



Than Shwe

Optimizing Warehouse Management for Small and Medium-Sized Enterprises: A Case Study of Connected Finland Oy

Bachelor's Thesis

Metropolia University of Applied Sciences

Bachelor of Business Administration

International Business and Logistics

May 2023

Abstract

Author(s): Than Shwe
Title: Optimizing Warehouse Management for Small and Medium-Sized Enterprises SMEs: A Case Study of Connected Finland Oy
Number of Pages: 38 pages + 2 appendices
Date: May 2023

Degree: Bachelor of Business Administration
Degree Programme: International Business and Logistics
Specialisation option: Supply Chain Management
Instructor(s): Heikki Heponiemi, Senior Lecturer

The thesis is based on a case study of Connected Finland Oy, a small-sized IT firm in Finland, and offers recommendations for improving small and medium-sized enterprise warehouse management practices. The company utilizes the Odoo Enterprise Resource Planning (ERP) system to enhance sales and warehouse efficiency. The study aims to highlight their warehouse management challenges and propose possible solutions. Furthermore, the thesis tries to analyze how effectively the ERP system operates. The research methods section describes the literature review for the analysis and data collection. The literature review focuses on definitions covering warehouse management, small and medium-sized enterprises, enterprise resource planning (ERP) systems, and warehouse technology. The qualitative research approach was used mainly in the thesis so that the main information was received using structured interviews with stakeholders to discuss warehouse management processes, ERP adoption, and challenges. Quantitative research methods involve survey questioning that is delivered to employees as well as students. The thesis proposes multiple proposals to boost warehouse management efficiency at Connected Finland Oy. Overall, the case study highlights the importance of warehouse management optimization for small and medium-sized enterprises and provides useful recommendations for fulfilling the research objective.

Keywords: Warehouse Management, Small and medium-sized enterprises, Connected Finland Oy, Enterprise resource planning system and Logistics

Contents

Glossary

1	Introduction	1
1.1	Research issues and objectives of the thesis	2
1.2	Benefits	4
2	Literature Review	5
2.1	Definition and importance of warehouse management	5
2.2	Factors affecting warehouse management	6
2.3	Warehouse management practices in Small and Medium-sized enterprises	9
2.4	Technological solutions for warehouse management practices	11
2.4.1	Warehouse Management System WMS	11
2.4.2	RFID	12
2.4.3	Automated Storage and Retrieval Systems	12
2.5	What is an ERP system?	12
2.6	Using an ERP system for warehouse management	13
2.7	Odoo ERP software for warehouse management	14
2.8	The differences between other warehouse management software and Odoo software	15
3	Research Methodology	17
3.1	Case Study Research	17
3.2	Quantitative Research	17
3.2.1	Survey	17
3.3	Qualitative Research	18
3.3.1	Interview	18
3.4	Desktop Research	19
4	Case Company: Connected Finland Oy	20
4.1	Company background	20
4.2	Current warehouse management practices	20
4.3	Challenges and areas for improvement	21
5	Results	23

5.1	Suggestions for Connected Finland Oy	23
5.2	Recommendations for small and medium-sized enterprises (SMEs)	25
5.3	Survey result	26
6	Conclusions	27
	References	28
	Appendices	32
	Interview questions and answers from Connected Finland Oy	32
	Survey	35

Glossary

SMEs Small and Medium-sized enterprises.

ERP Enterprise resource planning.

KPI Key performance indicator

WMS Warehouse Management System

CRM Customer relations management

RFID Radio Frequency Identification

ASRS Automated storage and retrieval system

IoT Internet of things

3PL Third-party logistics

B2B Business to Business

GPS Global Positioning System

1 Introduction

This thesis is for the Bachelor's degree in business administration and degree program in international business and logistics specializing in supply chain management. There are several contents including the literature review, research methodology, case study, recommendations, and suggestions. The literature review provide an overview of theories from academic sources contributing to the warehouse management system. The recommendation section provides the best strategies for the warehouse management system with a comprehensive analysis. This thesis methodology will show the systematic approaches to fix the research problem by referencing literature review, data collection, and analysis for warehouse management for small businesses.

Most distribution companies that keep products in a warehouse understand that proper management makes the difference between efficiently and effectively delivering client orders and maintaining low costs and receiving less negative feedback about defective, delayed shipments and increased operating costs. Warehouse management includes the following principles and methods for operating a warehouse's daily process. (Mulcahy,1994, pp. 3.1-3.3)

As noted by Rushton, et al., (2022, pp. 271-277), warehousing is a facility used by manufacturing, distributors, customs, and others to store items, pack them, and prepare them for delivery. It is a system that provides information on the availability of stock of products, the condition of goods, to the status of the shipment of goods. This system is critical in supply chain management; in other words, it is a supply chain system that is constantly up to date. Only specific people have access to it, according to guidelines. Furthermore, it is an essential component of the supply chain, which includes the processes of sourcing, manufacturing, and distributing items or products. Starting with raw materials and progressing to semifinished and completed products. A warehouse will also be vital for coordinating product distribution due to the mismatch between supply and demand. There are various guiding concepts for warehouse

management, including speedy market delivery and fulfilling need, the proper running of the supply chain continually, ease of product distribution to clients, and access to warehouse inventories.

Warehouse management is based on organizing and managing the operations and storage of goods at the facility from when inventory enters the place until it is sold, used up, or transported to another location.

1.1 Research issues and objectives of the thesis

This thesis aims to find out how a small and medium-sized enterprise (SMEs) manages its warehouse with the case study of Connected Finland Oy and suggestions for improving warehouse operations. The thesis focuses on a comprehensive overview of the techniques and concepts of warehouse management systems. In addition, this thesis's primary research question will be "**How can Connected Finland Oy manage their warehouse operations to improve efficiency and productivity, and what are the possible advantages for small and medium-sized enterprises?**" The following research questions or sub-questions are added to improve the analysis of the research question,

- How do warehouse management systems work in warehouse operations, especially for SMEs?
- What are the primary objectives of warehouse management today, and how have they developed through time?
- How effective is an ERP system for operating a warehouse?
- What are the current practices in Connected Finland Oy's Warehouse?
- What challenges does Connected Finland face in managing warehouse and logistics processes?

Research Questions	Literature Review	Research Methods	Results
How do warehouse management systems work in warehouse operations, especially for SMEs?	Warehouse Management, Inventory Management, SMEs operations	Case Study, Interviews, Survey	To get an understanding of warehouse management systems and how SMEs utilize them
What are the primary objectives of warehouse management today, and how have they developed through time?	Warehouse Management, Supply Chain Management, Current trend	Case Study, Interviews	Addressing the current objectives for warehouse management
How effective is an ERP system for operating a warehouse?	ERP system, Inventory Management, Warehousing	Case Study, Survey	To analyze the ERP system's performance, especially regarding warehouse operations.
What are the current practices in Connected Finland Oy's Warehouse?	Warehouse Management	Case Study, Interviews	To understand daily operations at their warehouse
What challenges does Connected Finland Oy face in managing warehouse and logistics processes?	warehouse management practices, Challenges	Case Study, Interviews	To provide recommendations based on a comprehensive analysis

Table 1. Table shows the sub-questions to gain better understand of them.

1.2 Benefits

This thesis could benefit businesses in the warehousing and logistics sector and small and medium-sized enterprises (SMEs). That is where the supply chain process plays an important role. O'Shaughnessy (2016) explained that as the changes in technology develop due to advanced technologies, small and medium-sized enterprises (SMEs) can operate their business operations easily by implementing ERP software and it is important for all kinds of businesses. This thesis will help businesses who don't use ERP to manage operations in their adoption of new technology.

The thesis examines the practical use of the warehouse management system for the enterprise, using a case company as an example. The study provides an evaluation of the improvement and potential future development recommendations. Furthermore, the thesis aims to understand warehouse operations and logistics strategies and concepts for SMEs.

2 Literature Review

2.1 Definition and importance of warehouse management

According to Richards (2022, pp. 36-57), warehouse management is defined as the processes that involve managing and operating a warehouse. It goes through the entire procedure, from start to finish. Warehouse management includes everything from receiving shipments to asset tracking and shipping. It includes enhancing warehouse operations to make sure certain products have been received and delivered quickly and efficiently. Companies may manage every aspect of their warehousing operations, whether they have one warehouse or numerous. The author Myerson (2015, pp. 125-131) provided that Automated technology is significant in warehouse management, inventory management, order processing, and shipment tracking. Automation can be implemented for all sizes of warehouse facilities. Automated storage and retrieval (AS/RS) systems are increasingly gaining popularity in warehouses of all sizes because of their numerous advantages. The implementation of automated systems in warehouse operations has the potential to reduce errors made by humans as well as risks, while simultaneously enhancing operational speed and efficiency.

