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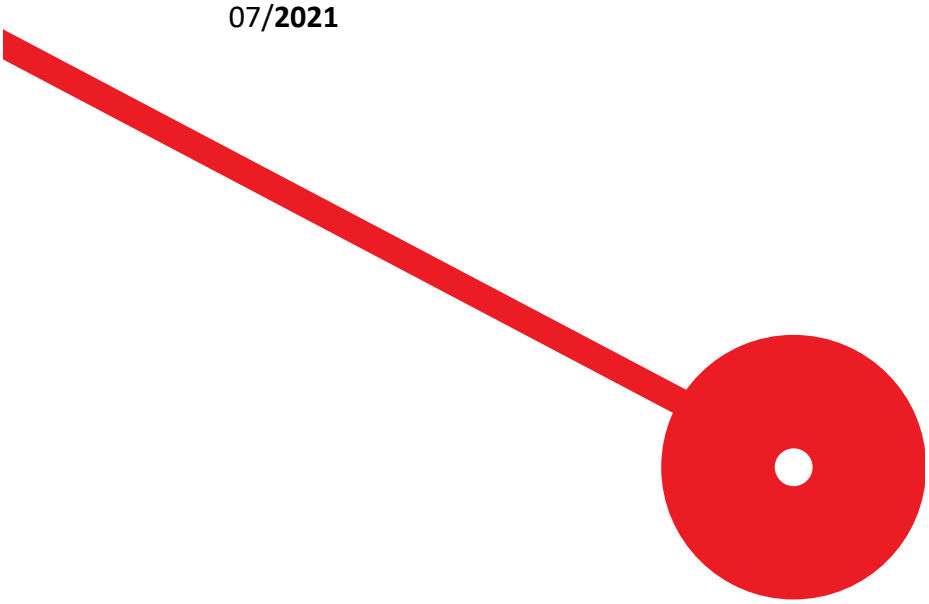
Improving the communications' workflow in products' return management of a Portuguese Business-to-Business Small Enterprise: MAIS Automação

Joana Rocha

07/**2021**



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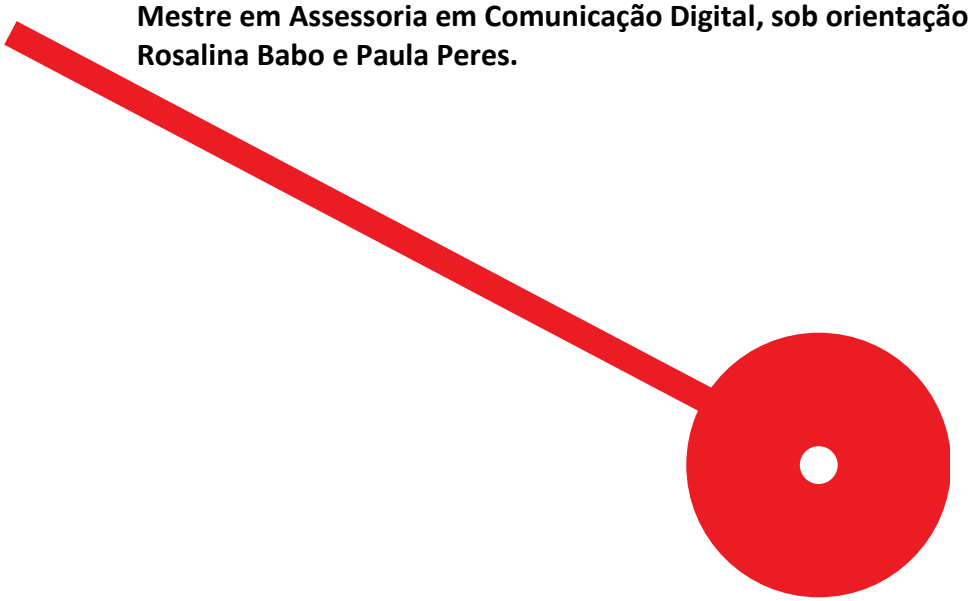
Dissertação de Mestrado apresentado ao Instituto Superior de Contabilidade e Administração do Porto para a obtenção do grau de Mestre em Assessoria em Comunicação Digital, sob orientação de Rosalina Babo e Paula Peres.



