Miikka Kaateri

The Process of Implementing Microsoft Dynamics 365 Supply Chain Management in a New Warehouse

Metropolia University of Applied Sciences / HTW Saar UAS Matrikelnum 385467

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Abstract

Author:	Miikka Kaateri
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The purpose of the thesis was to provide guidelines for implementing Microsoft Dynamics 365 Supply Chain Management ERP system in a completely new warehouse that does not currently have an ERP system in place and has no daily warehouse operations running.

The essential daily logistics processes of the case company in the thesis are illustrated using flowcharts. The thesis also provides instructions on implementing the Dynamics 365 ERP system and the necessary parameters and configurations for the warehouse to start its daily operations.

This thesis gives a general understanding on what to consider and what needs to be the focus on during an ERP-implementation process, for a successful implementation.

The result of the work was a general guide to the implementation of Dynamics 365 Supply Chain Management and the required parameters and configurations to consider. At the time of writing the thesis, the implementation project is still ongoing, and the exact time of the finalization is yet to be determined.

Keywords:	ERP-System, Microsoft, Dynamics 365, Dynamics 365 Supply Chain Management, implementation, parameter, configuration, process, flowchart

Tiivistelmä

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Insinöörityössä oli tarkoituksena soveltaa ja antaa ohjenuora, Microsoft Dynamics 365 Supply Chain Management toiminnanohjausjärjestelmä käyttöönotolle täysin uuteen varastoon, jossa ei ole valmiina toiminnanohjausjärjestelmää eikä päivittäisiä operaatioita ole valmiina.

Asiakasyrityksen toiveena oli saavuttaa automatisoitu, operatiivisesti läpinäkyvä sekä mahdollisimman helppokäyttöinen toiminnanohjausjärjestelmäympäristö, jota on helppo operoida käyttäjärajapinnassa.

Työssä kuvattiin keskeisimmät asiakasyrityksen päivittäisesti käyttöön tulossa olevat varastoprosessit, sekä pyrittiin antamaan ohjeet, kuinka Dynamics 365 toiminnanohjausjärjestelmän käyttöönotto onnistuisi ja mitä parametrejä sekä konfiguraatioita se tarvitsee, jotta toiminta saadaan aloitettua.

Työssä myös selitettiin mitä tulee ottaa huomioon sekä mihin tulisi keskittyä, onnistuneessa toiminnanohjausjärjestelmän käyttöönottoprosessissa.

Työn lopputuloksena syntyi yleinen ohje Dynamics 365 Supply Chain Management käyttöönotosta ja sen vaatimista parametreista sekä konfiguraatioista. Insinöörityötä kirjoittaessa projekti on vielä käynnissä, eikä lopullisen implementaation tarkkaa ajankohtaa tiedetä.

Avainsanat: toiminnanohjausjärjestelmä, Microsoft, Dynamics 365, Dynamics 365 Supply Chain Management, käyttöönottoprosessi, parametri, konfiguraatio, prosessikuvaus

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List of Abbreviations

ERP: Enterprise Resource Planning. Technology that integrates many different business functions all in one system.

CRM: Customer Relationship Management. Technology manages relationships and interactions with customers and potential customers, all in one system.

B2B: Business to Business. A form of transaction between businesses. Such as a wholesaler and retailer.

SaaS: Software-as-a-service. A way to deliver applications on the internet. Manageable through a browser instead of installed software.

WMS: Warehouse Management System. A software solution that provides visibility into a business's inventory and manages supply chain operations.

1 Introduction

1.1 Case Company

The case company operates in 24 countries in Europe and Asia. The group consists of the parent company and subsidiaries. In Finland, there are six operational units, which are located in Helsinki, Hollola, Hämeenlinna, Jyväskylä, Turku and Oulu. The number of employees globally from the entities adds up to more than 5000. Total annual revenue for the year 2020 was roughly 388 million euros. The case company is one of the leading textile service companies in Europe and offers solutions for work clothing, protection and the cleaning and décor of workspaces.

The company operates in the B2B sector. The primary services provided are a continuous agreement with businesses to provide work clothes and matts for use or purchasing and with the service of washing them.

1.2 Purpose

In Finland, the company is organized into six different business lines. The different service centres are specialized in providing different services for specific products. The provided service points include work cloth laundry, carpet cleaning, toilet cleaning, industrial towel laundry, restaurant textile laundry and cleanroom laundry.

There is already an Enterprise Resource Planning system in place for the company at the organizational level. The target business has expanded its operations over the years, and increased logistics needs come with expansion. The latest expansion is to build a warehouse in Hungary, which needs a fully functional warehouse management system that is accurately configured for its business needs, correctly built with the products in the warehouse in mind and linked with the financials and the core business operations of the organization.

1.3 Motivation

The motivation for this thesis is to support my work as a System Integration Consultant, working on an implementation project of the cloud-based ERP system Microsoft Dynamics 365 Supply Chain Management for a client organization. Another factor is learning the best practices for implementing such an ERP system and following through with an implementation project.

1.4 Objectives and research questions

This paper aims to get a general understanding of the configurations and parameters for a Dynamics 365 Supply Chain Management implementation project. This paper is strictly limited to the Dynamics 365 Supply Chain Management module, and the focus is only on the Supply Chain Management parameter configurations when proposed later in chapter 9.

The thesis's primary objective is to document the critical processes, practices, and considerations in implementing an ERP system, which in this case is Microsoft Dynamics 365 Supply Chain Management. The project's objective is to create a unified ERP system for a new central warehouse from the ground up and solve the needs and requirements for the system they might have together with the target company. The main focus is the configuration of the standard daily processes, such as inbound and outbound goods flow and stock operations.

Currently, there is no ERP system in place for the specific warehouse, but there is an ERP system implemented globally, which is highly modified and complex. For the implementation of the new system, there is a need to have the possibility to import data from the existing system to the new system environment, a feature which Dynamics 365 supports.

- Research question: What are an ERP system's benefits, challenges, and risks?
- Research question: What are the vital day-to-day processes of the case warehouse?
- Research question: What are some of the necessary means and methods to implement an ERP project?
- Research question: What are the mandatory configurations in the specific ERP system to get the warehouse up and running?
- Research question: How to successfully implement the Microsoft ERP system, using examples from the system interface?

1.5 Scope of the paper

The scope of this paper is limited to implementing the warehouse management solution, leaving out the finance part of the system.
The ERP implementation project is conducted by CGI Suomi Oy, of which I am a part of. Microsoft is the provider for the system and is responsible for the system's ongoing development. Currently, there is no system in place for the target warehouse, and it needs to be built from the ground up. The literature provides considerations, practices, and the focus points for an ERP system implementation project. These are the practices that I will follow and go through in this paper.

Implementing a Dynamics 365 ERP system is quite complex and too wide to go into too much detail in a bachelor's thesis. With this in mind, the decision was made to limit the scope of the paper to only cover and highlight the main aspects, primary configurations, and the main considerations at the general level for this type of project. The research questions will be answered to get a general understanding of the implementation process and its considerations.

At the time of writing this paper, the implementation project was not finished. As a part of guidance and support, I interviewed some of the experts from CGI who

have experience in similar implementation projects, to broaden my view and help me through the project with the help of other literature. Based on the literature and my fellow experts' knowledge, I proposed an essential structure for deploying Microsoft Dynamics 365 Supply Chain Management for a new warehouse. While writing this thesis, the implementation process for this particular project has started, and it follows the processes my study suggests.

1.6 Structure of the thesis

This thesis begins with an introduction of the target company, including its purpose, the motivation for the paper and the scope of the thesis. From there, the methodology used in the paper will be described, and the theory part follows this.

The theory section will describe a brief history of ERP systems, the benefits and challenges of an ERP system and an overview of the Dynamics 365 service provider Microsoft and the Dynamics 365 solution in general. The practical implementation process will be described from the Microsoft Dynamics 365 point of view. After presenting the system and the provider, the critical processes for the case warehouse will be mapped and illustrated as flowcharts. The current relevant literature provides a good understanding of the necessary components of a successful ERP-implementation process.
In the paper's final part, a plan is proposed for the necessary configurations and parameters, backed up with the most relevant literature. The final part of the paper also includes the conclusions of the project and a final analysis of the paper.

2 Methodology

2.1 Research approach

This thesis uses a qualitative approach consisting of a theory base and an empiric part. The theory base consists of the theories of the ERP system in question, the processes, and the best practices for implementation. The empirical part consists

of interviews with experts, conclusions, and the proposed plans. During the research, many different sources of information were used to get the broadest view possible of the subject. The most used sources are scientific articles, previously conducted research, and the system developers' theory.

The qualitative method was selected for this paper as the approach is better for answering questions like in what way, how and why? This approach aims to get answers more practically, such as conducting interviews and gathering information for them, instead of a more statistical way. This research method is an interpretative and subjective approach, with the researcher participating in interviews from the start and accumulating information instantly, compared to a quantitative method in which data needs to be collected first. (Lasey & Luff 2007)

Picture 1. The qualitative research method (Question Pro, 2021).

Several interview sessions were held for the research question, "What are the mandatory configurations in the specific ERP system, to get the warehouse up and running?". The initial interview was with the lead consultant of the implementation project, which took approximately two hours. The second one was with some of the target organizations' foremen and the project's lead consultant and took approximately 2 hours. The interviews were a significant part

of the research as they were an excellent way of collecting information. Several additional, shorter sessions were held during the process. The interviews sparked conversations and thoughts, making it easier to get an idea of the processes and requirements that must be considered, and the interviews brought up different points of view.

3 Aligning processes and business strategy

In this chapter, I will go through, in general, what needs to be considered on the organizational level, the driving factors for and organizational decision-making, and what ties everything together. Understanding and recognizing the organizational operations and considerations are necessary for any type of process, especially for an ERP implementation. This chapter will go through the Galbraith Star Model, which explains why everything must be aligned for an organization to operate well. For an ERP implementation, the organization must work as a whole and all the processes need to be aligned with the strategy. The goal of this chapter is to find a connection between strategy and operational management systems.

Bringing strategy into operations is one of the big challenges in the business world. This in generally due to the fact that only a limited part of the organization is involved in the strategy creation process. For the rest it can be challenging for the remaining organization to absorb the generated output. To support the strategy, a functional system needs to be created, which connect the strategy to the business operations. In the organization, it should be understood that the body implementing the strategy, is the organization itself and for this reason it is essential that everyone inside the organization understands their roles and responsibilities in the implementation of the strategy. (Niemelä, 2008).

3.1 Role of operational management in business strategy

Operational management refers to all the systems with which an organization ensures the realization of its strategy. Strategy orientation in operational

management has been emphasized from the 1990s, since the ability to monitor and question the chosen strategy is a prerequisite for an organization's competitiveness. (Torra, 2007.) According to Simons (Simons, 2000) states that from two points of view, the strategy is in the core of operational management and performance. First the performance evaluation systems and the operational management systems, serve as the central analysis and communication tools, when developing strategy. Second the systems are essential in strategy implementation and monitoring.

In my opinion, an accurate definition of operational management was given by Merchant & Van der Stede, according to which "operational management is about the various means and measures that aim to ensure the achievement of the organization's strategic goals". (Merchant et al. 2003.) Therefore, strategic control and operational control can be distinguished. Strategic control is about the chosen strategy, and how it operates in relation to the organizations operating environment. Operational control refers to the procedures, which are directed organization operations to guide the implementation of the strategy in practice. (Merchant, 1998.)

Galbraith's Star Model can be considered a framework for organization design, on which a company bases its design choices. This model helps to describe how to align strategy in an organization, and how important it is to align strategy through the whole organization, and what might happen if some aspect is neglected. Alignment of processes and business strategy is a crucial part in digital transformation project, such as an ERP-implementation. According to Galbraith (2002), the framework consists of a series of design policies controllable by management and can influence employee behaviour. The policies are the tools with which management must become skilled to effectively shape their organizations' decisions, behaviour, and the way which the strategy is headed (Galbraith, 2002).

3.2 Galbraith Star Model

The Star Model framework can be described as it is illustrated in Figure 1-1. The design policies of the Star Model are divided into five categories. The first category is strategy, which determines the direction. The second category is structure, which points to the location of decision-making power. The third is processes, which are related to the flow of information, so they can be considered to respond to information technologies. The rewards section, the fourth category, influences the motivation of people to perform and address organizational goals. The fifth category is people-related policies (human resource policies), which influence and frequently define the employees' mindsets and skills.

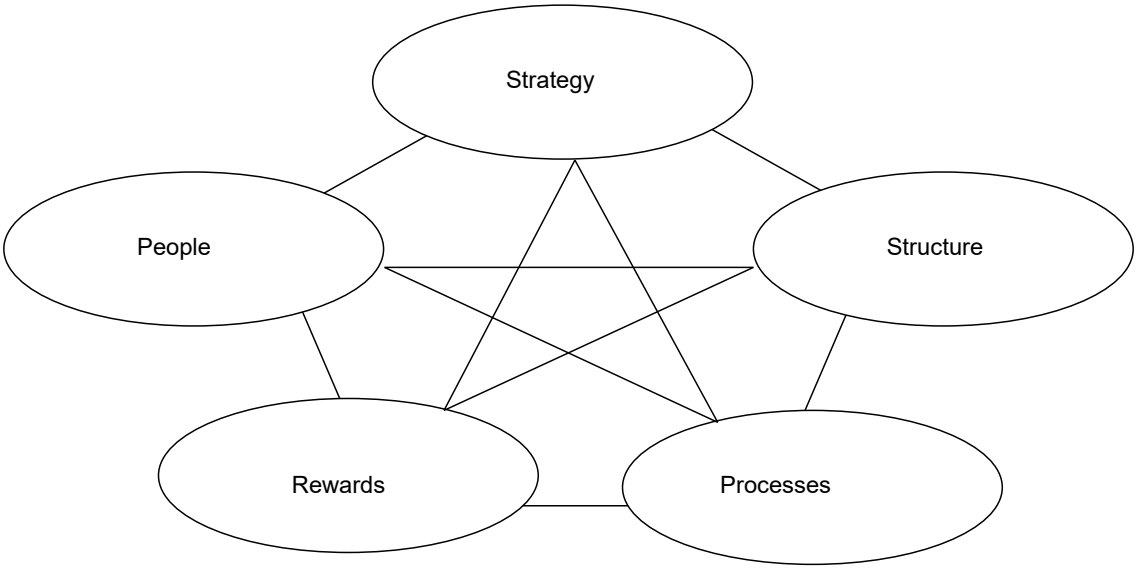


Figure 1-1. The Star Model (Galbraith, 2002)

3.2.1 Strategy

Everything starts from the top, the strategy. Strategy gives the direction, to which the other parts are then aimed towards. When strategy changes, for example when implementing a new ERP-system, the structure of the organization has to adapt. The strategy of a company is considered the formula for winning. The company's strategy specifies the goals and objectives to be achieved and the values and missions to be pursued; it sets out the company's primary direction.

The strategy explicitly delineates the products or services to be provided, the markets to be served, and the value offered to the customer. It also specifies sources of competitive advantage (Galbraith, 2002).

The strategy category is traditionally the first component of the Star Model to be addressed. The organization is important in the design process because it establishes the criteria for choosing among alternative organizational forms. Each organizational form enables some activities to be performed well, often at the expense of other activities. Choosing organizational alternatives inevitably involves making trade-offs. Strategy dictates which activities are most necessary, thereby providing the basis for making the best trade-offs in the organization design. Matrix organizations result when two or more activities must be accomplished without hindering the other. Rather than choosing the "or" matrix requires an embracing of the "and." Companies want to be global and local. (Galbraith, 2002).

3.2.2 Structure

The organization's structure determines the organization's placement of power and authority. Structure policies fall into four areas (Galbraith, 2002):

- Specialization
- Shape
- Distribution of power
- Departmentalization

Galbraith (2002) stated that specialization refers to the type and number of job specialties used in performing the work. Shape refers to the number of people constituting the departments (that is, the span of control) at each level of the structure. Large numbers of people in each department create flat organizational structures with few levels. In its vertical dimension, the distribution of power refers to the classic issues of centralization or decentralization. Its lateral dimension refers to the movement of power to the department dealing directly with the issues critical to its mission. Departmentalization is the basis for forming departments at

each level of the structure. The standard dimensions of departments formed are functions, products, workflow processes, markets, customers, and geography. Matrix structures are ones where two or more dimensions report to the same leader at the same level (Galbraith, 2002).