Tecsys (2022) conducted the warehouse management is the capacity to distribute retail properly and achieve 100% fulfilment so that a company can keep up with expanding internal and external business requirements. A warehouse is the basis of a company's distribution system, and when managed properly, it may reduce expenses while improving service quality.

A recent article by Woods (2022) found that effective warehouse management helps the supply chain to be processed and delivered on time, products to be organized more effectively, inventory and warehouse space to be managed more easily, and warehouse operations to run more efficiently. The organization of ToolSense (2022) explained that warehouse management enables handling inventory and risk reduction by reducing costs using optimized planning and

forecasting. It keeps track of items from when they are purchased as raw materials until they are sold as finished goods. This can also assist in boosting efficiency by handling all ordering and receiving needs.

According to Schwarz (2022), a key component of efficient warehouse management is enhancing order fulfilment. Order fulfilment is a general term used by many companies, including inventory management, supply chain management, order processing, quality control, and customer assistance. Depending on the size of your company's operations, many elements of the order fulfilment process may be completed under one roof in a well-maintained warehouse. Many small companies utilize a simple method to manage order fulfilment internally. Bigger companies require multi-layered, more complicated distribution center strategies. The key objective is to deliver the customer's order as fast, reliably, efficiently, and affordably as possible in both situations.

The book of the handbook of logistics and distribution management, Rushton, et al., (2022, pp. 716-719) explained that the most crucial aspect of international logistics is warehouse safety and security, which protects from accidents, theft, and damage to items, machinery, and staff. However, dealing with these risks may be difficult, particularly in expansive and complicated establishments. The article on warehouse safety by Tarlengco (2023) argues that the purpose of warehouse safety is to help warehousing staff in ensuring a safe work environment and encouraging safe behaviour while working in warehouses. A collection of legislative rules and industry best practices are there to secure safety. Warehouse safety and security may help improve the efficiency of the warehouse and decrease risks.

2.2 Factors affecting warehouse management

The concept of inventory management by Waida (2022) defined that inventory management is the process of storing, ordering, and selling products and services. The area also includes the management of diverse supplies and procedures. One of the most important components of inventory management is

controlling the flow of raw materials from their acquisition to completed goods. The objective is to reduce overstock and increase efficiency to achieve projects time and under budget.

According to work on the logistics and supply chain toolkit by Richards and Grinsted (2013), inventory management has significance in retail and e-commerce. It may be mainly information with present stock control mechanisms, or it may be concerned that they are underperforming. In any case, improving business with a more effective inventory management system will result in cost savings and improved worker productivity. It doesn't stop there. Stock availability, quick shipment, and reduced price will bring in lifetime and loyal consumers.

Mulcahy (1994, pp. 1.1-3.3) found that warehouse design and layout factors are to improve warehouse space utilization. Utilizing warehouse space effectively enables businesses to save the time required to make a product and get it out the door, obtain visibility into what is and is not functioning in the warehouse, and organize inventory to speed up the process at every stage. Every square foot of a warehouse should be utilized to its maximum capacity. It is essential to have a thorough understanding of the warehouse's area and dimensions, as the selected layout will affect the overall productivity of the space.

Mecalux (2022) described that warehouse equipment is essential for the effective management of all logistics operations. It is considered equipment as including any element that makes warehouse activity possible (racks, forklifts, automated systems, etc.) that can be customized to the specific needs of each business. Each warehouse operation requires a particular kind of equipment. Such as loading and unloading trucks and preparing orders containing minor products to require distinct solutions. Consequently, achieving a business's supply chain depends on selecting the appropriate warehouse equipment for each operation. According to Richards (2011, pp. 95-97), warehouse technology is utilized in the transportation and logistics sector to provide facilities with technologies that increase production and efficiency. Companies

often use warehouse technology to reduce mistakes caused by manual handling, enhance the efficiency of their logistics operations, nurture a safer working environment, and reduce stockouts.

Myers (2021) described that effective warehouse workforce management is critical to any supply chain's success. Adequate staffing and high staff engagement will contribute to increased profit margins, decreased risk of order fulfilment errors, and other benefits. Fulfilled consumers result from cheerful employees. Unfortunately, failure to control workers will increase employee turnover, reduce KPI performance, and delay order fulfilment. In the meantime, employees anticipate respect, a dignified workplace, certain conditions, and a dedicated management team.

In their article "The importance of transportation management in optimizing supply chain management at the industrial estate", Sarjana, et al., (2020) discuss that transportation management can integrate numerous components crucial for ensuring the effective and efficient transportation of products and services. Integrated transportation systems significantly impact company operations and the sustainability of the supply chain system. There is a certain parallelism between the warehousing operation and the transportation process. The warehouse and transportation process link shows the physical connection between the two functions via vehicle loading or unloading. The picking, moving, and packaging might happen at the warehouse before or after the truck checks in.

According to Rittenberg and Watts (2022), Warehouse management system (WMS) software is commonly used in the industrial and retail sectors to keep track of all supplies and products that are entering and leaving the warehouse, which is one of the factors affecting warehouse management. Basically, a WMS improves the efficiency of the warehouse's operations. More information about the features and advantages of WMS systems will be provided in the following section on technological solutions for warehouse management practices.

2.3 Warehouse management practices in Small and Medium-sized enterprises

According to European Commission (2020), a small and medium-sized enterprise (SME) is a company with sales, assets, or staff numbers that fall below a set limit. The criteria for defining an SME differ by country and, in some instances, by industry. According to the European Union's definition of small and medium-sized enterprises, a medium-sized business should have between 50 and 250 workers, its annual revenue should not exceed 50 million euros, and its balance sheet total should be somewhere around 43 million euros. Small businesses are defined as having 10 to 50 workers, an annual turnover of 10 million euros, and a balance sheet with a minimum of 10 million euros. Micro businesses are companies that have ten workers or fewer, and the annual revenue and balance sheets should be at least two million euros.

Small and medium-sized enterprises have come under increased pressure in recent years, with larger volumes moving through the supply chain to meet the needs of essential stock delivery and online orders. Many employees have never encountered these requirements and do not have the technology to meet them. Warehouses need to be able to change their traditional way of doing business. (McKetty, 2020)

As noted by Richards (2011, pp. 293-301), customers are growing increasingly demanding, allowing the opportunity to connect via electronic communications, have online visibility, and receive quick responses to inquiries more of an expectation than a requirement. Warehouse systems must operate in real-time, control all warehouse operations, and interface with other corporate systems to be productive. This solution could include warehouse management can efficiently process data and plan warehouse movement. It can generate reports and manage high transaction volumes, as e-commerce operations do.

According to WiSys (2022) in A Guide to WMS for Small Businesses, many small business challenges can be resolved using a warehouse management system. Some of the challenges are

- Data accuracy: Many SMEs rely on human data entry to manage inventories and sales. This data is frequently incorrect, causing issues across the supply chain and with compliance.
- Lack of communication: Data throughout the company might get separated into different departments, resulting in data silos that restrict productivity, efficiency, and data security.
- Paperwork: Spreadsheets and papers are inefficient and prone to errors and misplacement.
- Too much data to handle: It is common for a large amount of data to be created between incoming and existing items, orders, sales management, staff management, inventory management, and other systems to be separated.

And these are some possible advantages of having a warehouse management system in the company.

- Enhanced real-time stock visibility and traceability
- Increased productivity
- Improved stock accuracy
- Reduced mispicks
- Automated systems
- Accurate reporting
- Enhanced responsiveness
- Remote data visibility
- Improved customer service
- Reduced paperwork.

WiSys (2022) emphasizes that a warehouse management system helps with inventory management. Connected with or without a barcode system, it can track incoming and outgoing products and assign bin locations and numbers. It can also use the warehouse management system to redesign the warehouse layout and optimize picking and packing routes. Constantly updating data also ensures accurate stock figures.