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Abstract:

The high number of products released in the market each year can lead to more returns of products, since the customers may experience a hard time in figuring out whether the purchased product is what they were looking for. Even though there has been an improvement in the products' quality, the returns did not diminuish, on the contrary, the customers' returns have increased throughout the years. In order for companies to manage this increase, they need to effectively manage the supply chain.

Product returns can be considered as "reverse logistics", because it involves logistics and the reverse flow of products. The products' return can have various reasons and its process involves several activities such as product recovery and processing, return organisation and reverse logistics. The implementation of product return management can be seen as a business strategy and opportunity for the companies, increasing the customers' satisfaction. Managing this information flow, as well as all the communication between the stakeholders, is very important and needs to be carefully handled.

This study intends to understand the product return management in a B2B SME company, in particular at MAIS Automação. MAIS Automação is a Portuguese SME that commercialises electrical and automation products to industry customers. Thus, to answer the issues at hand, a qualitative method with semi-structured interviews was employed. The use of one cycle of a canonical action research methodology allowed to draw the main weakeness in the communication and workflow at the company. Consequently, to improve these, a list of guidelines and the prototype of a system to manage returns are presented.

Keywords: B2B; SME; logistics; reverse logistics; knowlegde management; internal and external communication; organisational communication; communication workflow; information flow; product return; product returns management.

Resumo:

O elevado número de produtos lançados no mercado a cada ano pode levar a mais devoluções de produtos, uma vez que os clientes podem ter dificuldade em saber se o produto adquirido é o que procuravam. Embora tenha havido uma melhoria na qualidade dos produtos, as devoluções não diminuíram, pelo contrário, devoluções de clientes têm aumentado ao longo dos anos. De forma a que as empresas lidem este aumento, estas precisam de gerir a cadeia de aprovisionamento com eficácia.

A devolução de produtos pode ser considerada "logística reversa", pois envolve logística e fluxo reverso de produtos. A devolução dos produtos pode ter diversos motivos e o seu processo envolve diversas atividades, como recuperação e processamento do produto, organização da devolução e logística reversa. A implementação de uma gestão da devolução de produtos pode ser vista como uma estratégia de negócios e oportunidade para as empresas, ao aumentar a satisfação dos seus clientes. Gerir este fluxo de informações, assim como toda a comunicação entre as partes interessadas, é muito importante e precisa ser devidamente tratado.

Este estudo pretende compreender a gestão da devolução de produtos numa PME B2B, em particular na MAIS Automação. A MAIS Automação é uma PME portuguesa que vende produtos elétricos e de automação a clientes da indústria. Assim, para responder às quesões em causa, utilizou-se o método qualitativo com entrevistas semiestruturadas. A utilização de um ciclo de uma metodologia de investigação-ação canónica permitiu traçar as principais fragilidades no fluxo de trabalho e de comunicação na empresa. Consequentemente, para aprimorá-los, é apresentada uma lista de diretrizes e o protótipo de um sistema de gestão de devoluções.

Palavras chave: B2B; PME; logística; logística reversa; gestão do conhecimento; comunicação interna e externa; comunicação organizacional; fluxo de trabalho de comunicação; fluxo de informação; devolução de produtos; gestão da devolução de produtos.

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List of abbreviatures

B2B - Business-to-Business

B2C - Business-to-Consumers

CMS – Content Management Systems

EU – European Union

ICT – Information and Communication Technologies

INE – Instituto Nacional de Estatística (National Statistical Institute of Portugal)

KM – Knowledge Management

PAT – Pedido de Assistência Técnica (Technical Assistance Request)

SCM – Supply Chain Management

SME – Small and Medium Enterprises

CHAPTER - INTRODUCTION

1 Introduction

In this expanding market with the launch of new products every day, consumers may have a difficult time in finding if a particular product is exactly what they need. Even though there has been an improvement in the products' quality, the number of returns requests have been increasing along the years. Therefore, business need to be capable to effectively manage the increased flow of these returns (Ciribeli & Médice, 2019; Ramírez, 2012; Santos et al., 2019; Xu et al., 2018).