3.2.3 Processes

Information and decision-making processes are known to cut across the organization's structure. The structure can be thought of as the anatomy of the organization, and the processes can be thought of as the physiology or the functioning of the organization (Galbraith, 2002). Management processes can be both vertical and horizontal.

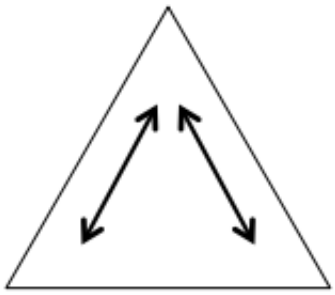


Figure 1-2. Vertical processes (Galbraith, 2002)

As Figure 1-2 illustrates, vertical processes allocate the scarce resources of funds and talent. Usually, business planning and budgeting processes are considered vertical processes. Departments have different needs, which are centrally collected, and priorities are decided for the budgeting and allocating of the resource's capital, research and development, training, and so on (Galbraith, 2002). For matrix organizations, these management processes are vital for effective functioning. These management processes must be supported by multidimensional information systems, such as integrated ERP systems.

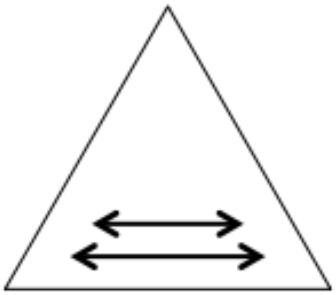


Figure 1-3. Horizontal processes (Galbraith, 2002)

Figure 1-3 shows that the horizontal processes are designed around the workflow, such as developing a new product or fulfilling a customer order. These horizontal management processes, also known as lateral processes, are the primary driver of managing organizations today. There are various ways to carry out lateral processes, including voluntary contact between members and the complex and formally supervised teams.

3.2.4 Rewards

A rewarding system aims to align the employee's and the organization's goals. Rewarding systems provide motivation and incentives for working towards the organization's strategic direction. The reward system defines salary regulation, promotions, bonuses, profit sharing, stock options, and such policies. This area is constantly changing because it supports the lateral processes. Organizations and companies are implementing pay-for-skill salary practices and team bonuses or gain-sharing systems. Also, the reward systems use and practise non-monetary rewards such as recognition or challenging assignments. Pay-for-skill salary practices come to good use when it comes to ERP systems. ERP-system providers usually give the possibility to become certified in a specific ERP system such as Microsoft Dynamics 365. Getting certified is usually encouraged and funded by the employer, and getting these certifications will, in most cases, be rewarded with monetary compensation.

Galbraith (2002) suggests that the reward system must be congruent with the structure and processes to influence the strategic direction. To be effective, the

reward systems need to create a consistent package in combination with the other design choices.

3.2.5 People

For an organization to operate correctly, people need to be considered. The people area of the Star Model governs human resource policies of recruiting, selection of employees, rotation of workers, training procedures, and development. With appropriate combinations, the human resource policies can produce the talent required by the organization's strategy and structure. Skill generating and necessary mindsets for the objectives and the implementation of the chosen direction can also be governed by the human resource policies. For the best results of the policy choices, all the other connecting design areas need to be consistent with each other. Process definition and process optimizations are a must in an ERP-implementation process.

Galbraith (2002) states that human resource policies also build the organizational capabilities to execute strategic decisions. For an organization to be flexible, flexible people are required. For people to be suited for cross-functional teams, they need to be more generalist and cooperate. People who can manage conflict and influence others without the need for authority are needed in matrix organizations. The policies of human resources, help develop people and organizational capabilities simultaneously.

3.2.6 Strategies of logistics

Manifold is the strategy source (Porter 1980,1998), and it can be based on cost advantage or differentiation. It can also be built on superior competencies that are difficult to copy and are built over time or have access to resources unavailable to other companies.

Galbraith (2002) stated in his literature that there is a relationship between strategy, structure, processes, reward systems and people. Figure 1-1 illustrates

a model that links different kinds of strategies to organizations. Planning and designing the organization is not a separate task from other corporate activities. Quite the opposite, to balance all the different functions and to be able to cooperate, all these functions should be designed together, and there needs to be a lot of interaction between the different parts. Figure 1-1 should be interpreted so that all parts have to be consistent with the strategy and consistent among themselves (Galbraith, 2002). All the parts draw from the strategy. The structure has to be consistent with the overall strategy, and it should be able to deliver the strategy and change it if needed whenever the strategy changes. Solution or product delivering processes should be designed with the strategy and all the other parts in mind. The strategy must be fitted, and different strategies need different kinds of people to deliver what the customer needs. Reward systems should be based on the strategy of the company and the overall goals (Galbraith, 2002).

If there is a mismatch between any of these parts, one part leading in a different direction than the other parts, unpleasant or even hazardous situations will occur. According to Galbraith et al. (2002), the results - depending on the misleading item – can be:

1. Strategy	Confusion
2. Structure	Friction
3. Processes	Blockage
4. Reward Systems	Internal competition
5. Personnel Procedures	Bad performances

There has to be a clear understanding, commitment and fit across all these parts. Otherwise, the organization cannot deliver the results it has been designed for. If any of the downfalls mentioned above are met, it might tremendously hinder the results and the implementation process of an ERP system.

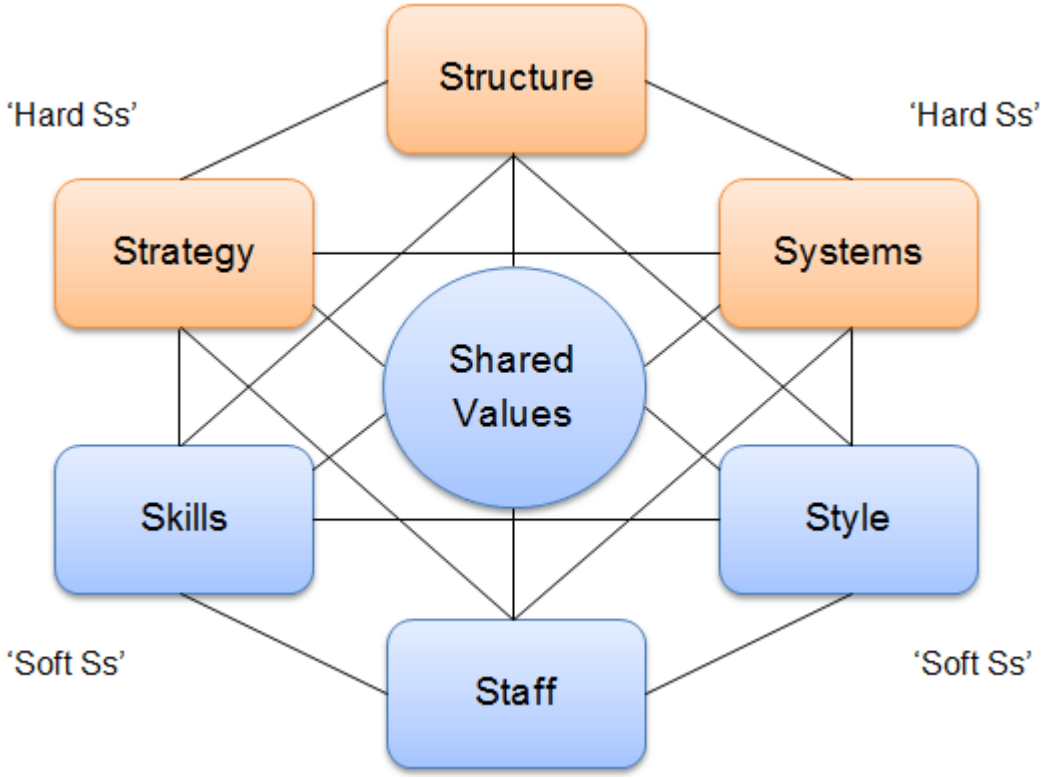
3.3 Analysing the effectiveness of alignment

In this chapter I will explain how to analyse the effectiveness of alignment during the transformation process. In this chapter the McKinsey 7s model is explained and how to use it.

During an organizational transformation process, it is important to monitor the effectiveness and alignment of the processes and strategy. To understand and identify that different key elements of organizational design are effectively aligned and for allowing the organization to achieve its objectives, we can use the McKinsey 7s model, which is a tool created specifically for this purpose.

3.3.1 McKinsey 7s model

McKinsey 7s model was created in 1980s by McKinsey experts Tom Peters, Robert Waterman and Julien Philips with an assistance from Richard Pascale and Anthony G. Athos. Starting from the presentation, the model has been generally utilized by academics and specialists and stays one of the most famous vital arranging instruments. It looked to introduce an emphasis on human resources (Soft S), as opposed to the traditional large scale manufacturing tangibles of capital, infrastructure, and equipment, as a key to higher organizational performance. The objective of the model was to show how 7 components of the organization: Structure, Strategy, Skills, Staff, Style, Systems, and Shared values, can be adjusted together to accomplish viability in an organization. The central issue of the model is that every one of the seven regions are interconnected and an adjustment of one region requires change in the remainder of a firm for it to really work. (McKinsey, 2022).



Picture 2. McKinsey 7s model (Jurevicius, 2022).

In picture 2, you can find the McKinsey model, which addresses the associations between seven regions and partitions them into 'Soft Ss' and 'Hard Ss'. The state of the model underscores interconnectedness of the components (McKinsey, 2022).

The model can be applied to numerous circumstances and is an important instrument when organizational design is at question. The most well-known utilizations of the system are (McKinsey, 2022):

- To facilitate organizational change.
- To help implement new strategy.
- To identify how each area may change in future.
- To work with the consolidation of associations.

Hard S	Soft S
Strategy	Style
Structure	Staff
Systems	Skills
	Shared Values

Picture 3. 7s factors (Jurevicius, 2022).

In McKinsey model, the seven areas of association are partitioned into the 'soft' and 'hard' regions. Strategy, structure, and systems are hard components that are a lot simpler to distinguish and oversee when compared with soft components. Then again, soft regions, albeit harder to make do, are the underpinning of the association and are more likely to create the sustained advantage. (McKinsey, 2022).

3.3.2 Strategy

What does a nicely adjusted strategy mean in 7s McKinsey model? As a rule, a sound strategy is the one that is clearly expressed, is long-term, assists with accomplishing competitive advantage and is built up by strong vision, mission, and values. Be that as it may, it's difficult to tell whether such methodology is very much lined up with different components when investigated alone. So, the key in 7s model isn't to take a look at your organization to track down the extraordinary strategy, structure, systems and so forth, however to look on the off chance that its lined up with different components. For instance, short-term strategy is typically an unfortunate decision for an organization however on the off chance that its lined up with other 6 components, it might provide strong results. (McKinsey, 2022).

3.3.3 Structure

Structure addresses how business divisions and units are coordinated and incorporates the data of who is responsible to whom. As such, structure is the hierarchical outline of the firm. It is likewise one of the most visible and easy to change components of the framework. (McKinsey, 2022).

3.3.4 Systems

System are the processes and techniques of the organization, which uncover business' everyday activities and how decisions are made. Systems are the region of the firm that decides how business is done and it ought to be the fundamental concentration for supervisors during organizational change. (McKinsey, 2022).

3.3.5 Skills

Skills are the abilities that company's workers perform very well. They also incorporate capacities and competences. During organizational transformation, the question frequently emerges of what abilities the organization will truly have to support its new strategy or new structure. (McKinsey, 2022).

3.3.6 Staff

Staff component is worried about what type and the number of workers an organization will need and how they will be selected, prepared, motivated, and compensated. (McKinsey, 2022).

3.3.7 Style

Style addresses how the organization is overseen by high level administrators, how they cooperate, what actions do they initiate and their emblematic worth. As such, it is the management style of organization's leaders. (McKinsey, 2022).

3.3.8 Shared values

Shared Values are at the centre of McKinsey 7s model. They are the standards and principles that guide worker behaviour and company actions and subsequently, are the foundation of each and every organization. (McKinsey, 2022).

3.3.9 Using the tool

To apply the McKinsey 7s model for analysing alignment in a transforming organization, these are steps to take (McKinsey, 2022):

- Start with shared values, and analyse if they are consistent with structure, strategy, and the systems. If they are not, identify what needs to change
- After that, observe the hard elements: strategy, structure and systems and how well do they support each other. Identify any needs for changes.
- Next, analyse if the soft elements (shared values, skills, style, and staff), support the desired hard elements and if they support each other. If this is not the case, make necessary changes.
- When adjusting and aligning the elements, an iterative process of making adjustments need to be used. Re-analyse how these adjustments and alignments impact other elements and their alignment.

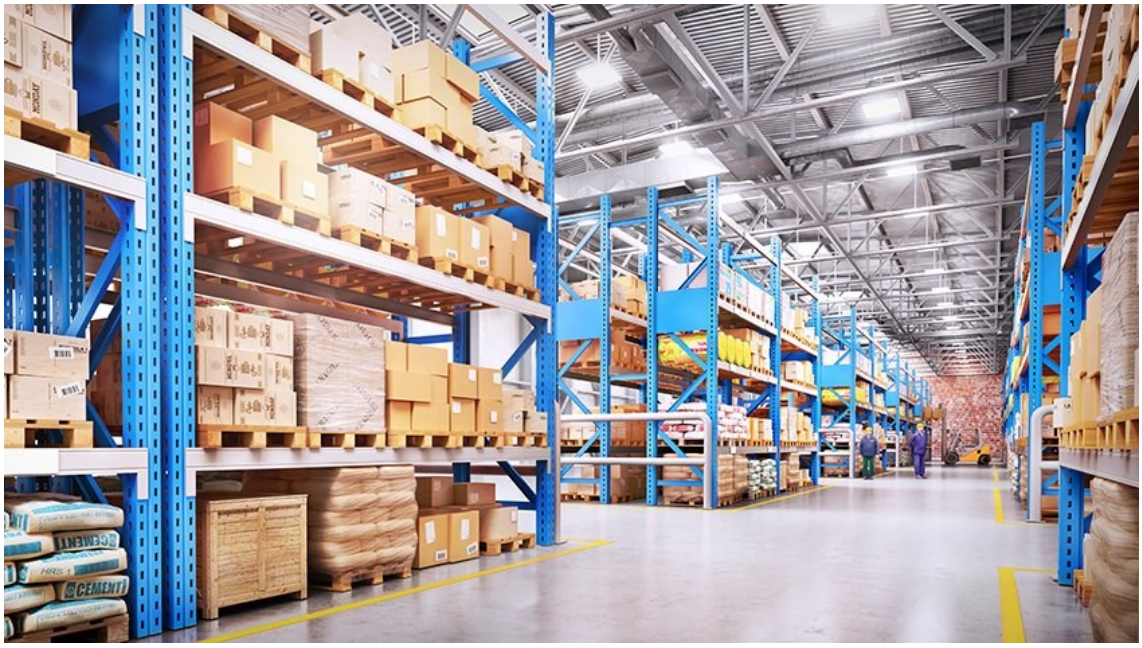
The McKinsey 7s tool is great for analysing and monitoring the current state of the organization during a transformation process, and a great tool to help identify the different aspects of alignment that need to be considered in any organization.

4 Material management and logistics

Before going into ERP and warehouse management systems, some basic procedures, processes, and concepts have to be described. In this chapter, I will explain what warehouses and warehousing mean and what kinds of different order types are linked to these entities. ERP systems include types of ordering in a warehouse for inventory and out from a warehouse. I will start by explaining the basics of a warehouse and build a base for different ordering methods for inventory.

4.1.1 Warehouses

A warehouse can mean a space where either products, components or materials are stored. A warehouse can also refer to an entity that is manageable and logistical in nature. As a result, transportation vehicles can also be considered to have stock. Warehouses can be specialized in either products or customers. They can also be used for various needs of products such as cold or food storage. Some warehouses can contain, for example, only one type of items, such as paper or many assorted products, such as thousands of spare parts or medicine. (Richards, 2014).



Picture 4. Distribution warehouse (Munters, 2021).