According to Jose (2022), customer satisfaction should be the same whether there are 50 or 100,000 customers. It may get stressful if we try to manage orders and transactions ourselves. Warehouse management systems monitor

not just the supply chain but also the amounts of items in the warehouse. In the case of a defect or mistake, purchases can be tracked directly to the manufacturer. When a warehouse management system WMS is connected with an ERP such as Odoo, the customer relations management (CRM) module may automate invoicing and create helpful alerts for you and the client or supplier.

2.4 Technological solutions for warehouse management practices

Advanced technology is utilized in logistics to automate processes, increase productivity, and maximize efficiency. At the same time, warehousing technology strives to enhance inventory management, order fulfillment, and the internal movement of items inside a warehouse, which can benefit small and medium-sized enterprises.

2.4.1 Warehouse Management System WMS

According to Richards (2011, pp. 188-201) in the book 'Warehouse Management: A Complete Guide to Improving Efficiency and Minimizing Costs in the Modern Warehouse', a warehouse management system is a software program designed to make managing a warehouse less complex. A Warehouse Management System (WMS) is a software solution that provides support and optimization for every aspect of warehouse management. It is included as part of an integrated set of enterprise resource planning (ERP) software for businesses. This may be helpful to understand a few concepts before getting into the details of warehouse management. For example, warehouse management and inventory management are sometimes used similarly, although there are crucial differences. The concept of inventory management is the effective and efficient ordering, storage, transporting, and picking of the resources required to produce goods or complete orders. The concept of "warehouse management" refers to a wider range of warehouse activities, including labor, order fulfillment, warehouse organization, and design, monitoring, and reporting.

2.4.2 RFID

As Murray (2012) explains RFID stands for "Radio Frequency Identification." This technology uses radio waves to send the information stored in a microchip. It has a system for remotely storing and retrieving data using tags, cards, etc. RFID performs effectively in warehouses and distribution centers because the tasks are always linked to products and items with tags with the correct information. With RFID technology, it will be easier to keep track of items and know where they came from and where they are going. RFID tags make identifying, tracking, and managing products easier without making mistakes in each transportation step. This technology is essential because warehouses need to be more efficient and flexible. This system allows the warehouse a wide range of opportunities. Besides controlling goods, other things can also be managed, such as the entry of trucks, handling of equipment, etc.

2.4.3 Automated Storage and Retrieval Systems

Richards (2011, p. 335) describes Automated Storage and Retrieval Systems (ASRS) are most typically utilized in manufacturing and distribution processes. They are often used to replace huge areas of shelves to conserve floor space, enhance safety, and boost productivity. Automated Storage and Retrieval Systems are automated systems that store goods effectively and safely in a small footprint. They also enable users to retrieve goods swiftly and easily as required. The technologies manage various quantities, sorts, and velocities of non-palletized goods at variable speeds to meet varying throughput needs.

2.5 What is an ERP system?

As explained by Magal and Word (2012, pp. 242-256), Enterprise Resource Planning (ERP) is a set of integrated software packages used to manage a company's daily activities and operations in areas such as finance, human resources, procurement, distribution, supply chain, and others. These systems are critical for most companies because they allow the integration of all relevant operations management tasks into a single system while easing resource

planning. Enterprise resource planning (ERP) systems typically operate on an integrated software platform with shared data and a single database.

According to McCue from the University of Wisconsin-Madison (2022), An ERP comprises various modules and feature bundles designed for certain company functions, including back- and front-office work. This goes beyond traditional accounting and routine operations such as customer service and supply chain management. Here is a brief overview of the most popular ERP modules.

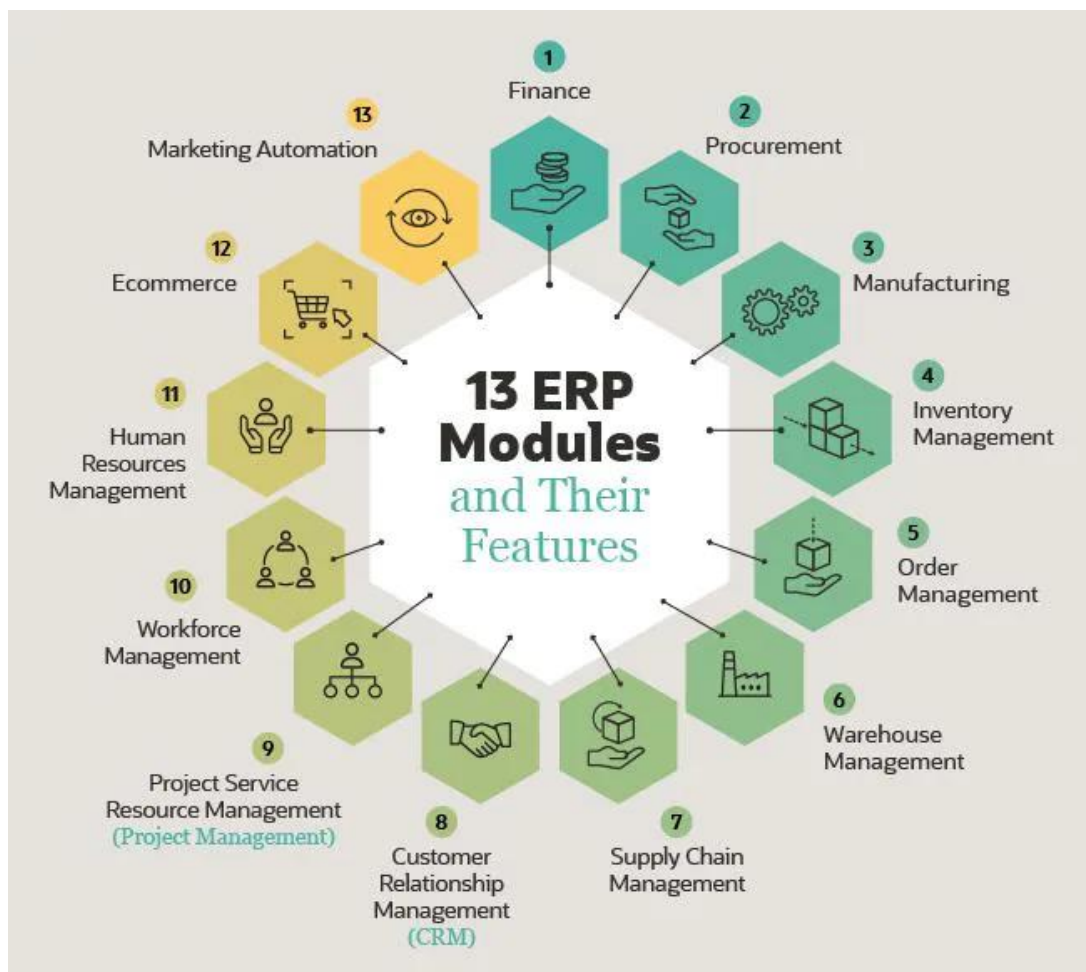


Figure 1 ERP modules are available for nearly all essential business functions, including finance, supply chain, and HR

2.6 Using an ERP system for warehouse management

Magal and Word (2012, pp. 242-256) state that a warehouse management system (WMS) and an enterprise resource planning (ERP) differ primarily

because WMS only handles the flow of materials within your business. An ERP manages and helps the flow of data by taking a comprehensive view of the financial and other business sectors. An ERP sometimes includes several essential warehouse processes like stock management, order entry, invoicing, and purchase orders. A standard WMS expands upon these procedures to include more institutional, such as recommending changes to how inventory is arranged. Or warehouse is set up, automating resupply and county orders, tracking how goods and parts are moved around the warehouse, and sophisticated warehouse activities like cross-docking. It is becoming less necessary for some companies to implement more complex warehouse management systems as warehouse ERP solutions are becoming more reliable and provide more features.

2.7 Odoo ERP software for warehouse management

As explained in the "Complete Functional Documentation of Odoo ERP V15 Enterprise" by Cybrosys Technologies (2022), Warehouse management is the most significant feature of an Inventory management module. We know that the warehouse is where inventory stocks are securely stored. These warehouses may be located outside the company or within the same building but functioning independently. For these reasons, manually maintaining warehouses is a time-consuming process. Odoo ERP's completely automated system provides the information needed to manage all warehouse operations. It may conduct all warehouse management tasks, including managing numerous warehouses and moving goods between warehouses, with the help of the very advanced Odoo system.