One way to limit and control the flow of product returns is by establishing consumer return policies. The implementation of these policies can reassure the customers of their purchase and provide a positive image in the market (Ciribeli & Médice, 2019; Ramírez, 2012; Santos et al., 2019; Xu et al., 2018). However, the different markets, Business-to-Consumers (B2C) and Business-to-Business (B2B) may have different strategies to approach the product returns.

Shaharudin et al. (2017) expressed in their study that not many B2B companies engage in returns management in an active and serious way. Thus, these businesses tend to perform these activities internally by having a "part-time management personnel" for processing and managing all customer requests and subsequent actions (Stock & Mulki, 2009, p. 52). Notwithstanding, nowadays, there are some companies that, to manage their product return processes, resort to outsourcing these activities. With the assistance of a logistics partner, these businesses can have a quicker redistribution and faster product value recovery (Purolator International, 2014; Stock & Mulki, 2009; Zailani et al., 2017).

In 2004, De Brito developed a reverse logistics framework that handle the decisions making and support in these processes. Also, Lambert et al. (2011) realised the lack of literature regarding the implementation of reverse logistics in companies. Therefore, they developed a decisions conceptual framework that aimed to be applicable in various situations and businesses. Then, Dias, et al. (2019) performed a systematic literature review on reverse logistics and realised that this theme is still in development and only recently has gained more relevance (de Brito, 2004; Dias et al., 2019; Lambert et al., 2011).

1.1 Motivation

Despite the many supply chain management situations presented in literature, there is a lack of studies that detailed reverse logistics management. To the researcher awareness, there is not a specific framework for product return management in B2B companies, nonetheless there are frameworks that assist in decision making.

The interest in pursuing this topic is related with the researcher's role in the company subject of study. The researcher is one of the people involved in managing the product returns at MAIS Automação. Therefore, she is very aware of the weaknesses and shortcomings that these processes and its subsequent communication entails.

Considering that this thesis is within the scope of Advisory in Digital Communication, the manner to solve these weaknesses can be with the implemenation of a digital framework to support the workflow of information and communication.

1.2 Objectives

This study intends to improve the communication and workflow of the product return management in a B2B Small and Medium Enterprise (SME) company, in particular MAIS Automação. MAIS Automação is a Portuguese SME that commercialises electrical and automation products to industry customers, being, therefore, a B2B company.

To achieve the goals of this study, Baxter and Jack (2008) express that some basic foundations need to be determined, such as the research question. Some generic questions regarding the subject of the study can be answered with other studies in literature, namely the differences between B2B and B2C companies and the subsequent differences in product return management. Then literature can also provide an overall idea on how do B2B companies manage product returns, and at last, gather the essential characteristics of reverse logistics.

Therefore, the research questions that this study intends on answering are:

RQ1: How is the process of product return management performed in MAIS Automação (a B2B SME)?

RQ2: Do all stakeholders have access to all information regarding the product return at any specific time?

RQ3: How to improve the communication and the workflow related to the product return management in MAIS Automação?

To answer these questions, a qualitative method with semi-structured interviews will be employed. The sample will consist of about seven employees who are part or responsible for the returns process at MAIS Automação. From these semi-structured interviews, it is expected to gain awareness on the opinions and perceptions of the stakeholders and draw the main weaknesses in this process. Consequently, it will be possible to understand how to improve said issues and the communication workflow.

1.3 Thesis structure

The present thesis is divided into five chapters. The present chapter contains the thesis's introduction, where the motivation and objectives are reported. Afterwards, Chapter I presents the literature review of important topics related to the research, namely organisational communication, differences between B2B and B2C markets, and the definition of SME. It also contains the concepts of supply chain management and product returns, which encompasses the differences of these processes in B2B and B2C companies and existing frameworks. Later in this chapter, the definition of knowledge management (KM) is given.