Usually, a company has its own warehouse, and in many cases, the warehouse is located on the company's premises. However, companies can choose to outsource their storage. This would mean that a company providing logistic services to other companies would store their customer's products. In this case, the customer would pay rent for the storage but would eliminate the need for their own storage facility.

Warehouses offer versatile functions that workers need to manage. For example, one can work in a phase where goods are received and taken into the warehouse. These work phases also include put-away, replenishment, picking, packing and inventory.

4.1.2 Warehousing

Warehousing, or storing, is an integral part of a company's business. The efficiency of storing is a highly competitive advantage in today's competitive business environment. A sufficiently broad and large stock selection ensures good customer service. A lot of capital tends to be tied up in inventories. When the storage works efficiently, the level of service can be maintained, even with a smaller amount of on-hand stock. This means flexibility between the supplier and the company. (Karhunen, Puori & Santala 2004).

Efficient storage involves traversing between a wide range of products and a fast stock turnover rate. For the storage to be efficient, in almost every case, it requires integrating information technology and automation. Warehouses should have an information management system, and an investment should be made for the development process of the system in order to maintain a competitive advantage. For a large company, it is vital that an information management system is adopted to manage the large variety and quantity of products (Karhunen, Puori & Santala 2004).

4.2 Warehouse inventory management methods

There are several different ways to manage stock in a warehouse. With these methods, a company can optimize its stock management and gain additional benefits for the company. Stock management is a crucial part of an ERP system in a warehouse. It needs to be in place to manage the material flow and the accuracy of the on-hand stock. This help keep the stock levels optimized for delivering goods to customers accurately. (Muller, 2011).

The methods to control stock levels are typically based on different mathematical models, which help find the most cost-effective order methods for the warehouse. These methods only provide estimates and not perfectly accurate values, which must be verified before the actual implementation. (Muller, 2011).

During the implementation, it is best to take slow, methodical steps and constantly monitor the state of the method and if it is working as intended. On top of monitoring, the methods must be updated because businesses are constantly changing, affecting inventory management. In the next subchapters, I will go through the theory of the chosen methods for this system. (Muller, 2011).

4.2.1 Fixed timeframe order method

The pre-determined stock order method is the oldest and the simplest currently used method for warehouse inventory management. This method is based on time, and the inventory levels are monitored in a given time period. This makes it so that the ordering period stays constant, and the ordered quantity changes. When monitoring the inventory levels and it is noticed that the level is not sufficient enough to maintain operations until the next check, a replenishment order is created. Small safety stocks are in place for the operations (Dobler & Burt 1996).

When the orders are always handled in pre-determined timeframes and periods, the orders from the same vendor can be collected into one shipment, which can

also help cut shipping fees (Sakki, 2009). The pre-determined stock order methods help the company reduce the amount of stock held in inventory, since the orders are being made constantly and flow (Dobler & Burt 1996).

4.2.2 Economic Order Quantity (EOQ)

The Economic Order Quantity refers to the optimal batch size. This means that the ordering- and warehousing costs emerging from the purchase are as low as possible (Figure 1-4). EOQ is a fixed quantity order method in which the order period changes, but the number of items in the order stays constant (Krajewski & Ritzman 1999).

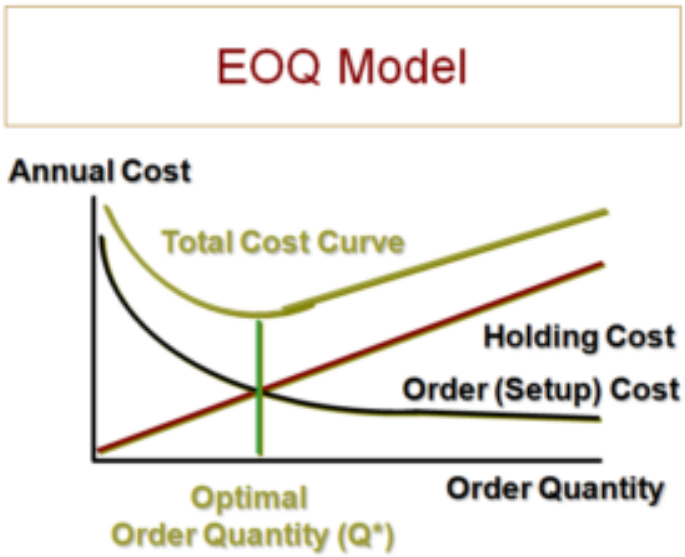


Figure 1-4. Illustration of the EOQ model (Alamgir, 2018).

When ordering larger batches, the storage costs go up, but the ordering costs decrease. On the other hand, when the batch size is decreased, the storage costs decrease, but in this case, the ordering frequency must grow, and the order costs will grow as a result. The most economical batch size is illustrated in Figure 1-4 at the point where the total cost curve is at its lowest point**.**

4.2.3 Fixed batch order method

In this method, a pre-determined ordering point triggers the need for an order. Fixed batch orders differ from the previously mentioned EOQ in that the realistic delay from the order to delivery is included in the monitoring. The efficiency of this method comes from the ability to define accurate replenishment times for different products. A trigger point for this order is the inventory level of a product. A new order is created immediately when the inventory level goes to or lower than the trigger point (Karrus, 2003).

The trigger point is defined by the observed or forecasted demand for the product, the order-delivery delay, and the possible costs. The trigger point is also affected by the frequency of inventory checking, which can be performed either constantly or periodically. The trigger point helps to prevent possible out-of-stock scenarios; the likelihood of one occurring is kept to reasonable levels through service level and minimum cost targets (Karrus, 2003).

4.2.4 Min-max method

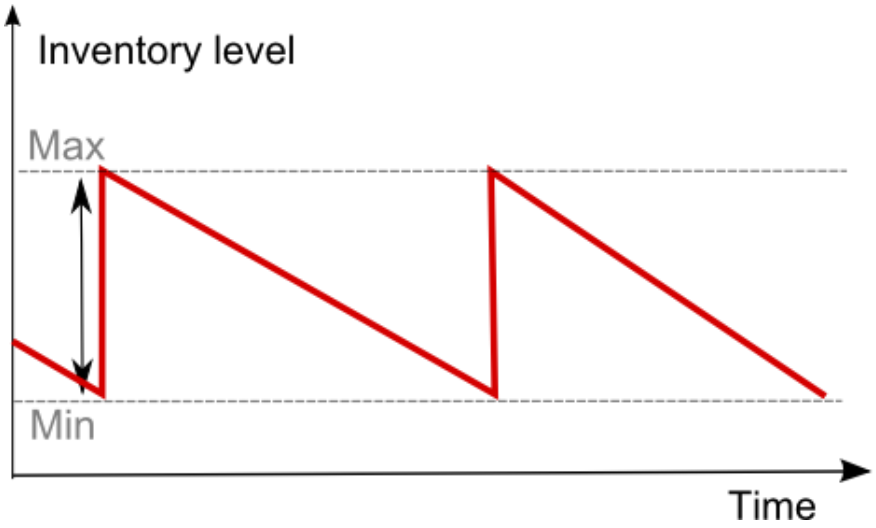
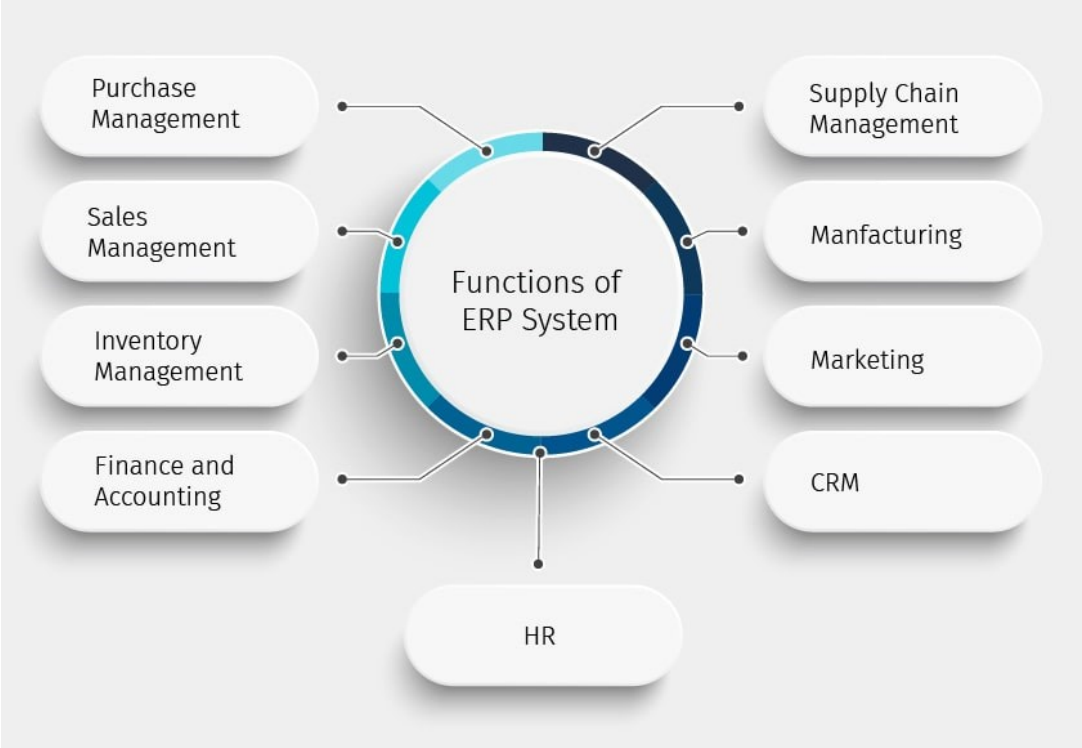


Figure 1-5. Min-max method illustration (Vermorel, 2014)

4.3 Introduction to ERP-systems

The abbreviation ERP comes from the words Enterprise Resource Planning. ERP systems operate electronically, and they aid in managing business processes. In ERP systems, the different business sectors, such as sales, marketing, logistics and finance, have all been integrated inside one system. This makes it easier to find the business information and data in one place. Utilizing this integration, companies can coordinate the information in different sectors much more efficiently and make the daily operations run much more smoothly (Monk 2009).



Picture 5. General modules of the ERP system (Yarab A, 2021)

As picture 5 illustrates, the ERP system is a web of modules integrated with each other to work as a whole system, enabling a more comprehensive array of processes to be leveraged within the system (Yarab, A.).

The origin of ERP is said to have roots in 1960 when industrial production wanted to develop a complete system for controlling inventory. Therefore, Material Requirement Planning, abbreviation MRP, was created in the 1970s and was in

development until the 1980s. Including the inventory actions, this MRP system also contained the accounting, marketing, human-resources, and project management processes. In the 1990s, the concept of ERP started to gain recognition when the MRP system was utilized using computers in factories. From then on out, the ERP system has developed to be a broad and versatile tool, especially in the 21st century as internet usage started to become more popular. Today's ERP systems are widely popular, operating globally and ranging from small to large companies, with no preference for a particular line of business (Sikder 2022).

An enterprise resource planning (ERP) system is an information technology system that, as its name implies, performs resource management in an enterprise between departments and different stakeholders. ERP integrable functions can be divided into different functional areas, in other words, modules. The most common and critical modules of these can be, for example, from a manufacturing company's perspective: production, distribution, inventory management and financial management.

The core principle of ERP systems is that the system can be tailored and adapted to different sized companies and the varying needs of different industries. When the ERP system is built to fully serve the needs of a company and unnecessary features are eliminated, the benefit of the system as a supporting factor for business and its processes is realized. An ERP system allows a company to improve the flow of the company's internal and external processes, which as a result, improves the finance and profitability of the company. The system can also be used to continuously develop operations to be more profitable and efficient (Kimberling, 2022).

The continuous data transfer between different departments and stakeholders, enabled by the ERP system, is an endless process flow that enables the maximum utilization of the company's resources, including the optimization of work, machinery and production capacity resources. (Kimberling, 2022).

The ERP system allows the company's operations to be forecasted and monitored continuously, which helps maintain and improve the profitability of operations. A logistics company's future material requirements, inventory replenishment and customer orders can be predicted monthly. Predictability is an essential tool to provide constant operations flow, especially in the manufacturing industry. A complete and adaptive inventory management process is a key factor for a reliable supply chain in the logistics industry. The whole logistics and supply chain process can be planned and executed using an ERP system. (Kimberling, 2022).

4.4 The most common ERP-systems

ERP systems are complex and broad technical solutions. These systems' development and maintenance are commonly outsourced to the more significant software vendors. In small companies, the need for an automated and highly modified system is often not present, and a more simplified and lighter system can be used to manage operations. This system might be a product of their development. In more prominent companies, an extensive ERP system is, in most cases, necessary to provide a smooth operations flow.

Tailoring and implementing ERP systems are significant investments, whether a system developed by a company itself or a system from a provider. Usually, because of the complexity of these systems, companies tend to purchase a solution or subscribe to a service-as-a-software, a browser-based solution, for a system to be used in their organization. In this case, the system or service provider is responsible for the system's creation, development, and maintenance processes. ERP systems can be delivered as an out-of-the-box solution; alternatively, the solution can be constructed to serve a company's unique needs and requirements. (Kimberling, 2022).

The number of ERP systems in 2022 is enormous, and the competition is fierce. In 2022, the ERP-system providers' competitors can be considered to be Microsoft, Oracle, and SAP (Kimberling, 2021).

Microsoft is a well-known and prominent provider of services for mid to large-sized companies, offering solutions for various industries. Microsoft will be the provider for this ERP system discussed in this thesis. Some providers focus mainly on specific industries, for example, banking and finance. The ERP system industry is dominated by these three providers, who compete with each other every year.

4.5 Benefits of ERP-systems

In today's world, the markets are constantly changing and globalizing. This puts immense pressure on companies to keep up with the changing and growing environment and to adapt to new situations. Middle and large-sized companies have to deal with the increasing burden of resource, process, and information management. ERP systems facilitate more efficient and more effective means to manage and monitor complex processes and manage internal and external resources more methodically. These systems integrate people, information and data, and business processes in one system, allowing the business to be more flexible and structured in the way that the business operates.
The functions of ERP systems cover the logistics functions of the business, inventory management, sales operations, pricing of products, production processes and quality control. These systems might also include modules for accounting and human resources. The accounting module enables the managing of the financials of the company, and the human resources module is used for managing the information of personnel. (H. Akkermans, P. Bogerd, E. Yücesan, L. Van Wassenhove)

The most relevant benefits of the ERP systems could be, in addition to the previously mentioned, enhanced efficiency and control, the rationalization of inventory processes, the increased leveraging of vendors and suppliers, and also

the enhanced planning of operations and analysis of business data (F. Alizai 2014). Internal integration offers various benefits to the operative side, and external integration helps to streamline the flow of information with customers and enhances the management of partnerships and collaboration (F. Alizai 2014). According to Alizai, an additional benefit of an ERP system is the standardization and unification of business processes; this might take a toll on the flexibility of the processes, but the unification is the result of choosing the best practices in relation to their benefits. (F. Alizai 2014).

4.6 Challenges of ERP

There are some possible problems when adopting an ERP system. First is the costliness of these systems, which can be significant because the costs will have to cover the system itself, the process mapping and planning, the configuration of the system and in addition to these, the testing, and the deployment of the system (Abdul Z Khan, F. Mahmood, Bokhari R.).

The process of implementing a new ERP system is very time-consuming. These projects might take anywhere from one to five years, and the inclusion of new users and transferring all the necessary data consume a large number of resources. The deployment of ERP systems in large and decentralized organizations is inflexible, and the estimation of the necessity of the system for the business is challenging (Azevedo P, Romão M, Rebelo E).

The fact that every company is different and unique makes it almost impossible to match the system perfectly to the requests and demands of the company. For future updating, overly customized systems tend to be too complex and heavy to update because of the large number of details (Azevedo P, Romão M, Rebelo E).

Risks are involved in everything; unfortunately, this is also the case in ERP systems. With an unknown or a new system comes a great deal of new challenges, and the implementation of a new thing increases and risks that must

be managed. There are several types of risks, and these risks can also be present in ERP systems.