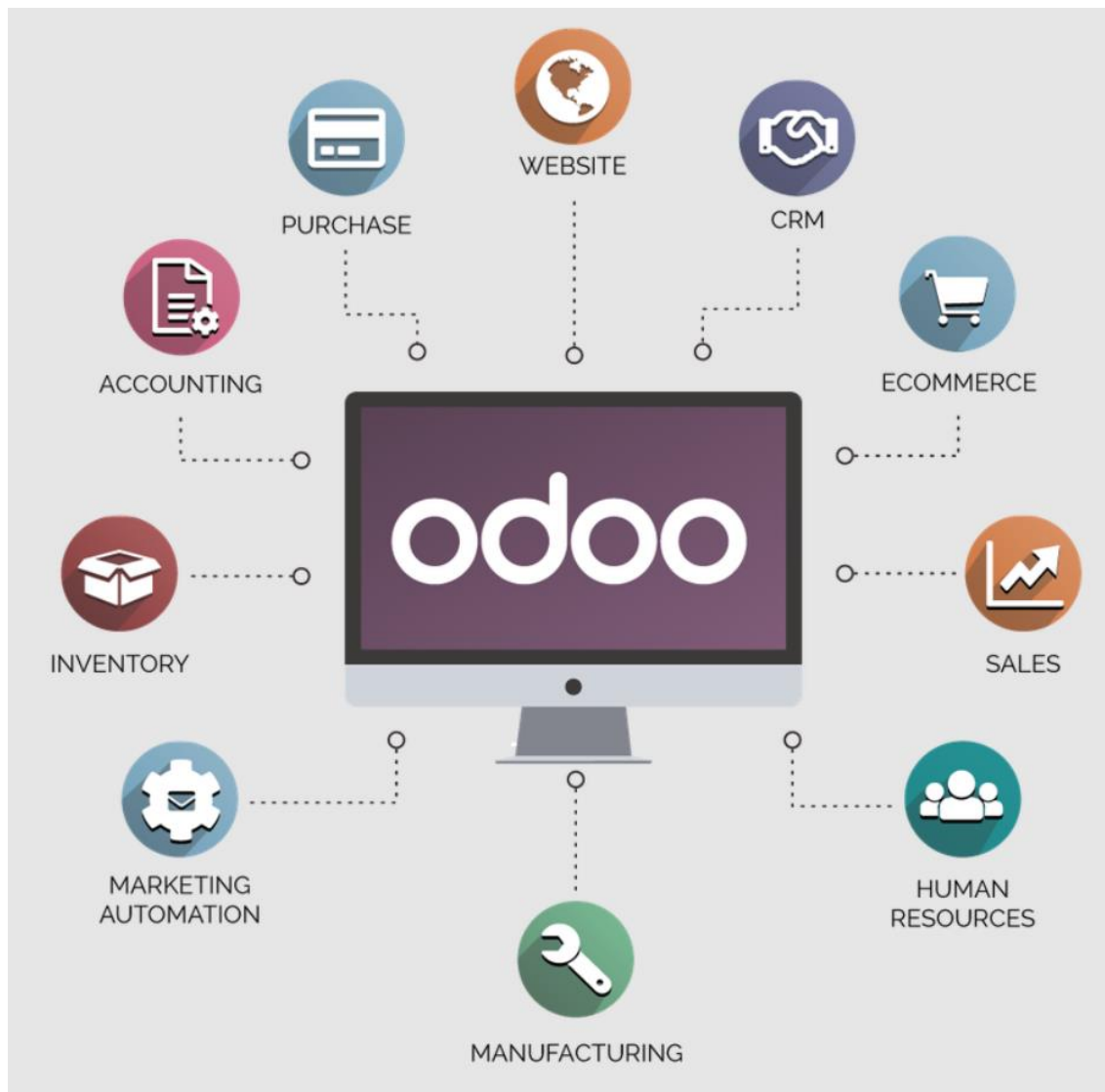


Figure 2 Odoo ERP system

2.8 The differences between other warehouse management software and Odoo software

Zaman (2020) notes that NetSuite is a good software for logistics and distribution companies who want access to a WMS that can be customized and is created and maintained by a top software provider. Since Windows and macOS are natively supported, most firms may install the program on-site using their existing infrastructure. Odoo offers a new approach to pricing and a lower starting cost, making it more adaptable and affordable. It enables businesses to switch between several modules interchangeably while providing third-party app

connectivity and transparent pricing for what you buy. Both systems are excellent for running a successful business. Still, Odoo offers more options for integrating new features, and compared to the NetSuite system, it enables significantly more frequent integration of newly developed third-party apps and modules.

According to Cybrosys Technologies. (2021), both SAP and Odoo enterprise resource planning (ERP) systems provide warehouse management systems. However, these two systems differ in performance, ease of utilization, and efficiency. The cost of utilizing SAP and Odoo is a significant distinction between them. Generally, only larger companies can afford SAP since it is a highly costly, high-end system. Odoo, on the other hand, is an open-source system that gives a range of price choices that works for any size of business. SAP provides plenty of customization, but its implementation and maintenance are more complicated. Odoo is known for its adaptability and simple to use with a drag-and-drop interface that makes it easy to create custom workflows and reports.

3 Research Methodology

The research methodologies used for the study include quantitative methods, case studies, qualitative research, and questionnaires as its primary data collection and analysis method. This section provides justifications and explanations for each technique used.

3.1 Case Study Research

The thesis is study that uses a case study to provide insights into how Connected Finland Oy currently manages its warehouses. Crowe (2011) explains that a case study is a research method used to develop an in-depth, comprehensive understanding of a complicated issue in its practical situation from Connected Finland Oy and other relevant sources. It is a popular research design, particularly in social science, that can potentially be defined in multiple ways with the key idea being the requirement to effectively discover a situation or event in its natural environment. As a result, it is frequently referred to as a naturalistic design instead of an experimental design in which the investigator aims to control and modify the variable of interest.

3.2 Quantitative Research

As noted by Flick (2009, pp. 48-57), quantitative research involves numerical data collection and analysis. It can find patterns and averages, assess causal linkages, and generalize findings to wider populations. Once data has been collected, it may need to be processed before it can be analyzed. For example, survey and test data may need to be converted from words to numbers. This thesis applied quantitative research as statistical analysis to answer survey research questions.

3.2.1 Survey

The survey was conducted with students and employees from Connected Finland Oy. The survey analyzed the opinions and experiences of utilizing

warehouse management for small and medium-sized enterprises. As noted by Flick (2009, pp. 48-57), designing a questionnaire requires several steps and demands to multitasking. Creating a survey questionnaire involves several methods. It is pretty helpful to comprehend the objectives of the survey and anticipated results. The first step is deciding which areas the survey will cover.

The survey was conducted online via email, and the survey link was shared with both student groups and individuals, which is one of the most popular ways to do survey research nowadays. Online survey research is relatively inexpensive, and data collection is very accurate. This method ensured convenience and accessibility for participants, allowing them to respond at their own pace. By including a diverse range of respondents, including students and individuals, the survey aimed to gather a variety of perspectives and insights, contributing to a comprehensive analysis of the research topic. Send relevant surveys to the target group while removing unnecessary questions as required. Finally, I conducted a real-time feedback analysis to identify information in the answers provided and collected data to develop the thesis.

3.3 Qualitative Research

This thesis conducted qualitative research and according to Flick (2009, pp. 48-57), qualitative research includes collecting nonnumerical data, such as interviews or observations, to obtain insight into concepts, perspectives, or experiences. It attempts to provide new ideas or a more comprehensive understanding of a problem. Qualitative research comprises methodologies such as grounded theory, ethnography, action research, phenomenological research, and narrative research, each emphasizing various goals and points of view.

3.3.1 Interview

An interview was conducted by email with a key employee, an IoT specialist, from Connected Finland Oy to learn about current warehouse management practices, challenges, and areas in which issues are possibly improved. As

noted by King et al. (2019), this interview was semi-structured, with a specific topic in focus, but the questions were open-ended rather than following a strict and formalized list. The main objective of an interview is to get insight into the interviewee's perspective on the issue using their own words. An interview is an excellent way to do qualitative research in business. However, they have been limited only by people's ability to understand and explain results and conclusions, which require time and skill.

