	
<b>Timeline</b>	12 months (Planning & Selection 1 month, Installation 1 month, Customization 3 months, Training 2 months, Pilot 3 months, Full 2 months)
<b>Key Milestones</b>	Project kickoff, customization completion, pilot go-live
<b>Resources</b>	1 PMS Implementation Manager, 2 Process Analysts, 1 Project Administrator
<b>Licensing</b>	
<b>Model</b>	Annual subscription per user plus implementation fee
<b>Pricing</b>	Annual User License: \$10,000 USD   Implementation Fee: \$60,000 USD
<b>Promotion</b>	50% discount on implementation fee when contracting for 3 years
<b>Integrations</b>	



<b>Related Systems</b>	AutoCAD, Cloud Storage Services, CRM
<b>Support</b>	24x7 technical support, quarterly updates included
<b>Vendor</b>	
<b>Brand</b>	Wrike
<b>Company</b>	Wrike, Inc.
<b>Contact</b>	<a href="http://www.wrike.com">www.wrike.com</a> - (+1) 408 335 4996

## 5.0 Implementation Plan for Proposed Technology Projects

### 5.1 Computer Aided Manufacturing (CAM) System Implementation 5.2.

#### **Timeline:**

- Planning Phase: 1 month
- Software and Hardware Acquisition: 1 month
- Personnel Training: 2 months
- Pilot Implementation: 3 months
- Full Implementation: 6 months
- Evaluation and Adjustments: 1 month

#### **Estimated investment:**

- Software and Hardware Acquisition: \$50,000
- Staff Training: \$20,000
- Implementation costs: \$80,000
- Total: \$150,000

### 5.2. Implementation of the Supplier Relationship Management System (SRP)

**Timeline:**

- Planning and Software Selection Phase: 1 month
- System Customization: 2 months
- Staff Training: 1 month
- Pilot Implementation: 3 months
- Full Implementation: 6 months
- Evaluation and Adjustments: 1 month

**Estimated Investment:**

- Software Acquisition: \$40,000
- System Customization: \$30,000
- Staff Training: \$15,000
- Implementation Costs: \$70,000
- Total: \$155,000

### **5.3. Project Management System (PMS) Implementation**

**Timeline:**

- Software Planning and Selection Phase: 1 month
- Software Acquisition: 1 month
- System Customization: 2 months
- Staff Training: 1 month
- Pilot Implementation: 3 months
- Full Implementation: 6 months
- Evaluation and Adjustments: 1 month

**Estimated Investment:**

- Software Acquisition: \$60,000
- System Customization: \$40,000
- Staff Training: \$20,000
- Implementation Costs: \$100,000
- Total: \$220,000

## 6.0 Conclusions

This analysis highlights the expected benefits for DYAMCO resulting from the implementation of the proposed technology projects. These benefits encompass a wide range of areas, from increased profits and sales to improved customer service and optimization of internal processes.

The introduction of new technologies in the business environment has the potential to generate significant and positive impacts on the overall performance of the organization. In the specific case of DYAMCO, the adoption of advanced manufacturing systems, supplier management, and project management systems is expected to provide a range of competitive advantages and tangible benefits.

Firstly, the implementation of the Computer-Aided Manufacturing (CAM) System is expected to enhance efficiency and quality in the furniture and kitchen manufacturing process. This will result in reduced production times, greater accuracy in final products, and an improved ability to meet delivery deadlines. Consequently, the company will be able to meet market demands more effectively, potentially leading to increased sales and improved profits.

On the other hand, the introduction of the Supplier Relationship Management (SRP) System will allow DYAMCO to optimize its supply chain and enhance relationships with suppliers. This will translate into greater efficiency in acquiring raw materials and supplies, as well as the ability to secure better trade terms and competitive prices. As a result, the company can reduce operating costs and enhance overall profitability.

Finally, the implementation of the Project Management System (PMS) will improve efficiency and effectiveness in the product design and development process. This will enable DYAMCO to offer customized, high-quality solutions more quickly and consistently, thereby strengthening its reputation in the market and increasing customer satisfaction. Additionally, the enhanced ability to manage complex projects will increase team productivity and reduce delivery times, further contributing to improved profits and customer service.

In summary, the implementation of these technological solutions has the potential to generate a range of significant business benefits for DYAMCO, including increased profits, higher sales, improved customer service, and internal process optimization. These benefits are crucial for maintaining competitiveness and sustainable growth in the current market, and are expected to position DYAMCO as a leader in innovation and quality in the wood furniture and kitchen design and manufacturing industry.