4.6.1 Personnel risks

The personnel play an essential role in the implementation of new operations. The attitude of the personnel towards a new system must be accepting and open before it is taken any further. The resistance to change has to be weeded out before the implementation or right after it. If the resistance to change is not eliminated, it can paralyze essential functions. The personnel must be trained and educated about the system before the implementation so that the system can be implemented as intended. The possible mistakes and errors made by the personnel using the system could prove to be very costly and resource-consuming (Azevedo P, Romão M, Rebelo E).

4.6.2 Event risks

Referred to as event risks are the consequences of, for example, the re-organization of a company or a purchase. These events can also originate from an outside action, such as confiscation or a leveraged buyout, which refers to an acquisition that has been funded with a large amount of debt (Blake, D). The event can be totally independent of the company's action, like a natural disaster or a computer virus. These can cause substantial losses for a company if their ERP system is breached and, for example, shut down. Cyber security risks are an imminent problem for everyone using any electronic system, especially cloud-based ones (Blake, D).

4.6.3 Risks of damage

Outside factors can cause damage. Examples of these risks include transportation risks, sudden loss of life, which can affect the working ability of key personnel, and information risks.

These risks can arise, for example, from an ERP-system provider which has gone through a rough year, and is likely to go bankrupt, which affects the deliverables from the provider to the customer. In some extreme cases, cyber-attacks have been an issue and are a massive risk to ERP systems. Cyber-attacks can immobilize the system entirely and make it obsolete, causing massive damages and losses of revenue to businesses (Blake, D).

4.7 Microsoft Dynamics 365

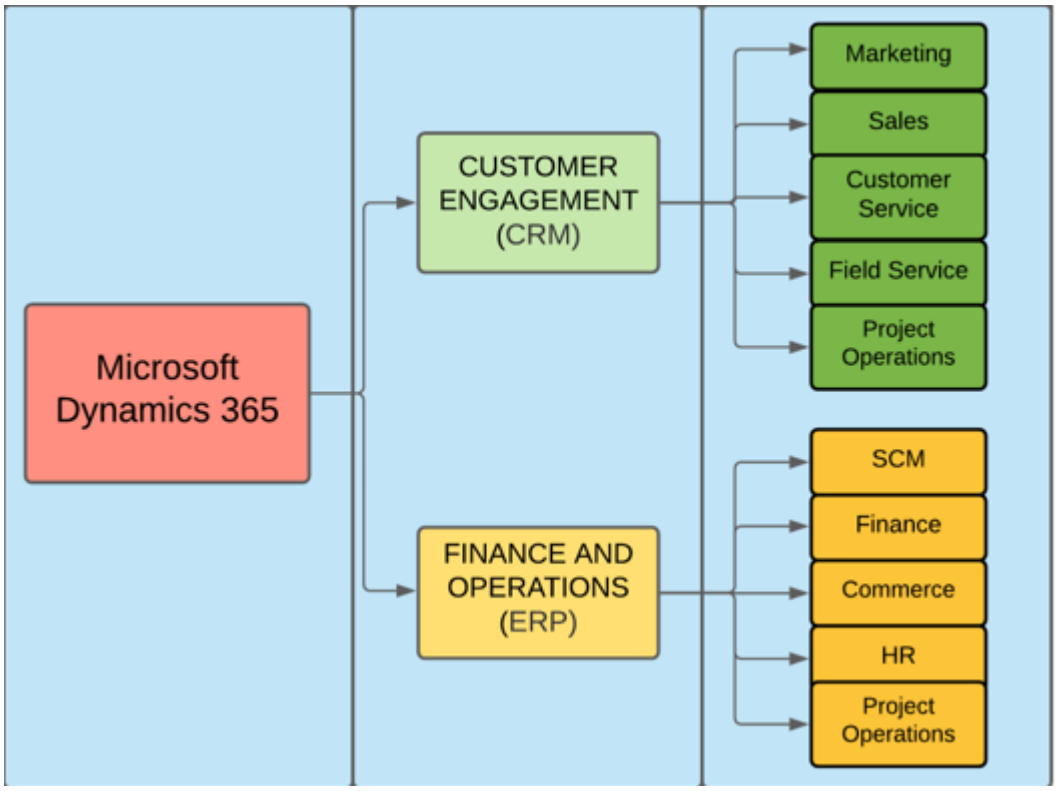
Microsoft is the largest computer software provider in the world. Microsoft is also one of the leading providers of cloud computing services, computer, and online services. Microsoft also provides consulting, product, and solution support services and trains and certifies computer system integrators and developers.

Microsoft provides cloud-based solutions that provide customers with software, services and content over the internet through shared computing resources located in centralized data centres (Microsoft, 2020). One of the cloud-based solutions of Microsoft is the ERP system Dynamics 365. In the next chapter, I will introduce the Microsoft Dynamics 365 system.

Microsoft Dynamics 365 is a set of interconnected, modular Software-as-a-service (SaaS) applications and services designed to transform and enable core customers, employees, and business activities. SaaS applications refer to platforms accessed through a web browser rather than an installed application on a computer. This makes the update and fixes process easy as Microsoft manages them, which are applied automatically. SaaS makes the application more accessible since you can access it from a browser, which only requires an internet connection (Microsoft, 2020).

Dynamics 365 is a cloud-based enterprise software platform that combines Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) capabilities with data integration, business logic and business processes (Microsoft, 2022).

In Dynamics 365, the ERP and CRM capabilities are broken down into several apps, and with this design, users can start with what they need and grow at their own pace. Users are enabled to add new apps and functionalities as and when they need them.



Picture 6. Microsoft D365 Fundamentals study paths (Microsoft, 2021)

The critical elements of Dynamics 365 are to provide cloud-based, automated, integrated, and intelligent system capabilities to efficiently connect different business functions and make them more effective. Dynamics 365 is built on Microsoft Azure, which is known for offering a trusted platform and a large ecosystem of services. Microsoft Dynamics 365 also enables data distribution with multiple platforms, such as Office 365 and Outlook (Microsoft, 2022).

From Picture 6, we can see that there are several different components of Dynamics 365. This thesis will focus on the Finance and Operations (ERP) side of things and, more accurately, the Supply Chain Management part (SCM).

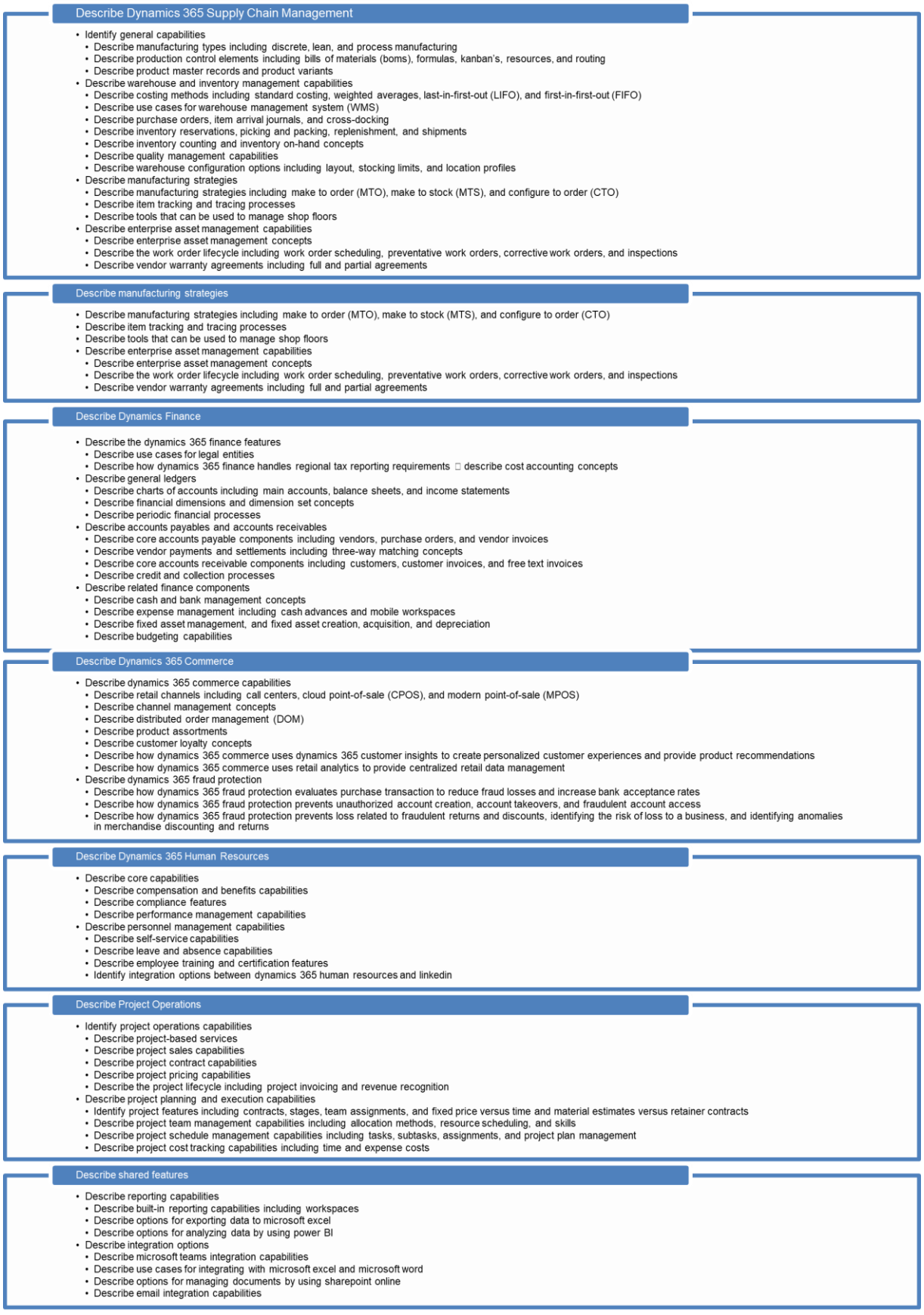
4.7.1 Dynamics 365 ERP solution

The focus of Dynamics ERP solutions lies in core accounting, manufacturing, and the distribution needs of a company, but are not limited to only these. Dynamics 365 brings value through its' solutions by increasing automation, efficiency, control of variables and the scalability of the system (Santos, 2020).
The Dynamics 365 ERP solutions have two main types: Dynamics 365 Business Central and Dynamics 365 Finance & Operations.

Microsoft stated that the Dynamics 365 Business Central is a business management solution for small to mid-sized organizations that automate and streamlines business processes and helps the organization manage its' business (Microsoft, 2022). According to Microsoft, highly adaptable and rich with features, Business Central enables companies to manage their business, including finance, manufacturing, sales, shipping, project management, services, and more (Microsoft, 2022). Companies can easily add functionality relevant to the region of operation, customized to support even highly specialized industries. Business Central is fast to implement, easy to configure, and simply guides innovations in product design, development, implementation, and usability (Microsoft, 2022).

The other primary solution type is Dynamics 365 Finance & Operations, an ERP solution suited for large or diverse companies. Finance & Operations is primarily used by companies or organizations which operate in multiple lines of business, in international operations with multi-currency needs, or the organization has complex discrete and process manufacturing procedures (Santos, 2020). Dynamics 365 Finance & Operations solution includes Dynamics 365 Supply Chain Management.

Picture 7 describes the features of the Dynamics 365 ERP solution in greater detail. The features of the ERP solution include the following modules: Supply Chain Management, commerce, human resources, project operations and the shared features between modules.

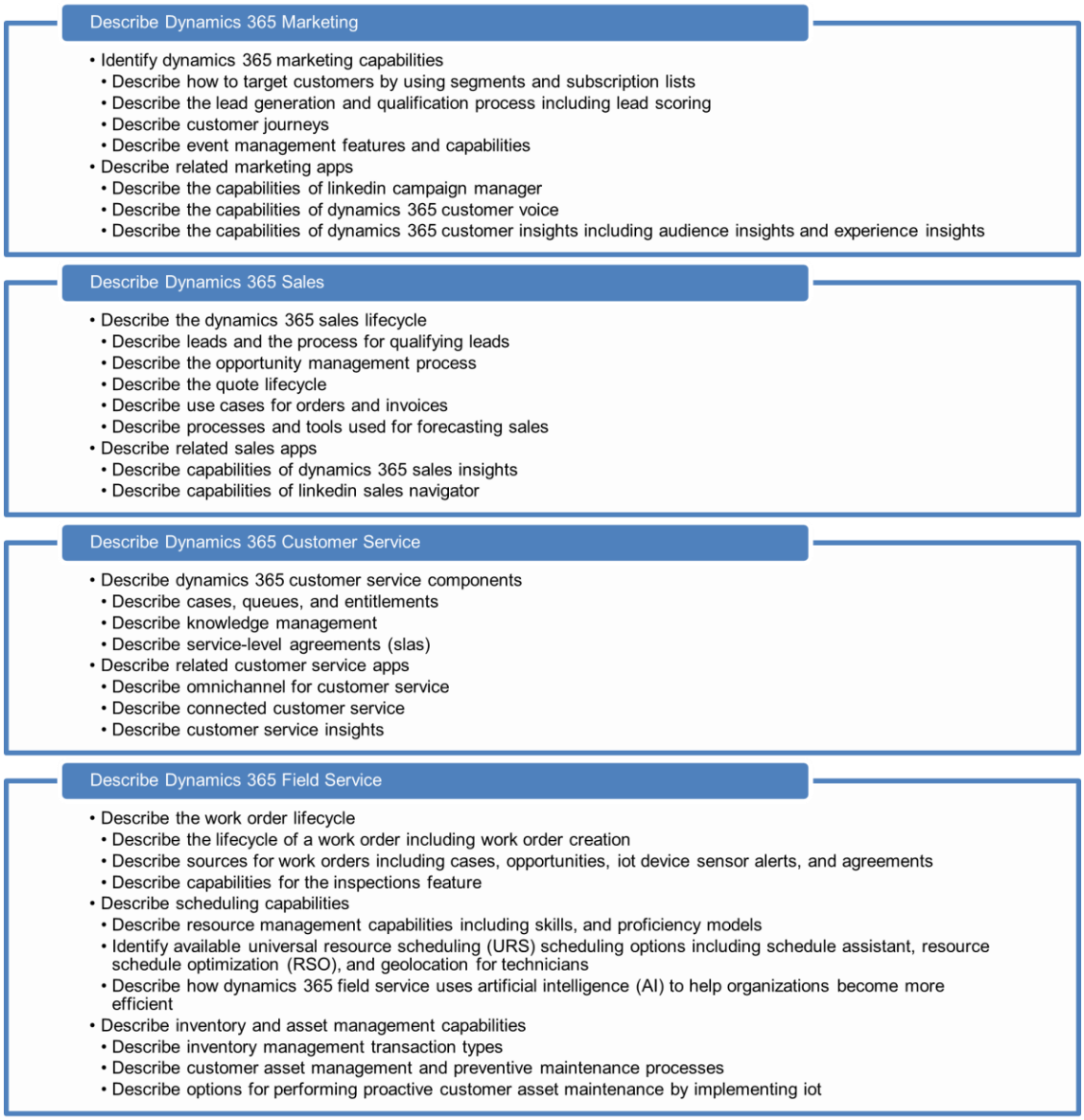


Picture 7. Microsoft Dynamics 365 ERP solution descriptions (Microsoft, 2021)

Dynamics 365 Finance & Operations consists of Finance, Supply Chain Management, Commerce, Human Resources and Project Operations modules. Dynamics 365 Finance and Dynamics 365 Supply Chain Management are the largest ones of the bunch. With Dynamics 365 Finance comes budgeting, project management, financials, and accounting. Dynamics 365 Supply Chain Management consists of stock management, master planning, manufacturing, warehousing, and distribution (Microsoft, 2022). In this thesis, the focus is on the Dynamics of Supply Chain Management.

4.7.2 Dynamics 365 CRM Solution

This paper focuses on Dynamics 365 Supply Chain Management, a part of the ERP solution described in the previous sub-chapter. Still, this sub-chapter will briefly present the Dynamics 365 CRM solution. Although the CRM applications are partly integrated into the ERP solution as a whole, in this paper, only a general description of the CRM applications will be given.