Based on the interview conducted with a key employee, an IoT specialist, from Connected Finland Oy, the company provided an overview of their operations, including the sales and logistics process. The interviewee discussed the challenges of coordinating warehouse and logistics operations and the utilization of ERP software. The company highlighted the structure and safety protocols of their warehouse, addressed their goal of fast and accurate order fulfilment, and stated future plans to use automation technology and warehouse management systems. In addition, the interviewee shared details of their working relationship with the logistics coordinator and addressed critical issues related to improving warehouse management at a small to medium-sized enterprise (SME) as Connected Finland Oy.

3.4 Desktop Research

This thesis required desktop research to examine the case company's operations and challenges as well as other information. As noted by Aela (2022), desktop research is the process of gathering knowledge about specific problems by reviewing data from current articles and previous studies' secondary data. It can assist in developing a path of action or fighting for opinions by providing excellent arguments. Desktop research depends on data gathered from other individuals to do. The materials that discover might range from essential articles to business reports to significant research studies. That may be completed through desktop research.

4 Case Company: Connected Finland Oy

4.1 Company background

The case company for this thesis was Connected Finland Oy. Connected Finland Oy was established in 2015 to enable mass-market IoT solutions and ultra-low-cost data collection and utilization. Connected Finland Oy is a small size IT-company and the Sigfox network operator in Finland. Connected Finland also designs and manufactures IoT devices for the Sigfox network under the name of Connected Inventions. Since the beginning, they have assisted hundreds of clients and partners in unleashing the potential of data through IoT solutions. They work in B2B, which is businesses between companies and sell devices to resellers, construction companies, smart building fields, and many others. They have delivered and deployed in six continents and around 50 countries.

Connected Finland Oy designs, produces, and provides high-quality Internet of Things (IoT) devices, software, and entire IoT solutions for various sectors, particularly facility and asset management. The IoT devices developed by inventions measure, among other things, indoor air quality, temperature, air humidity, carbon dioxide, GPS tracking, and others. Therefore, they have their warehouse operations. Their main warehouse is in Espoo, Finland, where they hold an inventory of thousands of devices that go to the European and African markets. Devices are manufactured in China, where their other warehouse is also located. They deliver their devices to Australia, Asia, and America customers from China.

4.2 Current warehouse management practices

Connected Finland Oy has a Warehouse Management System and Odoo ERP software that has run the logistics process since the end of 2021. They introduce a new management system incorporating innovative and efficient warehouse operations. They work with Odoo to develop the latest customized

Enterprise Resource Planning (ERP) software. Odoo has been helpful in keeping track of our sales, inventory, and customers all in the same place. It was modified to their needs together with Avoin systems before deployment. Therefore, it fits their needs effectively at the moment. It was a big leap from the previous system and has made many of our processes better and easier to track. Sales tracking, incoming and outgoing devices, inventory, and other reporting can easily be done with Odoo. It has room for modifications from our side, but anything more complex must be done through Avoin systems for extra costs. Odoo helps manage purchases, sales, and shipping all in one place, making it easy to keep track of everything. All parties involved should have the most recent information on logistical procedures, manufacturing timeframes, and shipment estimations.

Warehouses are located in Espoo, Finland, and China. Manufacture company from China is responsible for delivering newly made devices to Finland, where the primary warehouse is located. Their business partner in China is responsible for managing inventory levels in that country, the production and shipment of new device batches, and the provision of ID lists and tracking data for the orders. As a Logistics Coordinator, I am responsible for handling the warehouse, including inbound and outbound operations. Logistics Coordinator and Sales representatives have to communicate daily about the shipments, device stock availability, and many others. Logistics coordinator is responsible for updating the manufacturing timeline and tracking shipping estimates time for them. Manufacturing teams require to have ways to communicate with the Logistics Coordinator by email and chat. Logistics coordinator had proper training and necessary information on the logistics processes and warehouse management used by the previous head of logistics and IOT specialists.

4.3 Challenges and areas for improvement

Connected Finland Oy has several challenges and areas that need to improve in warehouse and logistics operations. The logistics operations have some complications because all the Connected Inventions devices use lithium metal

batteries with restrictions in air cargo from the shipping company. There are limitations, restrictions, and extra safety measures when shipping lithium metal batteries which have caused problems when shipping to certain countries. For lithium metal batteries, they need to have at least one person with certified suitable training or certification in handling hazardous materials because handling and disposing of lithium batteries must be done properly and safely.

Limited warehouse space is one of the issues while operating warehouse management. The warehouse in the Espoo office is relatively small. It hasn't been designed to hold the number of devices which will most probably lead to acquiring new or extra warehouse space or relocation of the office and warehouse.

The global shortage of components has impacted research and development, and it has required finding alternate components for their devices. This resulted in new versions of the manufactured devices, but it didn't have much impact on the time needed to ship them.

Connected Finland Oy's warehouse management practices are mainly used with Odoo and have proved helpful in that field. However, they are handling manual processes heavily, and warehouse operations do not utilize automation technologies at the moment, which can cause the risk of errors and inefficiencies. According to them, automation technologies could use in the future as the sale order sizes increase and a bigger warehouse is needed.

5 Results

5.1 Suggestions for Connected Finland Oy

Connected Finland Oy's warehouse management challenges were comprehensively analyzed. Several recommendations can be offered regarding how Connected Finland Oy should improve the management of its warehousing and logistics operations.

Based on my findings, Connected Finland Oy should consider making business partnerships with regional suppliers from different countries so that they can supply customers with the necessary batteries. The company needs to make sure that the information on the regulation of lithium batteries that relates to shipping companies is accurate and up to date. This could help make it easier to adjust shipping guidelines so that they meet their requirements. That can result in a reduction in the cost of shipment, as well as the avoidance of shipping delays and restrictions imposed by shipping companies.

Used lithium batteries contain several kinds of heavy metals and other elements. If not managed correctly that may cause risks to human health and the environment. Many of these materials should be recycled and reused by professional recyclers (Resources, 2022). The company needs to either organize a team for the handling of hazardous materials or provide the necessary training to employees who are responsible for logistics operations. The hiring of a skilled hazardous specialist to manage hazardous materials should also be considered an option for the company.

The company is required to either redesign the arrangement of the warehouse or acquire additional warehouse space. It is recommended that the company conduct a re-evaluation of the warehouse layout to identify areas where space usage can be optimized. If necessary, the company should think about setting up an additional warehouse within their workplaces. It would be helpful for the company to implement lean inventory management techniques to minimize

overstock levels. The concept of lean inventory management involves the implementation of a systematic strategy aimed at optimizing the value of a company's inventory (Jenkins, 2021).

This can be achieved through the identification and elimination of any wasteful use of materials, effort, and time, with a focus on continuous improvement in the pursuit of perfection. Based on my findings, the company also should think about sharing a warehouse with other companies or using a third-party logistics provider (3PL). A third-party logistics company can handle logistics operations, which can help save money and make warehouse management more efficient.

Global component shortages are also one of Connected Finland Oy's challenges. There are various potential solutions to the challenges. The company needs to look into alternative suppliers. According to Rayming (2021), diversification of the supply chain can be achieved by locating and collaborating with multiple vendors who can provide the necessary components. To reduce supply chain risk, the company should prioritize sourcing components from numerous countries, such as Taiwan and India. It would be risky to rely on a single component supplier, as any disruption to their supply chain could result in a shortage. Based on that company should review its inventory management strategies for research and development to ensure that it has enough components in stock to fulfill consumer demands.

Since Connected Finland Oy relies heavily on manual processes, using automation technologies might improve the effectiveness of their warehouse management. According to the analysis, automated storage and retrieval systems (ASRS) should be considered if a company can manage a bigger warehouse for products because they can reduce the demand for manual processes, improve warehouse density, and enhance productivity. The company should use radio frequency identification (RFID) technology to track shipments in real time, minimize the potential for human errors, and improve warehouse management effectively.

5.2 Recommendations for small and medium-sized enterprises (SMEs)

Connected Finland Oy is currently working on its warehousing operations on the Odoo, an enterprise resource planning (ERP) system since 2021. Odoo ERP can offer several advantages for small and medium-sized enterprises SMEs.

The Odoo ERP system enables specifying product movement rules as well as routes. It manages the warehouse's complete operation from a unique dashboard. This dashboard also makes it simple to gain an overview of the warehouse. The system makes it simple to explain the product. But it may define and change the production description and specifics to suit needs. In addition, it may easily incorporate a barcode scanner for the tasks the company uses it for daily. The barcode scanner's integration makes every inventory process transparent. The ability to quickly trace product movement using the Lots and Serial numbers provided on the items is another significant advantage of using the Odoo system. When the goods are purchased and manufactured, lots and serial numbers can be defined.