Chapter II provides problem contextualisation by introducing the returns legislation on Europe, and, in Portugal. Afterwards, the Portuguese B2B SME at study, MAIS Automação is presented, as well as its return policies and process. This chapter ends with the problems drawn from literature that this process may entail regarding the communication workflow.

Subsequently, chapter III will present the research methodology, using action research methodology to base the research. This chapter contains the description on how the data will be gathered, the analysis of said qualitative data, and the planning of a solution to the problems stated by the stakeholders.

At last, chapter IV will bring forward the discussion and conclusion of this study, by making the brigde between the literature and the data. It will also contain the contributions to the research and plans for future work.

To attain a deeper knowledge on the communication and workflow in product return management, some concepts need to be explained and defined. Therefore, this chapter will encompass these concepts. Firstly, the concept of organisational communication will be explained. Considering that communication is an essential activity in organisations, the types of communication and barriers to it need explanation to understand how to improve it.

Then, the differences between B2B and B2C markets is presented since the focus of this study is a B2B SME. Therefore, it is important to make a comparison between these markets, by stating their main differences. The same goes for the SME definition. These enterprises relevance in the world and in Portugal needs to be reported. Which also assists in better understanding and categorising the company at study.

Considering the aim of this thesis being the improvement of the communication and workflow in product return management, the explanation of supply chain management (SCM) practices is evident. One aspect of SCM is reverse logistics, that is, product return management. Therefore, section six will explain the importance of return policies and why companies employ them, the phases of product returns, and the main reasons for these. After that, the differences of these activities in B2B and B2C markets are detailed. Depending on the market nature, companies may have different ways to implement these practices. Later the existing frameworks for product return management are presented.

At last, knowledge management (KM) systems will be explained. Considering the importance of digital technologies nowadays, KM systems can be used in every organisation to improve their processes, activities, and communication.

2 Organisational communication

The concept of communication can have different “meanings, contexts, forms and impacts”, depending on the situation, it will have different definitions (Dainty et al., 2005, p. 4). Therefore, when describing communication “the result is a cluster of theories and perspectives” which can demonstrate different viewpoints on the “communication phenomenon” (Barker & Angelopulo, 2005, p. 4; Dainty et al., 2005).

In organisations, the communication is especially important since without it the organisation would not exist. Communication is what “makes organisations possible”

(Fielding, 2006, p. 31). A definition on communication from this point of view is that organisational communication happens when its members share information among themselves It is “the glue that binds together” all the several mechanisms of an organisation, making the interaction between all stakeholders possible (Barker & Angelopulo, 2005, p. 3; Bucăţa & Rizescu, 2017; De Nobile, 2017; Fielding, 2006).

For a company to endure, it must take communication as an essential part of their activities. They must consider the communication as an “asset” to achieve their goals. Good relationships with their collaborators, customers, suppliers, as well as with other companies are the key to success (Bucăţa & Rizescu, 2017; Cacciattolo, 2015; Fielding, 2006).

Therefore, the communication within the company stakeholders needs to be as effective as possible. Communicating in an effective manner is crucial however it may be costly when the companies do not keep their stakeholders in the loop. An effective communication involves a series of activities to ensure good “downward and lateral or sideways communication” (Cacciattolo, 2015; Fielding, 2006, p. 10).

Another important aspect on the organisational communication is the structural communication, which according to Borca and Baesu (2014, p. 498) is the communication of the employees with their “internal and external environment” (Figure 1). It can be seen as an strategic communication that coordinates the internal and external communications to build and maintain organisations’ relationships with all the stakeholders (Borca & Baesu, 2014; Nielsen & Thomsen, 2009).