Picture 8. Microsoft Dynamics 365 CRM solution descriptions (Microsoft, 2021)

Picture 8 describes the content of the Dynamics 365 CRM applications, and the following features included are marking, sales, customer service, and field service.

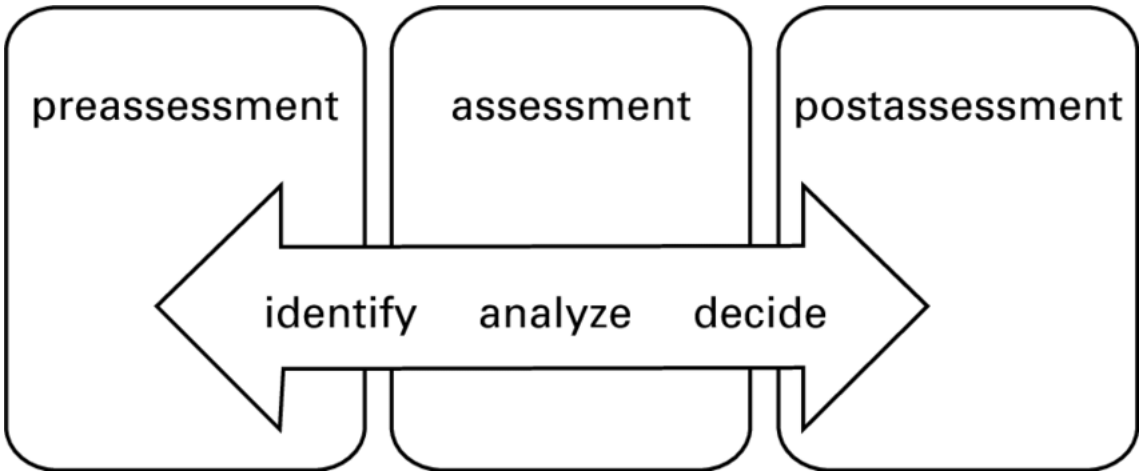
5 Needs assessment

When implementing a new system, needs and gaps between the business processes and the acquired system have to be assessed. The definition of

requirements is one of the most important and laborious steps in acquiring an information system, as it directly impacts the final system.
The definition clearly states what required features the system should have. Poorly implemented requirements specifications can lead to reduced system benefits and additional costs. At the start of the project, participants may have different and unrealistic expectations of the outcome. Different expectations can only be overcome by discussion (Bieler, H).

The system requirements for the assessment can be divided into two categories: operational and non-operational needs. Functional requirements refer to the functions expected of the system and what kind of needs it has to fulfil. Non-functional requirements refer to performance, such as response and uptime (Bieler, H).

The needs assessment process consists of three parts. The first part is in which the goals are identified. The first part's objective is the justification of the system's needs and why it should be implemented. The new system should support the current business needs (Bieler, H).



Picture 9. Needs assessment phases and basic steps

The second part of the assessment is analyzing and recognizing needs. This phase is usually tricky since the different end-user groups have different needs. For this reason, it is important to collect the needs and thoughts of all user groups

and then meticulously choose the most important ones for the system as a whole (Brace, W & Cheutet, V). The requirement assessment describes the current state as accurately as possible. In this phase, the current system's performance is evaluated, and the possibilities of developing the system are also considered. If the system is not up to current standards, the decision might be made to acquire a whole new system. In addition to the previously mentioned, the current processes and problems of the system are identified. Also, when conducting the requirement assessment, the partners and customers have to be considered, and the new system's impact must be measured (Bieler, H).

The final part of the needs assessment is deciding which objectives and requirements the demands are derived from. Unclear goals and needs are forged into clear and precise system demands. The demands must be prioritized so that the system can be configured to be as functional and smooth as possible for the situation because all the needs cannot be filled completely. After the approval, the process moves on to implementation (Brace, W & Cheutet, V).

5.1 Needs assessment of the target warehouse

The needs and requirements for implementing a system for the case company were mapped and defined through interviews with key stakeholders and the critical operating user groups. The need for a new system rose as the company wanted to automate warehouse operations, reduce warehouse costs, keep the warehouse running continuously, and gain visibility throughout the whole system.

The warehouse management system has to be able to operate in an international environment and has to take into consideration the geographical location of the warehouse. The warehouse will operate in Hungary and is connected to different operational units worldwide. This helped the decision to implement Microsoft Dynamics 365 since it is cloud-based and can be operated from anywhere.

The need for the system to handle logistics operations was defined as the first priority, and these operations are the ones this paper will focus on and how to make Dynamics 365 Supply Chain Management work for them. These operations include the inbound material operations, stock operations, and outbound operations. Since the warehouse where the system will be implemented does not have any system in place, the warehouse processes have to be defined and, from there, built on the system itself. The system also needs to be able to manage manual purchase orders, forecasts, planned purchase orders, sales orders, intercompany orders, and transfer orders. The need for license plate or bar code tracking is also present, and the system needs to be able to handle that.

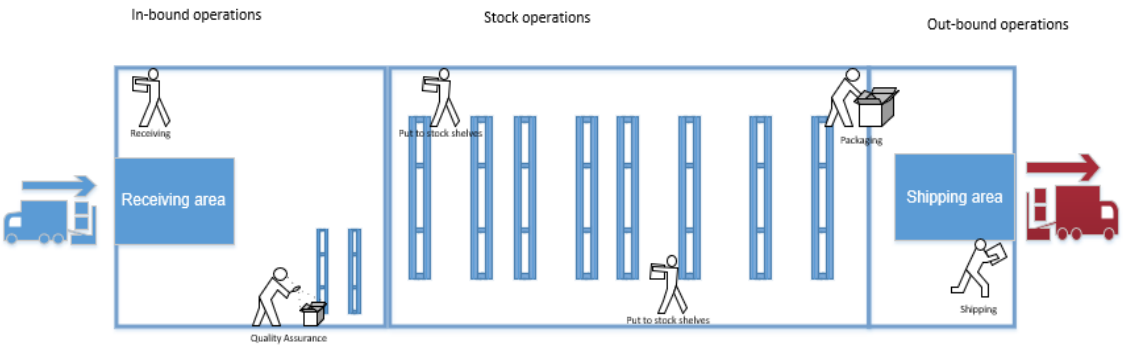
6 Warehouse process mapping

A necessary part of an implementation process is the process mapping of the wanted to-be processes. Without mapping the processes that will be changed and altered, we cannot know how they will work in the future. Process mapping helps to match the ERP standard capabilities with the actual processes and helps find any possible gaps between the system functionality and the process. For example, this could mean that we cannot just utilize the Dynamics 365 standard functionalities and need some integrations with another system.

The warehouse to-be processes were mapped and designed to be as accurate as possible, using flowcharts to illustrate the whole process and possible gaps in the processes. In this chapter, the warehouse processes for the target warehouse are mapped and illustrated as a flowchart. The flowcharts were created with Microsoft Visio.

Picture 10 illustrates the warehouse processes on a general level, which gives a view of the processes' structural flow and how the items move through the warehouse. The later proposals are aimed at these three operation zones and how they are configured to be operational in Dynamics 365 Supply Chain Management. I will describe the warehouse processes in general and more

straightforwardly to define the configuration needs and attributes required for the system to match the business and operational needs of the warehouse.



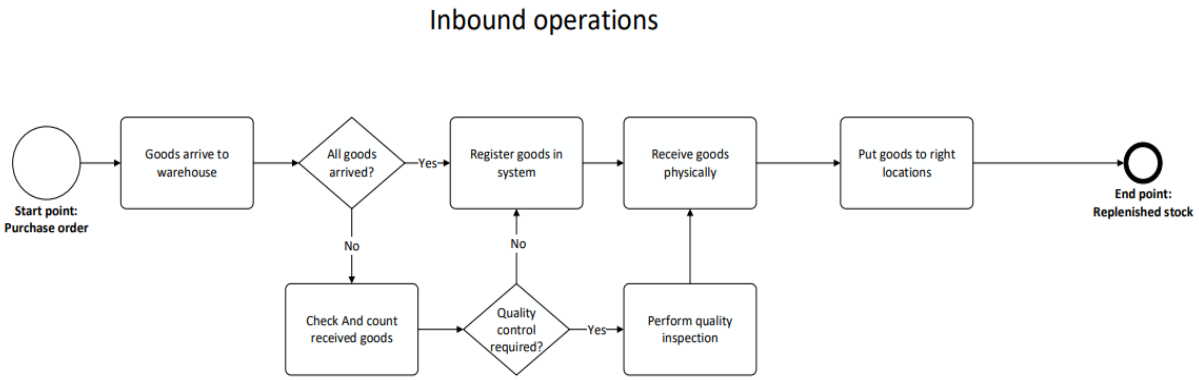
Picture 10. Warehouse process flow

The general warehouse processes are divided into three different sections: Inbound operations, which include receiving and quality assurance, stock operations which include and outbound operations which include replenishment and put-away; and outbound operations which include picking, packing, and shipping of goods.

Once an order is received at the receiving area, a worker needs to scan the item into the system so that the system knows that the order has been received. Some vendors, especially if it is the very first order, the items go through a quality inspection. Once the items clear the inbound process, they go to the stock operations, where they are put to their designated places. Once the items are in stock, they can be picked when a sales order is created. When picked, the items go through to packing and the shipping area, from where they are shipped to a customer or a different location in the organization, such as a different warehouse.

6.1 Inbound operations

The inbound operations for the warehouse are illustrated in Picture 11. The flowchart shows the different processes of the everyday actions happening in the warehouse and phases. The inbound processes are the first phase of the general warehouse process goods flow.

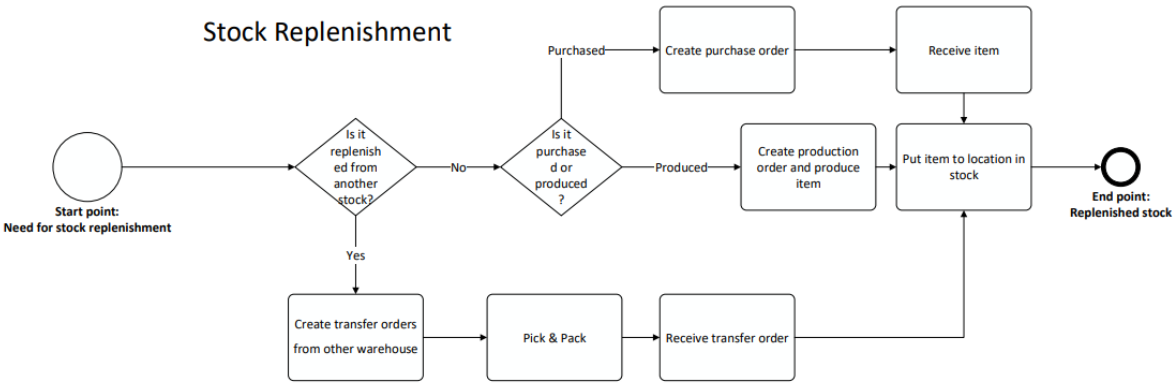


Picture 11. Inbound operations flowchart.

The inbound material flow starts from a made purchase order to a vendor. The vendor then delivers the goods to the receiving area of the warehouse, and a worker scans the packages as received, and a license plate for the items will be generated at this point. A quality control process will begin if the order is a first-time order from a vendor or if it seems defective. The items in the order will be investigated, and if the items are defected or damaged, a reclamation to the supplier will be generated. The damaged goods will be either recycled, scrapped, or sent back to the supplier, and then credit is requested. If the items are not defective and in good condition, they will be received typically and put in stock.

6.2 Stock operations

The second part of the warehouse process flow is the stock operations. In Picture 12, the stock operations processes are illustrated as a flowchart. The flowchart illustrates the stock operations from start to finish.



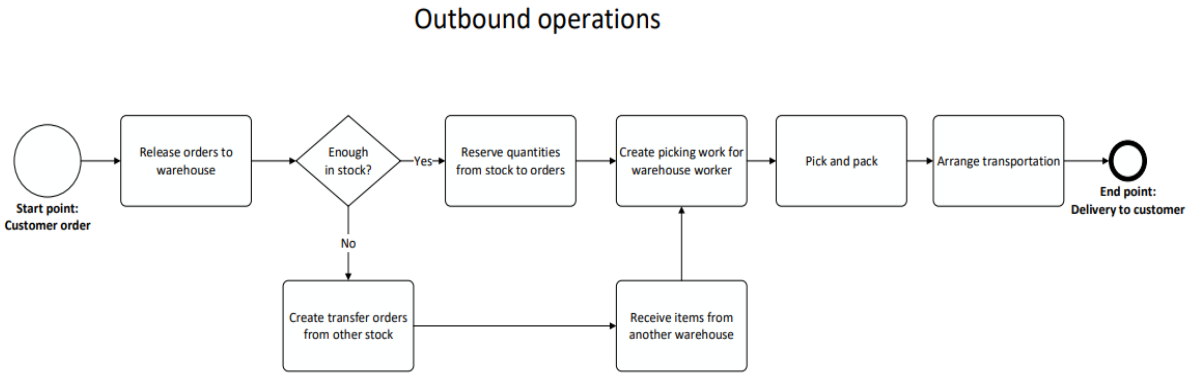
Picture 12. Stock operations flowchart.

The process flow for stock operations is connected with forecasts and the set safety stock for items. The flow starts from the query of stock amount, whether it is replenished or not. If a stock quantity is available in a different warehouse, a transfer order is created, and the items are ordered from or sent to a different warehouse. If the transfer order is created, the order will be picked and packed and then sent to another warehouse, or if the transfer order is an incoming order, the receiving and put-to-location processes start.
Items to stock can also be produced in a different location inside the organization, and in this case, a production order is created in the system and proceeds from there.

If an item is not available to be produced or transferred from another warehouse, a purchase order process is started, in which a purchase order is created in the system.

6.3 Outbound operations

The final part of the operations is the outbound operations, and the outbound operation process flow is illustrated in picture 13.



Picture 13. Outbound operations flowchart.

Outbound operations flow through using the sales order information and its connections. The orders are released to the warehouse when an order is created in the system. Releasing orders to the warehouse creates a reservation of the available item stock. If a stock is not available, the system needs to start the procurement process of a transfer orders process if there is available stock in other warehouses. Releasing orders will create work in the warehouse, which are picking the individual items and packing the entire order. After the work is done for the order, transportation is arranged for the goods to be shipped, and the delivery will start to the customer or, if a transfer order, to a different warehouse inside the organization.

7 Model for successful change management

Before we can start discussing implementing an ERP system or doing anything that will impact people and current environments, we need to address the need for a meaningful change management strategy. Successful change management in an ERP implementation project is crucial. ERP implementations tend to change the work descriptions and the environment of personnel. It is human nature to resist change, and it is easy to settle for what has been done in the past or the current situation. This human feat creates resistance to change, which can tremendously impact the success of an organizational transformation project. This is why change management should be carried out through the whole process of an implementation project.

In the next chapter, I will present Kotter's Model for successful change management, the Eight Step Change Management Model, which was the chosen method to follow during this project. The next chapter will explain the method to understand better how change management should be carried out to enhance the process and how it can substantially help follow through with an ERP-system implementation. First, a brief introduction to John Kotter will be given to prove his credibility as a leading author in the field of change management. Following that, the Eight Step Change Management Model will be described in more detail.

7.1 John Kotter

An American economist, John Kotter, wrote an article in the Harvard Business Review called "Leading change: Why Transformation Efforts Fail", which was published in the spring of 95'. The article gained considerable popularity. This led to Kotter authoring a book called "Leading Change," based on the article.

In a foreword of the book, Kotter said having discussions with people who read his book, two reasons stood up as the most significant factors which made his books so successful: "The list of regular and ordinary mistakes made by organizations sparked epiphanies, and that the eight-step model was felt to be very clear and something that organizations can really utilize". (Kotter 1996, preface).

Kotter also states that he only quoted his own examples and ideas to support his claims and did not cite anyone in his book (Kotter 1996, preface). This reflects really well how significant of a person Kotter is in the field of change management.