Odoo can manage numerous warehouses together. As a result, it is easier to manage every part of running a warehouse at various locations using a single platform. Additionally, it gives users an operational interface for each warehouse and centrally controls the platform. Users may obtain statistics and up-to-the-minute information on warehouse operations thanks to the new capabilities of the Inventory module. By analyzing real-time data, an efficient management system will be established. Additionally, Odoo reduces human interference by automating inventory and warehousing processes (Macwan, 2022).

Allinson (2021) discussed that automated technology innovations are making a big impact on the logistics and supply chain industries. It is also creating strategic opportunities and advantages in different ways and different places. New and existing technologies are still keeping a significant role within the supply chain in the future. Automation technology can enhance warehouse

management efficiency, regardless of the company's size. Modern software and technology, such as robots and analytics, may automate corporate operations, allowing for more work to be completed with saving time, and reducing human labor. It's critical to always be aware of where each product is and how many are still available. When operating a small company with a wide range of products that have to be stored in warehouses.

The warehouse operation should make use of automated technologies that have been mentioned in the previous section, such as automated storage and retrieval systems (ASRS) and radio frequency identification technology (RFID). Allinson (2021) mentioned that a modern warehouse could utilize different types of technology, and each of those technologies may make a unique contribution to the overall improvement of the efficiency of warehouse operations. These technological advancements assist warehouse employees in monitoring their operations, estimating future demands, and making smart decisions for the company that help save time, reduce operating costs, reduce errors, and manage warehouses safely.

5.3 Survey result

The majority of respondents in the survey were men between the ages of 25 and 34 and worked in various kinds of professions. Inventory management, safety and security, and workforce management were the most challenging aspects of warehouse management for SMEs according to responders. Respondents suggested using barcode scanning and inventory management software to keep track of stock, and automated picking and checking to ensure orders are effective and on time. Warehouse management software and automated storage and retrieval solutions were suggested by the majority of respondents for warehouse operations. They also suggested employees should use personal protective gear and other kinds of safety equipment in warehouse operations. Respondents highlighted the requirement for better software, automation technology, and better inbound and outbound processes to improve warehouse management in SMEs.

6 Conclusions

In conclusion, the objective of this thesis is to support warehouse operations and logistics processes to increase efficiency and productivity with suggestions, guidelines, and technology standards based on their challenges. Warehouse management systems are becoming increasingly important as e-commerce, order fulfilment, and speedy delivery change the business environment. Small and medium-sized enterprises are modifying their warehouse management system deployment strategies to remain competitive in the market.

Implementing warehouse management effectively boosts a company's potential and competitiveness by increasing productivity, optimizing space, lowering expenses, and boosting customer service. As a result, whether a company runs a large or small, complex logistics, supply chain, or product-based firm, it should utilize an ERP warehouse management system such as Odoo ERP software to optimize and expand the performance of its logistics process.

The research methods, literature review, and other sources all contribute to the possibility of beneficial outcomes concerning the challenges. The purpose of this thesis is to investigate solutions for improving and expanding Connected Finland Oy's existing warehousing operations. The solutions found were that Connected Finland Oy should consider partnering with regional suppliers, managing hazardous materials properly, optimizing warehouse space, diversifying their supply chain, and implementing automation technologies to improve their warehouse management. This thesis provides a comprehensive overview of warehouses, enterprise resource planning (ERP) systems, and warehouse management for those who are unfamiliar with these topics. The author's of implementation for warehousing experiences was used extensively in the thesis, as well as individual ideas and points of view. This thesis allows me to gain more knowledge and concepts in my area of expertise with help from a case company and IoT specialists from Connected Finland Oy, which improves my ability to work with other people, data collection, and analysis skills.

References

- Aela, 2022. *Desk Research: How To Conduct Secondary Research Efficiently*. [Online] Available at: <shorturl.at/anxAJ> [Accessed 20 February 2023].
- Allinson, M., 2021. *Why Use Automated Warehousing for Your Small Business*. [Online] Available at: <<https://roboticsandautomationnews.com/2021/06/04/why-use-automated-warehousing-for-your-small-business/43659/>> [Accessed 4 April 2023].
- Commission, E. E., 2020. *Internal Market, Industry, Entrepreneurship and SMEs*, s.l.: Europe Union.
- Crowe, S., 2011. *The case study approach*. [Online] Available at: <<https://bmcmethresmethodol.biomedcentral.com/articles/10.1186/1471-2288-11-100>> [Accessed 15 December 2022].
- Finland, C., 2022. *Connected Finland Oy*. [Online] Available at: <www.connectedfinland.fi> [Accessed 13 December 2022].
- Flick, U., 2009. Introducing Research Methodology. In: *The research process in quantitative research and the research process in non standardized qualitative research*. 1st ed. London: SAGE publications Ltd, pp. 48-57.
- Jenkins, A., 2021. *Ultimate Lean Inventory Management Guide for Businesses*. [Online] Available at: <<https://www.netsuite.com/portal/resource/articles/inventory-management/lean-inventory-management.shtml>> [Accessed 2 April 2023].
- Jose, H., 2022. What is a Warehouse Management System (WMS)??. *Zoho*.
- King, N., Horrocks, C. & Brooks, J., 2019. *Interviews in Qualitative Research*. 2nd ed. London: SAGE Publications Ltd.
- Kujala, J., 2023. *Current warehouse management practices in Connected Finland Oy* [Interview] (15 March 2023).
- Macwan, N., 2022. *Accelerate Your Warehouse Business Tasks with Odoo 15*. [Online] Available at: <<https://www.konsultoo.com/blog/odoo15-new-features-3/accelerate-your-warehouse-business-tasks-with-odoo-15-770>> [Accessed 6 December 2022].
- Magal, S. R. & Word, J., 2012. Integrated Business Processes with ERP Systems. In: *Processes in warehouse management*. Chennai: MPS Limited, pp. 242-256.
- McCue, I., 2022. *What Is ERP (Enterprise Resource Planning)?*. [Online] Available at: <<https://www.netsuite.com/portal/resource/articles/erp/what-is-erp.shtml>> [Accessed 4 December 2022].

McKetty, G., 2020. *Why Small to Medium sized businesses should invest in a Warehouse Management System*. [Online] Available at: <<https://www.provisionwms.com/2020/08/25/why-small-to-medium-sized-businesses-should-invest-in-a-warehouse-management-system/>> [Accessed 15 December 2022].

Mecalux, I., 2022. Warehouse equipment: everything you need to enhance your logistics processes. [Online] Available at: <<https://www.interlakemecalux.com/blog/warehouse-equipment>> [Accessed 14 February 2022].

Mecalux, I., 2022. Warehouse technology for efficiency and optimization. [Online] Available at: <<https://www.interlakemecalux.com/blog/warehouse-technology>> [Accessed 14 February 2023].

Mulcahy, D. E., 1994. Warehouse Distribution & Operations Handbook. In: *How facility layout and product flow pattern affects productivity and handling costs*. 4th ed. s.l.:McGraw-Hill Education, p. 1.1_3.30.

Murray, M., 2012. *Warehouse Management with SAP ERP; Functionality and Technical Configuration*. 2nd ed. Boston: Galileo Press Inc.

Myers, J., 2021. *Three reasons why warehouses and distribution center managers shouldn't even attempt to manage labor via manual methods any more*. [Online] Available at: <<https://www.zebra.com/us/en/blog/posts/2021/how-warehouse-operators-can-better-manage-labor.html>> [Accessed 15 February 2023].

Myerson, P. A., 2015. Supply Chain And Logistics Management. In: *Warehouse management and operations*. New Jersey: Pearson Education, Inc, pp. 125-131.

O'Shaughnessy, K., 2016. *8 Reasons Why ERP is Important*. [Online] Available at: <<https://www.selecthub.com/enterprise-resource-planning/why-erp-systems-are-important/>> [Accessed 13 December 2022].

Rayming, n.d. *Ways of solving the global shortage of electronic components*. [Online] Available at: <<https://www.raypcb.com/shortage-of-electronic-components/>> [Accessed 3 April 2023].