7.2 Kotter's Eight Step Change Management Model

Kotter's model was born when he first investigated and researched what kind of mistakes organizations make because of which transformation projects fail. From

these mistakes, Kotter picked eight of the most prominent mistakes or flaws in transformation projects and stated that these mistakes' impacts could be mitigated. This requires preparation and will in advance before the mistake has happened. (Kotter 1996, 14). From these mistakes, Kotter created the Eight Step Change Management Model, in which he provides means to make permanent and functional organizational changes. The goal of the model is to aid organizations embrace and successfully implementing change (Kotter 1996, 18). The next part explains the Eight Step Model for a deeper understanding of the method.

The eight steps that will be explained are:

- Create a sense of urgency
- Build a guiding coalition (build a team)
- Form a strategic vision and initiatives
- Communicate the change vision
- Enable action by removing barriers
- Generate short-term wins
- Sustain acceleration
- Institute change (Kotter 2022).

These steps will be presented in this order, starting from the first one: Create a sense of urgency.

7.2.1 Step 1: Create a sense of urgency

To implement transformation projects in an organization, a significant part of the personnel has to be made to believe in the importance of the transformation and to work together towards making the transition. If the importance of the transformation is not emphasized enough, shortly after starting, the processes might fade rapidly as there is not enough support from the personnel. (Kotter 1996, 31–32). It is easy for personnel to settle for the current situation, and the power of settling is never to be underestimated (Kotter 1996, 37).

Emphasizing the necessity of transformation requires upping the work efforts of several people because the starting push for transformation has to start somewhere. For this reason, the burden of this usually lands on the management. If enough people believe in the transformation, the majority's mood for change cannot decrease significantly. (Kotter, 1996, 32).

7.2.2 Building a guiding coalition

Because of the difficulty of taming the resistance to change of tens or hundreds of people alone, it makes sense to establish a team responsible for the change, with all members behind the process one hundred per cent and understanding the importance. Even though history knows many success stories personified by a strong personality, such as Steve Jobs and Apple, or Jeff Bezos and Amazon, such an understanding is however extremely dangerous, according to Kotter (Kotter 1996,45). One person creates no real success story but a functional team of trusting people who believe in the cause. Team members must also have a common goal to strive for and enough credibility among the personnel to lead the change as efficiently as possible. (Kotter 1996, 46-48.)

7.2.3 Form a strategic vision and initiatives

Especially in sports, it is easy to find examples of a team having high-performing individuals, but the teamwork is not efficient. A weaker team might win because of their trust in their tactics. Both teams have winning in mind, but only the other team realized the importance of teamwork. That is why a successful transformation project needs more than just a vision. It needs a great strategy and an action plan. If the focus is too much on what the state of the organization would be in the future and not enough on how to achieve the state, the progress of the transformation might be hindered, and it might even be harmful for the organization. (Kotter 1996, 57-58.)

Kotter states that strategy is not created from nothing, it needs a strong vision. Just stating that "Our goal is to win gold" is not enough. A great vision is a kind which will make people take action, even against their own benefit, so that the organization can achieve the goal of its vision (Kotter 1996, 61).

7.2.4 Communicate the change vision

Organizations should communicate their vision so that all their personnel would understand and internalize it and would genuinely like to implement it. Unfortunately, internalizing the vision for staff, the size of hundreds or even thousands is not an easy task. (Kotter 1996, 74).

There are precisely the same challenges in communicating change, as in any communication and especially in getting the message across to as many people as possible, in such a way that it would be digested and understood. In Kotter's opinion, when communicating the change vision, it is essential that communication between management and subordinates is mutual. The personnel need to be offered the opportunity to make a change and to be heard, but the words and actions of management must also match. Even excellent change communication might fail if the actions don't match the words. For example, if middle management tells the staff that if all succeed in making work more efficient with the help of a new organizational model, the company then has the opportunity to offer better personnel benefits, but at the same time, the CEO is renovating his office with tens of thousands of luxuries. (Kotter 1996, 81–85).

7.2.5 Enable action by removing barriers

While studying the change processes of numerous companies, Kotter has noticed that many companies make the mistake of stopping the change process when the change vision has been communicated. In reality, the change process is not yet ready, and the desired results of the vision are not achieved. The reason for this is that the company's operations still have so much to develop that the staff does not have the opportunity to realize the new vision. Kotter has listed the

four most important things, the errors or shortcomings, which must be addressed, or else the companies will not be able to achieve the results according to the change vision. These are structures, skills, systems and managers. (Kotter 1996, 88–89.)

Structural obstacles are, for example, getting stuck in the wrong organizational model or the extra rush and stress due to the lack of employees. This significantly decreases their effectiveness when continued for a long time (Kotter 1996, 89). Companies where change projects want to be successful should also find out how much training or coaching the personnel needs, for example, to manage new work tasks that have changed significantly due to the change project. The training should also be of the right kind, i.e., efficient and cost-effective, and the kind of activity that the staff will undoubtedly internalize. (Kotter 1996, 92).

7.2.6 Generate short-term wins

In the sixth point of Kotter's model, it is recommended to ensure that the change process produces several short-term wins. Although Kotter emphasizes that the order of progression is essential in his process, in reality, the sixth point
results should already be visible, even if the measures of the first five points are still in progress. (Kotter 1996, 20, 105.) Short-term successes have several significant benefits for the change process. Immediate feedback on successes improves staff motivation and work morale. Successes can quickly turn those who initially opposed the change to its side when they receive praise for superior performance. At the same time, it is more difficult for them to justify why the change does not work if concrete evidence supporting the process can be shown, such as improved sales numbers. (Kotter 1996, 101–113.)

Encouraging results right at the beginning of the change process provide positive signs for the personnel and the supervisors, and company management leading the process. The progress of the change vision is easier to follow if the process produces data from the decency of the ideas straight from the beginning. Based on these, it is easier to update the strategy when the organization is still in the

initial stages of the entire process. Change processes are usually costly; therefore, successes play an essential role in bringing about reforms to be justified to the company management and are more likely to be carried through. (Kotter 1996, 101–113.)

7.2.7 Sustain acceleration

Around 400 BC., the famous ancient philosopher Heraclitus stated that "Everything changes" and "Nothing is permanent except change" (Mark 2010). This saying is still true today. Since change is continuous, it is also not a clever idea to celebrate victories too early in change processes. If, for example, one of the most critical employees who drove the change leaves the company, or if a company leader "blinded" by short-term profits stops developing processes in the company, it could have devastating effects. In this case, all the old problems that caused resistance to change may start again to slow down the company's success. (Kotter 1996, 116.)

An example of such a situation is when a major organizational change is implemented in one company. Especially after completing a significant and long-lasting process, it would be natural to be satisfied with what has been achieved and to reward the personnel with expensive parties. However, one should understand that when one process is done, another one is just starting. The number of changes is increasing rather than decreasing. (Kotter 1996, 117). When there have been visible successes in the change process, the force of change should be maintained by implementing more reforms. According to Kotter, this is achieved by actively developing and training personnel, letting the lower levels of the hierarchy handle change management independently, and renewing or eliminating old processes. (Kotter 1996.)

7.2.8 Institute change

In his eight-point model, Kotter does not limit the review period to only change projects lasting months or a few years. Still, he has to offer tips also for decades

to come, for example, when companies are preparing for the CEO's retirement. In almost all companies, at some point, it comes up that the operating culture that has been formed over the years should be renewed, and at the same time, some of the values that have prevailed in the company even for several years should be removed. Since such changes do not happen instantly, company culture is often the last thing to be renewed in the company's change processes. (Kotter 1996, 136.) Kotter states that change processes often start with a change in operating methods and attitudes so that the company starts producing better services and products. Still, the changes in the company culture do not take root until the end of the change processes (Kotter 1996, 137).

Kotter says that new operating methods can only take root in the company culture when they have been found to be better than the old ones and precise results have been obtained. It is also good to understand that giving up old attitudes and norms may be very difficult for some employees. According to Kotter, they need to have an open discussion with them so they, too, eventually notice the usefulness of new ways of working. Sometimes even this is not enough, and a culture change may require the dismissal or retirement of key persons. (Kotter 1996, 137.)

8 System implementation: Dynamics 365 Supply Chain Management

Implementing Microsoft Dynamics 365 might be a challenging task. With its robust and broad capability, it has the power to transform a business. On the other hand, it is easy to be overwhelmed by the flexibility of the software and fail to translate the technology into a successful transformation (Kimberling, 2019).

According to Kimberling, an unfortunate aspect of Microsoft D365 initiatives is the failure of many organizations (and their consultants) to reach that ideal state of a complex digital transformation. These initiatives are peppered with landmines

and risks (Kimberling, 2019). Kimberling also states that there are three stages of a Dynamics 365 digital transformation:

1. Project inception. In which the software is selected, and the implementation is ready to begin. The project either never goes live with the new technology, or it is an unmitigated failure (Kimberling, 2019)

2. The implementation is completed, but it's usually just for a fraction of the expected technical functionality, scope, and benefits (Kimberling, 2019).

3. A complete digital and business transformation is complete. Full technical capabilities are realized, business processes are optimized, and the organization is aligned with the future state. Most importantly, business benefits and a positive return on investment are realized (Kimberling, 2019).

Implementing Dynamics 365 Supply Chain Management in a new warehouse requires different parameters and configurations to operate appropriately and operate within the range of business process needs. Next, I will go through the necessary parameters and configurations for the warehouse to be operational and to match the target company's requirements using Dynamics 365 Supply Chain Management.

8.1 Warehouse parameters

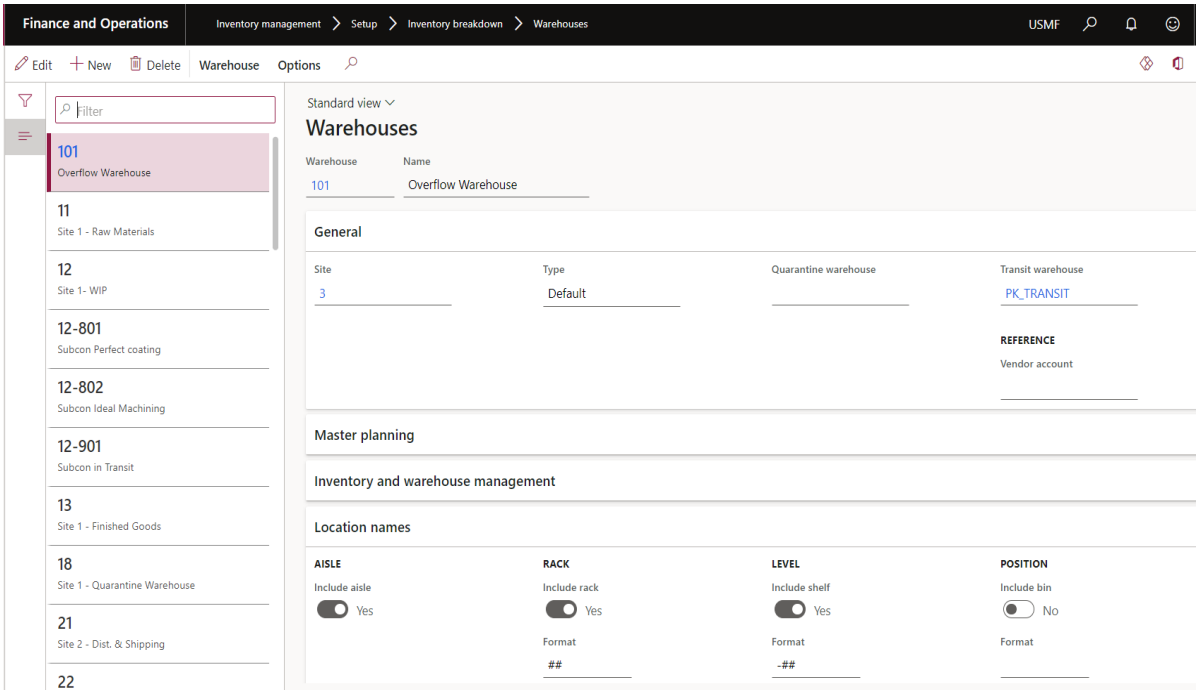
There are many different and flexible ways to define warehouse layouts to meet ever-changing requirements and needs. In Dynamics 365 Supply Chain Management, the Warehouse Management System (WMS) provides the tools for defining the layout.

With WMS, it is possible to establish high-priority and low-priority placement of products to serve the optimal warehouse layout. The WMS establishes the division of the warehouse into zones to better serve different storage needs, such

as the need for a low-temperature zone for goods such as frozen berries (Microsoft, 2021).

First, the general warehouse parameters must be set up before the inbound and outbound warehouse transactions can be performed. The following parameters for a warehouse should be set to have an operational supply chain management system in a warehouse: to create warehouses and sites, products, locations, license plates, inventory adjustments, work, warehouse mobile devices, inventory status and warehouse processes (Microsoft, 2021).

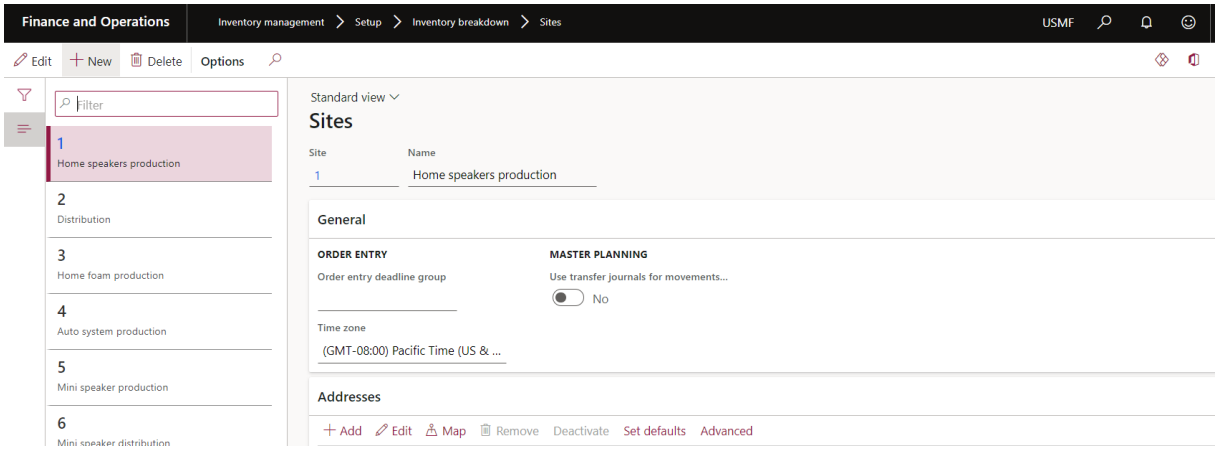
When creating a warehouse in Dynamics 365, and since warehouses are the storage place for goods and materials, high-priority and low-priority areas or zones can be established for the placement of goods. First, in the system, the warehouse can be divided into zones to fill the different storage needs, like different temperature requirements. After the warehouse is divided into different zones, we now specify the warehouse locations like the site, aisle, rack, shelf, and bin position. (Microsoft, 2021).



Picture 14. Dynamics 365 warehouse configuration page.