Resources, W. D. o. N., 2022. *PROPER HANDLING OF USED BATTERIES*. [Online] Available at: <<https://dnr.wisconsin.gov/topic/Recycling/batteries.html>> [Accessed 1 April 2023].

Richards, G., 2011. Warehouse Management A complete guide to improving efficiency and minimizing costs in the modern warehouse. In: *Automated storage and retrieval systems (AS/RS)*. 2nd ed. London: Kogan Page Limited, p. 335.

Richards, G., 2011. Warehouse Management A complete guide to improving efficiency and minimizing costs in the modern warehouse. 2nd ed. London: Kogan Page Limited, pp. 188-201.

Richards, G., 2011. *Warehouse Management A complete guide to improving efficiency and minimizing costs in the modern warehouse*. 2nd ed. London: Kogan Page Limited, pp. 293-301.

Richards, G. & Grinsted, S., 2013. *The Logistics and Supply Chain Toolkit*. 1st ed. London: Kogan Page Limited.

Richards, G., 2022. *Warehouse Management; The definitive guide to improving efficiency and minimize costs in the mordern warehouse*. 4th ed. London : Kogan Page Limited, pp. 36-57.

Rittenberg, J. & Watts, R., 2022. What Is A Warehouse Management System (WMS)?. [Online] Available at: <<https://www.forbes.com/advisor/business/software/what-is-wms/>> [Accessed 30 April 2023].

Rushton, A., Croucher, P. & Baker, P., 2022. The Hand of Logistics and Distribution Management. In: *Safety in the distribution centre and warehouse* . London: Kogan Page Limited, pp. 716-719.

Rushton, A., Croucher, P. & Baker, P., 2022. *The handbook of Logistics and distribution management*. 7th ed. London: Kogan Page Limited.

Rushton, A., Croucher, P. & Baker, P., 2022. The Handbook of Logistics and Distribution Managemnt. In: *Principles of warehousing*. London: Kogan Page Limited, pp. 271-277.

Sarjana, S., Khayati, N., Warini, L. & Wiyati, P., 2020. The Importance of Transportation Management in Optimizing Supply Chain Management at Industrial Estate. *Jurnal Transportasi Multimoda*.

Schwarz, L., 2022. *What Is Order Fulfillment? 7 Step Process & Key Strategies*. [Online] Available at: <<https://www.netsuite.com/portal/resource/articles/erp/order-fulfillment.shtml>> [Accessed 13 February 2022].

Tarlengco, J., 2023. *Warehouse Safety*. [Online] Available at: <<https://safetyculture.com/topics/warehouse-safety/>> [Accessed 30 March 2023].

Technogis, C., n.d. *Complete Functional Documentation of Odoo ERP V15 Enterprise*. 1st ed. London: Cybrosys Limited.

Technologies, C., 2021. Odoo Vs SAP. [Online] Available at: <<https://www.cybrosys.com/odoo/compare-odoo-vs-sap/>> [Accessed 30 April 2023].

Tecsys, 2022. *The Definitive Guide to Warehouse Management*. [Online] Available at: <<https://www.tecsys.com/the-definitive-guide-to-warehouse-management>> [Accessed 14 December 2022].

ToolSense, 2022. Inventory Management. [Online] Available at: <<https://toolsense.io/glossary/inventory-management/>> [Accessed 12 February 2023].

Waida, M., 2022. *What Is Inventory Management and Why Is it Important?*. [Online] Available at: <<https://www.wrike.com/blog/what-is-inventory-management/#What-is-inventory-management>> [Accessed 13 December 2022].

WiSys, 2022. *A Guide to WMS for Small Businesses*. [Online] Available at: <<https://www.wisys.com/a-guide-to-wms-for-small-businesses/>> [Accessed 13 December 2022].

Woods, C., 2022. *The importance of effective warehouse management*. [Online] Available at: <<https://www.locate2u.com/articles/warehouse-management/>> [Accessed 13 February 2023].

Zaman, Q., 2020. Warehouse Management Systems (WMS) - NetSuite vs Odoo. [Online] Available at: <<https://www.linkedin.com/pulse/warehouse-management-systems-wms-netsuite-vs-odoo-qamar-zaman/>> [Accessed 7 December 2022].

Appendices

Interview questions and answers from Connected Finland Oy

- Can you provide an overview of Connected Finland Oy and your position?
 - Connected Finland Oy is a small sized IT-company and it is the Sigfox network operator of Finland. Connected Finland also designs and manufactures IoT devices for the Sigfox network under the name Connected Inventions.
 - I'm an IoT Specialist for the company and has been since Fall 2019. My responsibilities consist of support, customer demos and training sessions for our platform applications and managing our ERP system and warehouse as well as our web store. I have also been in charge of the warehouse and shipping during times we haven't had a logistics coordinator.
- Can you share additional information regarding sales and logistics processes?
 - We work in B2B market and sell to resellers, construction companies, companies in the smart building field and many others. We have sold our products to six continents and around 50 countries.
 - Our main warehouse is in Espoo where we hold an inventory of thousands of devices at a time that go to the European and African markets. Our devices are manufactured in China where our other warehouse is also located. From China we ship to our customers in Australia, Asia and the Americas.
- Can you provide the present warehouse management and the ERP software/system used in Connected Finland? How effective do you think?
 - We use Odoo as our ERP system and have been for since the end of 2021. Odoo has been useful in keeping track of our sales, inventory and customers all in the same place.
 - It was modified to our needs together with Avoin systems before deployment, therefore it fits our needs very well at the moment. It was a big leap from the previous system and has made many of our processes better and easier to track. Sales tracking, incoming and outgoing devices, inventory and other reporting can easily be done with Odoo.
 - It has some room for modifications from our side, but anything more complex needs to be done through Avoin systems for extra costs.

- What challenges does Connected Finland face in managing warehouse and logistics processes? Are there any additional challenges in the sales department, the manufacturing sector, or the research/development team?
 - The logistics process has some complications due to the fact that all the Connected Inventions devices use lithium metal batteries that have restrictions in air cargo. There are limitations, restrictions and extra safety measures when shipping lithium batteries which have proved problematic when shipping to certain countries.
 - The warehouse in our Espoo office hasn't been designed to hold the number of devices that we move month to month, which will most probably lead to acquiring new or extra warehouse space or relocation of the office and warehouse.
 - The worldwide component shortage has had an effect on R&D and forced us to source alternative components to our devices. This led to new versions of manufactured devices, but didn't that big of an effect on shipping times.
- How do you assure order fulfillment is reliable and on time?
 - Keep a on hand stock big enough to fulfill normal number of orders and give long enough lead time for larger orders. Close relations between sales people and logistics/warehouse workers keeps both parties on the same page about the up-to-date inventory and delivery needs.
- Could you describe the warehouse's structure and how to manage the efficiency of logistics processes?
 - Warehouses are located in Espoo and in China. New manufactured devices are delivered from China to Finland where the main warehouse is held. Our partner in China is in charge of keeping track of inventory there, manufacturing and shipping new device batches and providing id-lists and tracking details for the orders.
 - Odoo helps us to keep the purchases, sales and shipping in the same place to make everything easier to keep track of. All involved parties should be up to date with the latest information concerning logistics processes, production times and shipping estimates.
- How does the company handle dangerous goods that are in the warehouse? For example, lithium batteries
 - We need to have at least one person that has certified suitable training on handling dangerous goods. The shipping, handling and disposing of lithium metal batteries needs to be done properly and safely.
- What safety procedures are used in warehouse to prevent workplace accidents and injuries?

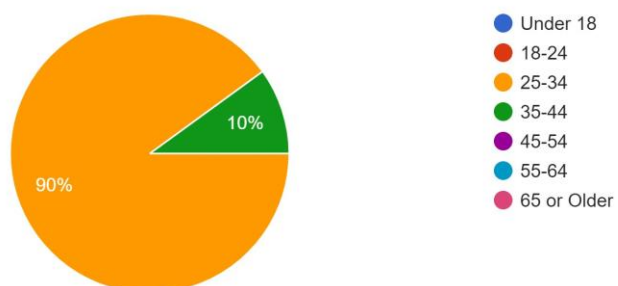
- Proper education of workers on how to handle devices, machinery and shipments.
- Are there any automation technologies or warehouse management systems used in Connected Finland? If not, Are there any plans for that in the future?
 - Warehouse management is done using Odoo and it has proved useful in that field. Automation at this stage wouldn't be cost effective, but could be in the future as the order sizes increase and a bigger warehouse is needed.
- How does everyone collaborate with the logistics coordinator to ensure the efficiency of logistics processes?
 - Sales people and logistics coordinator need to have daily communication concerning the shipments, availability of device stock etc.
 - Logistics coordinator should be up to date on manufacturing dates/times and shipping estimates for them. With this the manufacturing side needs to have ways to communicate with the logistics coordinator (email, chat etc.).
 - Proper training and information on the logistics processes used from the previous head of logistics.
- In your opinion, what are the key points for warehouse management optimization in an SME like Connected Finland?
 - Keeping practices simple (sometimes Excel is good enough), use available resources properly (Odoo), reflect on old ways and see if there is room for improvement. With small businesses flexibility and ability to react quickly to changes are key aspects in standing out against competition.

Survey

Here are survey questions and answers from participants

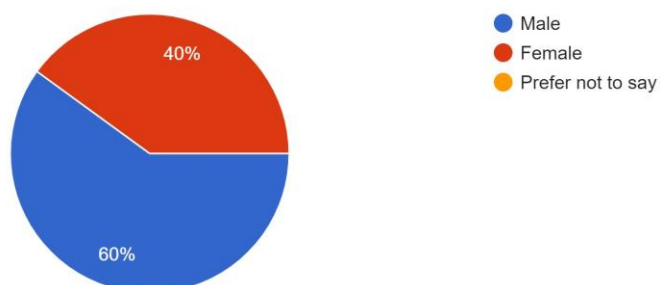
What is your age?

10 responses



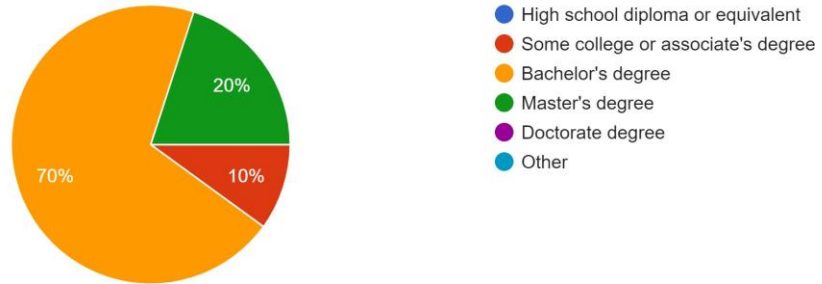
What is your gender?

10 responses



What is your level of education?

10 responses



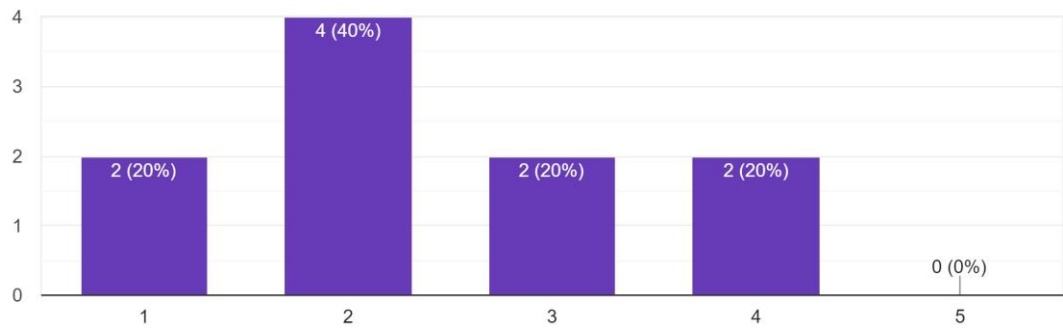
What is your current occupation?

10 responses



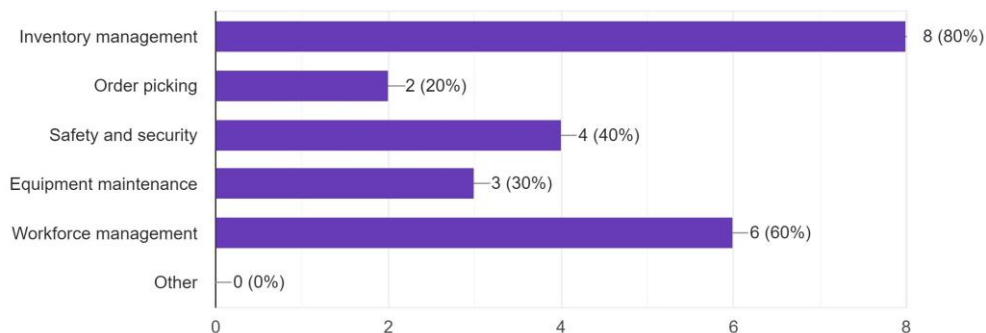
How familiar are you with the concept of warehouse management?

10 responses



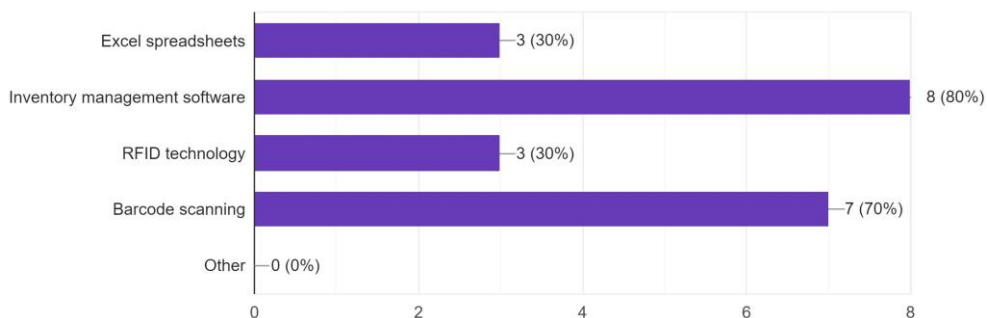
In your opinion, what are the biggest challenges that small and medium-sized enterprises (SMEs) face in managing their warehouses?

10 responses



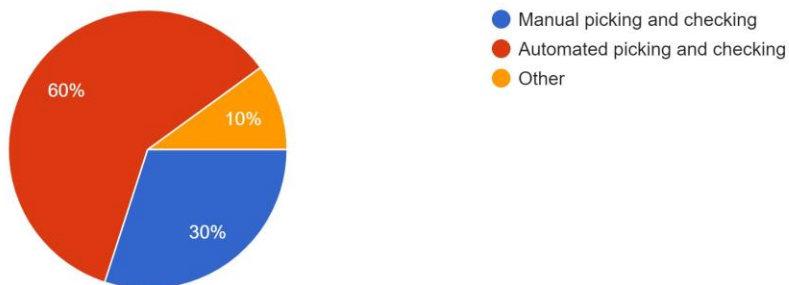
What methods do you think SMEs can use for inventory management?

10 responses



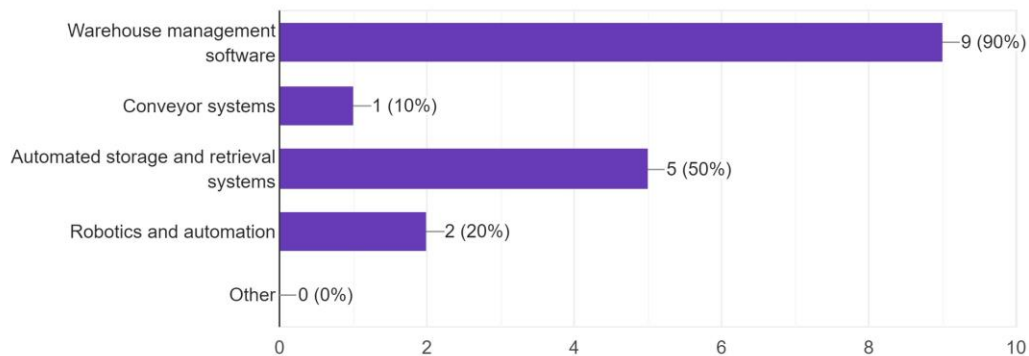
How do you think SMEs can ensure accuracy and timeliness in order picking?

10 responses



What types of warehouse management systems or automation technologies do you think SMEs can use to improve their operations?

10 responses



How do you ensure the safety of employees in the warehouse?

10 responses