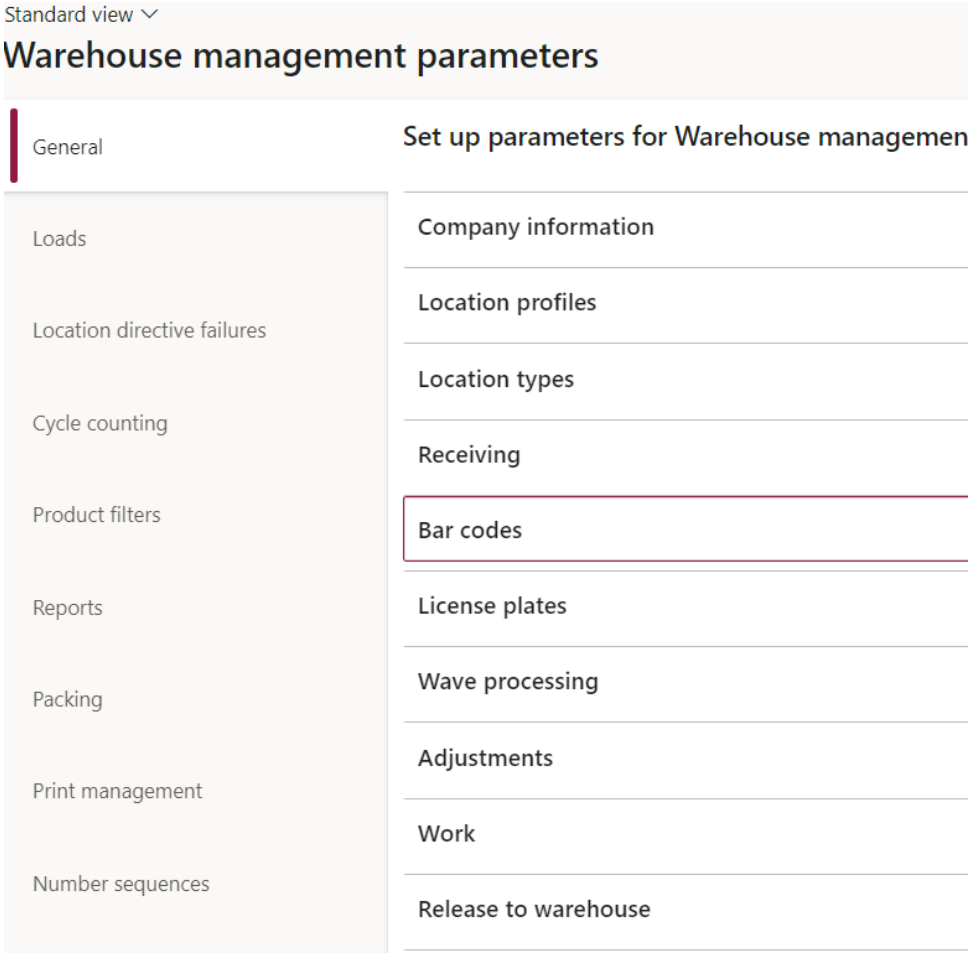
When creating a new warehouse, navigate to Inventory management, Setup, Inventory breakdown and Warehouses, click new and fill in the information.

The "Site" tab refers to a grouping of business resources, such as warehouses and production units, which share interrelated transactions, are located in the exact geographic location, and belong to a single legal entity.



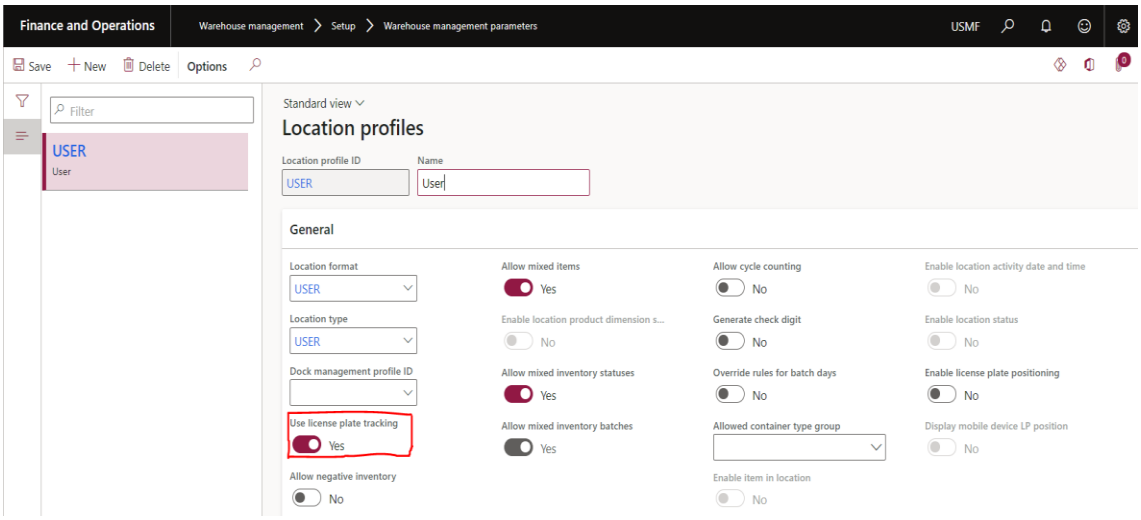
Picture 15. Dynamics 365 site creation page.

Sites can be created by navigating to Inventory management, then Setup, Inventory breakdown and then sites. Click new and fill in the respective name and time zone. Addresses for the sites can also be given.



Picture 16. Dynamics 365 warehouse management parameters configuration page.

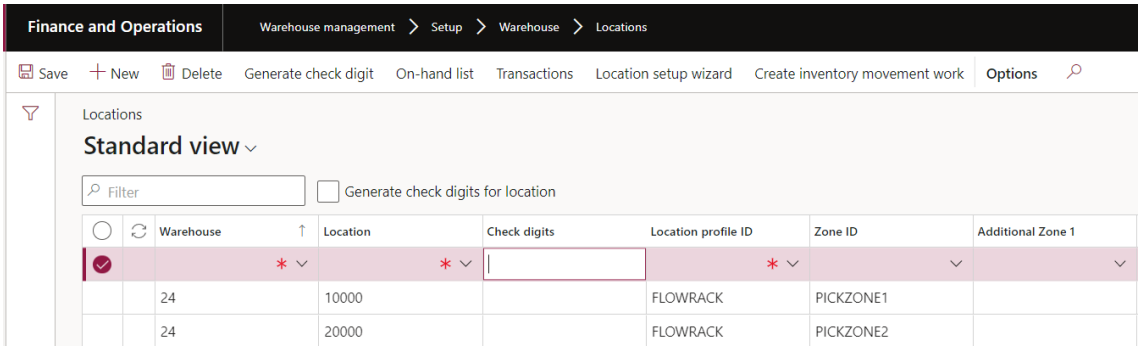
The warehouse parameters consist of many types of information to be provided to the system. The most important ones to provide to get the warehouse up and running are the Location profiles, Location types, and the Wave processing fields. Location profiles are mandatory for the setup of warehouse locations.



Picture 17. Dynamics 365 location profile license plate tracking setup page.

Location profiles control the behaviour of locations in a warehouse management-enabled warehouse. One of the needs for the case company was to enable license plate tracking for items, and from the Location profile setup, it is possible and necessary. To set up location profiles with the license plate tracking for these locations, navigate to the Warehouse management module, then Setup, Warehouse, then Location profiles, then select "New", then enable the "Use license plate tracking".

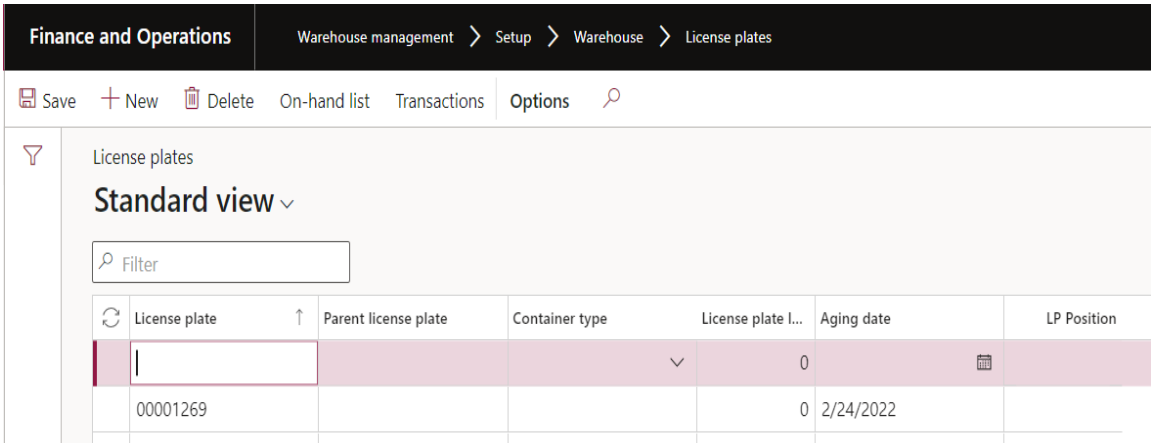
The location parameter refers to where the items are stored and where items can be picked from in a warehouse. The information for location parameters includes the size of the location, such as height, width and depth, the aisle, rack and shelf in the warehouse and the location type, for example, if it is a picking location or an inbound dock (Microsoft, 2021).



Picture 18. Dynamics 365 locations configuration page.

Locations in the system are created from the Warehouse management module and go to Setup, Warehouse and then Locations. The format of the locations can be personalized to preferences, and they can include the aisle, rack, shelf, and bin numbers.

License plates can be considered as an inventory tracking tool. License plates can be embedded in barcodes that can be assigned to a specific pallet, location, work machine, etc. These license plates help track the movement of the items in the warehouse and make them easier to locate (Microsoft, 2021).
The inventory adjustment is used for adjusting on-hand inventory or inventory transactions.



Picture 19. Dynamics 365 license plate configuration page.

In Dynamics 365, the license plates are created by going into the Warehouse management module, and then Setup, Warehouse and then license plates.

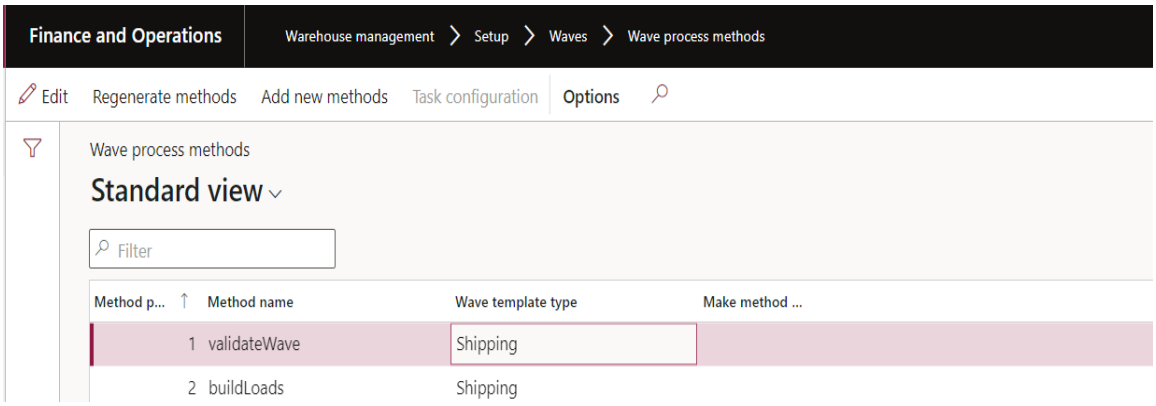
8.2 Configuring the core warehouse processes

A big part of a warehouse's operational success is the daily processes that must be defined. The warehouse processes are linked to the business requirements, which makes them a significant contributor to the success of a business. In Dynamics 365 Supply Chain Management, the essential components that must be configured for warehouse processes are wave templates, work templates, and location directives (Microsoft, 2021).

Before going into wave templates, I must explain what a wave is. A wave refers to group orders that are similar in nature, which is grouped together and make short intervals for picking the items. In other words, a wave contains orders with some similar property that one wants to release in the warehouse for picking simultaneously, for example, cluster picking (Microsoft, 2021).

8.2.1 Wave templates

Before wave templates can be defined, wave process methods must be configured in the system. The function of the wave process method is to break down an eligible pool of orders into a subset for orders that can be managed effectively across the picking, packing and shipping activities.

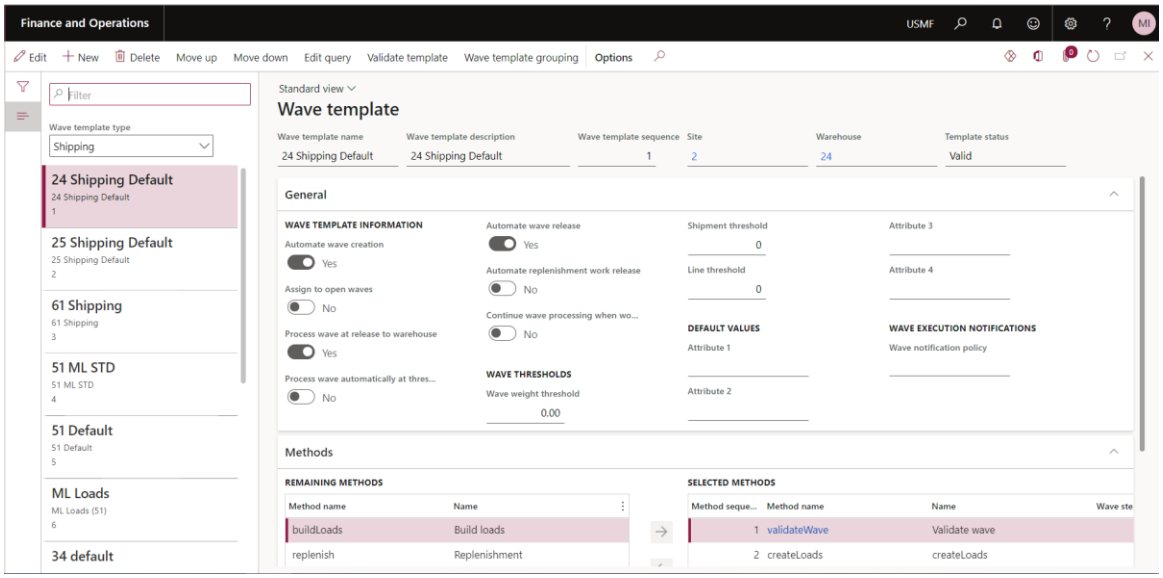


Picture 20. Dynamics 365 wave process method creation page.

The wave process methods can be created by navigating to the Warehouse management module, from there to Setup, Waves and Wave process methods. The system provides the wave process methods by clicking the regenerate methods button, but they can also be edited (Microsoft, 2021).

Wave templates are used to automatically or manually manage the different types of waves. When a wave is processed, work is created for the operations team to be performed (Microsoft, 2021).

When setting up wave templates, the following needs to be specified. The site and warehouse for which the template will create work for. The order in which the templates will be evaluated. The sequence in which the templates are matched to released lines on sales orders, production orders, and Kanban's. When a line is released, the system applies the first wave template that the line meets the criteria for. The broader the criteria, the more likely it is for a line to meet the criteria, so you should put the templates with the most specific criteria at the top of the list. Also, the actions for each of the templates must be specified (Microsoft, 2021)



Picture 21. Dynamics 365 wave template creation page

When creating a wave template, navigate to Warehouse management module, Setup, Waves and Wave templates. Click new to create a new template. Select from the Wave template type menu one of the following options: Shipping, Production orders or Kanban. On the Wave template name and description fields, select the created site and warehouse for which the template will create waves and work (Microsoft, 2021).

What happens in a wave is dictated by the Wave Templates, and it might be required to create many different templates to match all the different situations that may occur. An example is that a wave template for orders might need to be

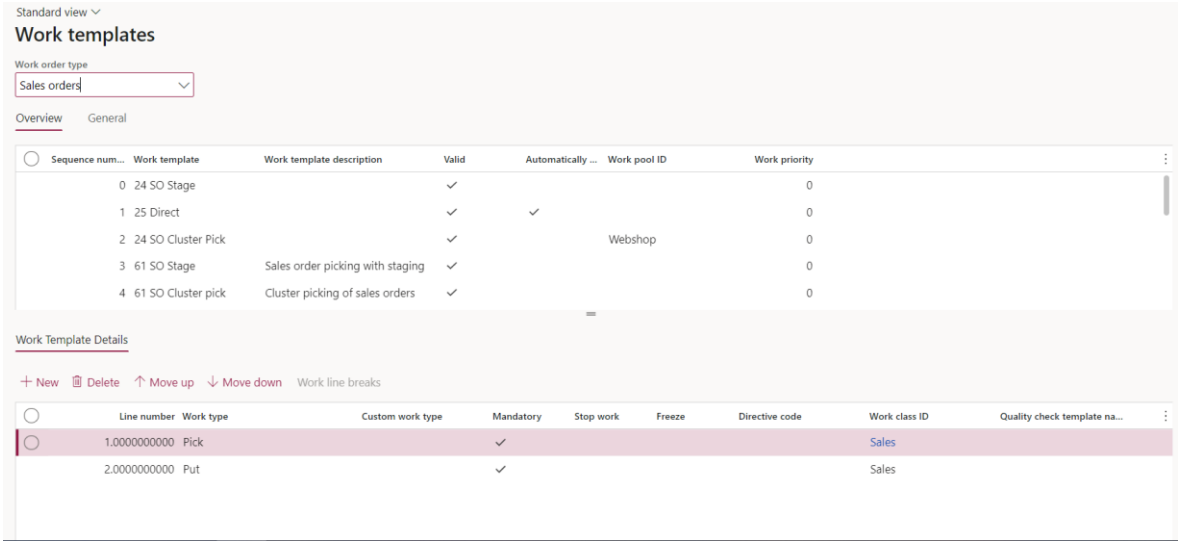
created because the orders in a specific wave require special handling or attention (Microsoft, 2021).

8.2.2 Work templates

Work templates are used for processing and creating warehouse work at various stages in the warehouse management process. A work template should be defined as pick and put in the system. For the following warehouse activities, a working template can be created (Microsoft, 2021):

- Inbound transactions
- Picking
- Production
- Inventory movement and inventory transfers
- Replenishment

To create a work template, navigate to the Warehouse management module, Setup, Work and Work templates. In the Work order type field, the specific warehouse transaction has to be selected, which refers to the transaction for which a work template needs to be created. Click new. In the Work template code field, a unique ID for the template is provided. If the work creation process has to be automated when a wave is released, the "Automatically process" check box must be checked (Microsoft, 2021).



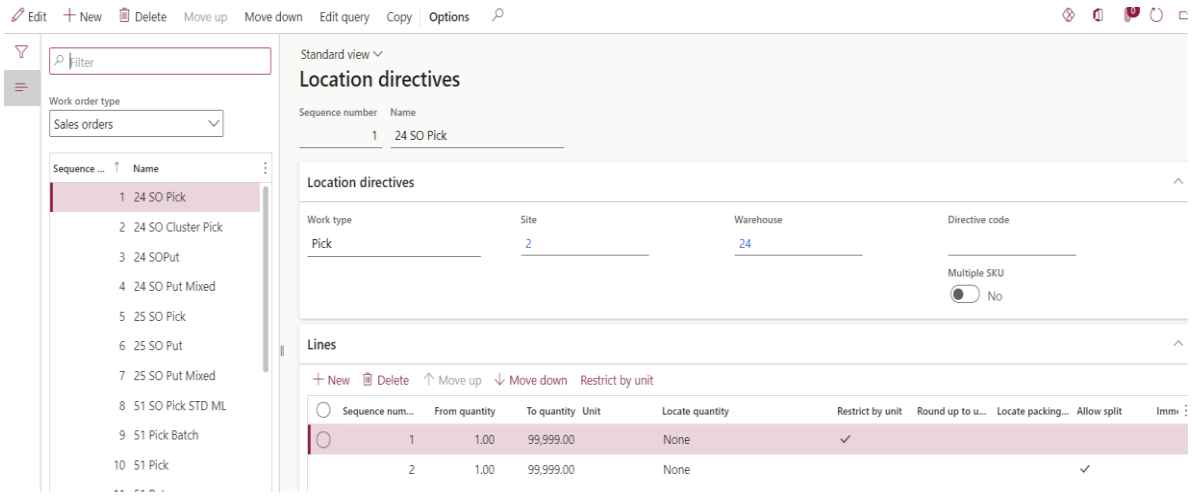
Picture 22. Dynamics 365 work template creation page.

Work templates are essential for defining warehouse management work processes. They define the work to be performed and how it should be performed. In the templates, the location directives can be linked as a directive code, which defines the place where the work is conducted. Work templates include queries that define the terms for the work. Each template has at least one picking work phase, and one put work phase to drive the on-hand inventory from one location to another (Microsoft, 2021).

8.2.3 Location directives

As the name implies, location directives are used to guide work events to their matching warehouse locations. They define the place for the place of picking and put. As an example, for a sales order transaction, the location directive will tell where the items will be picked and where the items will be put. The location directives can be used to do the following tasks:

- Incoming items put away
- Pick and stage outbound transactions
- Pick and put materials for production
- Location replenishment



Picture 23. Dynamics 365 location directives creation page.

When creating Location directives, navigate to the Warehouse management module, Setup and Location directives. In the Work order type field, specify the type of inventory transaction for which the location directive is created. Click new in the Location directives tab and create a new directive and give the details for the following fields (Microsoft, 2021):

- Sequence number – Determines the sequence for processing of the location directive for a given work type.
- Name – Determine a name for the location directive.
- Work type – Determines the type of work to be performed. Available work types are based on the type of inventory transactions selected.
- Site – Determines the site in which the work should be completed.
- Warehouse – Determines the warehouse location for the work to be completed in.
- Directive code – Determines the association to a work template.

8.2.4 Concluding thoughts on implementation

These are the mentioned necessary configurations of Dynamics 365 Supply Chain Management to get a system up and running for inbound, outbound, and stock operations. With these configurations and settings, a warehouse can run

its daily operations using a Warehouse Management-controlled Dynamics 365 solution (Microsoft, 2021).

9 Conclusion

This thesis aimed to elaborate on the necessary components for configurations to implement Dynamics 365 Supply Chain Management in a new warehouse: wave templates, work templates, and location directives. The components are supported by necessary parameters, which create warehouses and sites, products, locations, license plates, inventory adjustments, work, warehouse mobile devices, inventory status and warehouse processes. Also, the importance of a successful change management method during an ERP implementation was brought up in this thesis. Change management is one of the most crucial parts of a digital transformation process.

The research for this paper was done by studying relevant literature, with interviews and working alongside experts in the field of Dynamics 365. As I have just started working in this field, all the details of implementation projects and Dynamics 365 are not perfected.

The research was meant to get a general overview of the subject and to provide a general guide for Dynamics 365 Supply Chain Management implementation in a new warehouse.

For myself, to better understand implementation projects and Dynamics 365, further studies have to be conducted, and further research is needed to get a deeper understanding of the Dynamics 365 system.

By working on the implementation project team and studying relevant literature, I have made a generic working guide for implementing Dynamics 365 for a new warehouse.

Working on the thesis was challenging and exciting. Working with a real project team was very educational and meaningful. During the project, I encountered many things that could not be studied in books. During the project, the need to work together was highlighted in many situations. Working together with a group of knowledgeable people was a cornerstone for the research and this project. The project team included expert consultants in the field of Dynamics 365 Supply Chain Management and project management. During the writing process of this thesis, I encountered challenges, especially in narrowing down the most meaningful elements of the implementation of Dynamics 365 Supply Chain Management and the aspect of implementing successful change management.

The outcome of this thesis is a general guideline for someone who is new to warehousing, ERP systems and Microsoft Dynamics 365 to have a general idea of how to implement Dynamics 365 Supply Chain Management and what to consider when doing so. This thesis leans heavily on relevant literature in the field, and some of my thoughts and ideas were also brought up since I have some knowledge in the field of implementation.

The process of the thesis was meant to enhance my professional capabilities during this kind of project and to support the things I have learned during my industrial engineering studies. My interest in projects like this has grown during the writing process of this paper.

9.1 Evaluation of the thesis

The research questions presented in chapter 1.4 were answered according to the relevant literature and information currently available and to the best of my abilities. The questions answered were:

- What are the benefits, challenges, and risks of an ERP system?
- What are the critical day-to-day processes of the case warehouse?
- What are some of the necessary means and methods to carry out an ERP implementation project?

- What are the mandatory configurations in the specific ERP system to get the warehouse up and running?
- How to successfully implement the Microsoft ERP system, using examples from the system interface?

I firmly believe if one were to do a thesis on this subject, with the exact instructions given, they would come to the same conclusion as what has been described in this paper.

9.2 Final thoughts of the paper

When starting this project, I had set four goals for the paper:

1. The paper should help me advance my knowledge on the topic of Dynamics 365 Supply Chain Management
2. Use the most relevant information and expertise on hand, such as fellow consultants and system architects
3. Create a paper that would help anyone to gain knowledge on the subject
4. Manage to finish the paper on time.

With these goals set in the beginning, I felt like I had clear goals of what I wanted to achieve and did achieve.

In writing this paper, I have gained a tremendous amount of knowledge on Microsoft Dynamics 365 and more on writing a research paper and how to filter relevant information for the specific subject. I also managed to finish the paper on time, as I set strict time restrictions for myself in this project. During the process, I also learned a lot of professional manners and how to operate with given information and instructions.

References

Abdul, Z Khan. & Faisal, M. & Bokhari, Rahat H. 2019. ERP Issues and Challenges: A Research Synthesis.

Aiken, Carolyn & Keller, Scott 2009. "The Irrational Side of Change Management" Available at: Https://www.mckinsey.com/business-functions/organization/our-insights/the-irrationalside-of-change-management [Accessed 22.06.2022].

Alizai, F. 2014. A model for the implementation of ERP systems in midsize businesses. PhD thesis. Victoria University. Melbourne. Available at: http://vuir.vu.edu.au/28815/1/Fahd%20Alizai.pdf. [Accessed 22.06.2022]

Aloini, D., Dulmin, R. & Mininno V. 2007. Risk Management in ERP project introduction: Review of the literature. Information and Management

Anderson, D. & Ackerman, Anderson, L. 2001. Beyond change management.

Azevedo, P. & Romão, M. & Rebelo, E. 2013. Advantages, Limitations, and Solutions in the Use of ERP Systems.

Bakertilly. 2022. Benefits of conductiong a needs assessment for ERP systems. Available at: https://www.bakertilly.com/insights/benefits-of-conducting-a-needs-assessment-for-erp-systems [Accessed 22.06.2022]

Bieler, H. 2010. Requirements and Assessment Methodology.

Blake, D. 1990. Financial Market Analysis. New York City: McGraw-Hill Education.

Blanchard, D. 2007. Supply chain management best practices. Hoboken, N.J: Wiley

Brace, W. & Cheutet, V. 2011. A Framework to Support Requirements Analysis in Engineering Design

Dobler, D. & Burt, D. 1996. Purchasing and supply chain management: Text and cases. Sixth Edition. New York: The MacGraw-Hill Companies, Inc.

Gupta, S., Misra, S.C., Kock, N. & Roubaud, D. 2018. Organizational, technological, and extrinsic factors in the implementation of cloud ERP in SMes. Journal of Organizational Change Management.

H. Akkermans, P. Bogerd, E. Yücesan, L. Van Wassenhove. 2003. The Impact of ERP on Supply Chain Management: Exploratory Findings from a European Delphi, European Journal of Operational Research.

Herrero, Leandro 2014. John Kotter's 8 Step Change Management model is the best change model of the last century. Why this is still alive in 2014 is beyond me. 21.10.2014. Available at: Https://leandroherrero.com/john-kotters-8-step-change-managementmodel-is-the-best-change-model-of-the-last-century-why-this-is-still-alive-in-2014-isbeyond-me [Accessed 21.08.2022]

Heikkilä, Tarja 2014. Kvalitatiivinen tutkimus -verkkosisältöä kirjasta: Heikkilä, Tarja 2004. Tilastollinen tutkimus. Edita Publishing, Helsinki. Available at: Http://www.tilastollinentutkimus.fi/1.TUTKIMUSTUKI/KvantitatiivinenTutkimus.pdf [Accessed 29.08.2022]

Hugos, M. 2003. Essentials of Supply Chain Management. United States of America: John Wiley & Sons, Inc

Jurevicius, O. 2022. McKinsey 7s Model Available at: https://strategicmanagementinsight.com/tools/mckinsey-7s-model-framework/ [Accessed 03.09.2022]

Karrus, K. 2003. Logistiikka. 3.–4. painos Juva: WS Bookwell Oy.

Kimberling, E. 2019. The Definitive Guide to a Successful Microsoft Dynamics 365 Digital Transformation.

Kimberling, E. 2021. Top 10 ERP Systems for 2022 – Top Software Vendors.

Kotter, John P 2012." Accelerate!". Harvard Business Review 11/2012. Available at: Https://www.hbr.org/2012/11/accelerate [Accessed 01.09.2022]

Kotterinc." John Kotter Chairman". Available at: Https://www.kotterinc.com/team/john-kotter/ [Accessed 25.08.2022]

Lacey, A. & Luff, D. 2009. Qualitative Data Analysis. The NIHR RDS for the East Midlands / Yorkshire & the Humber. Available at: https://www.rdsyh.nihr.ac.uk/wp-content/uploads/2013/05/9_Qualitative_Data_Analysis_Revision_2009.pdf [Accessed 19.06.2022]

Lee, J. Krajewski & Larry, P. Ritzman. 1999. Operations Management: Strategy and Analysis.

Mark, Joshua J. 2010. Heraclitus of Ephesus. Ancient History Encyclopedia. Available at: Https://www.ancient.eu/Heraclitus_of_Ephesos/ [Accessed 15.08.2022]

McKinsey, 2008. Enduring Ideas:The 7-s Framework. Available at: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/enduring-ideas-the-7-s-framework [Accessed 03.09.2022]

MindTools, 2022. McKinsey 7-S Framework. Available at: https://www.mindtools.com/pages/article/newSTR_91.htm [Accessed 03.09.2022]

Microsoft. 2022, What is Dynamics 365. Available at: https://dynamics.microsoft.com/en-us/what-is-dynamics365/ [Accessed 09.06.2022]

Microsoft, 2022. Welcome to Dynamics 365 Business Central. Available at: https://docs.microsoft.com/en-us/dynamics365/business-central/ [Accessed 21.06.2022]

Microsoft, 2021. Set up general warehouse parameters. Available at: https://docs.microsoft.com/en-us/dynamicsax-2012/appuser-itpro/set-up-general-warehouse-parameters [Accessed 21.06.2022]

Microsoft, 2022. Warehouse configuration overview. Available at: https://docs.microsoft.com/en-us/dynamics365/supply-chain/warehousing/warehouse-configuration [Accessed 26.06.2022]

Microsoft, 2022. Welcome to Dynamics 365 Business Central. Available at: https://docs.microsoft.com/en-us/dynamics365/business-central/ [Accessed 19.06.2022]

Monk, E. & Wagner, B. 2009, Concepts in Enterprise Resource Planning, Course Technology Cengage Learning, Boston.

Munters. 2022. Distribution warehouse. Stockholm.

Muller, M., 2011. Essentials of Inventory Management. New York: Amacom

Niemelä, M., Pirker, A., Westerlund, J. 2008, Strategiasta tuloksiin – tehokas johtamisjärjestelmä. Juva: WS Bookwell Oy.

Piasecki, D. 2003. Optimizing safety stock. Available at: http://www.inventoryops.com/safety_stock.htm [Accessed 19.06.2022]

Reynolds, Larry. Leading change: John Kotter's 8-step model. Available at: Https://www.thehubevents.com/resources/leading-change-john-kotter-039-s-8-stepmodel-18. [Accessed 19.06.2022]

Richards, G., 2014. Warehouse Management. London: KoganPage

Sakki, J. 1999. Logistinen prosessi: Tilaus-toimitusketjun hallinta. 4. painos. Espoo: Jouni Sakki Oy.

Santos, T. 2020. What is Dynamics 365. Available at: https://www.encorebusiness.com/blog/what-is-microsoft-dynamics-365/ [Accessed 05.07.2022]

Sikder, T. 2022. The Dynamics History and Evolution of ERP Systems. Available at: https://wperp.com/89774/history-and-evolution-of-erp-systems/ [Accessed 19.08.2022]

Simons, R. 2000. Performance Measurement & Control Systems for Implementing Strategy. International Edition, Prentice Hall. New Jersey.

Torra, S. 2007. Balanced Scorecard myynnin strategisena johtamisjärjestelmänä. Pro Gradututkielma. Helsingin Kauppakorkeakoulu. Markkinoinnin ja johtamisen laitos

Typical Benefits of ERP Implementation. Eastern Software Systems. http://www.essindia.com/about-us/resources/articles/198-typical-benefits-of-erpimplementation [Accessed 03.08.2022]

Umble, E.J., Haft, R.R. & Umble M.M. 2003. Enterprise resource planning: Implementation procedures and critical success factors. European Journal of Operational Research.

Yarab, A. 2021. What is Enterprise Resource Planning System (ERP). Available at: https://tallysolutions.com/erp-software/what-is-enterprise-resource-planning-system/ [Accessed 03.08.2022]