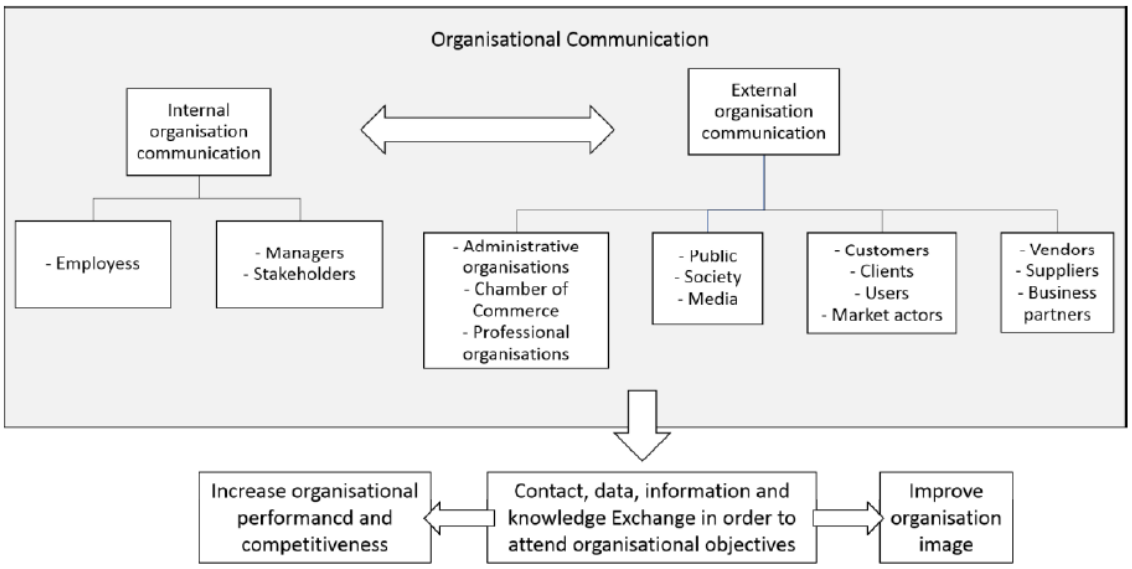

Figure 1. Overview of organisational communication (Adapted from Borca & Baesu, (2014)).

According to de Chernatony et al. (2004), organisational communication comprises all the communication that is based within an organisation. Nonetheless, there are other types of communication, besides organisational, namely management and marketing communication. Management communication is the information transmitted from the management to "internal and external stakeholders", while marketing communication refers to the messages that aim directly "towards the consumer" (de Chernatony et al., 2004, p. 1). Therefore, it can be ascertain that internal communication is made through the management and organisational communication, while external communication is the combination of marketing and organisational communication (de Chernatony et al., 2004).

Despite the continued emphasis to provide effective communication, there are some barriers to it. According to Fielding (2006, p. 47), the main barriers to effectively communicate are that all the people involved in "sending, receiving or passing on messages" have to make sure that the messages are understood, believed and acted on. Since the major issue in communication is the belief "that it has been accomplished" (Cacciattolo, 2015, p. 84; Fielding, 2006).

These barriers can be present in individual and organisational levels. The conditions that contribute to the lack of effectiveness in communication may be "low motivation and interest, inappropriate language, defensive communication", "insufficient non-verbal communication, information overload", as well as "poor communication skills" and

technological difficulties (Cacciattolo, 2015, p. 84). The people involved in the communication have to take these barriers into consideration an act accordingly to improve and ensure that the communication is effective (Cacciattolo, 2015).

As previously said, without communication, organisations would not exist. Therefore, it is important to understand the market in which these organisations operate to better comprehend how the communication may differ.

3 B2B and B2C Markets

Different companies have different markets, depending on their products or services, their customers will differ. Business-to-consumer (B2C) companies sell their products and/or services directly to the end-consumers. B2C activities are establish between the company and the consumers with whom a transaction is made. Therefore, B2C market traditionally refers to, for example, "individuals shopping for clothes for themselves at the mall" (Kolis & Jirinova, 2013; Kumar & Raheja, 2012; Saha et al., 2014, p. 294).

Business-to-business (B2B) is the type of commerce where the transaction is between two businesses, such as "between a manufacturer and a wholesaler" (Kumar & Raheja, 2012, p. 477). B2B companies establish relationships with other business, exclusively, meaning that these companies only sell their products and/or services to other companies and not to the end consumers (Kolis & Jirinova, 2013; Kumar & Raheja, 2012; Rėklaitis & Pilelienė, 2019; Saha et al., 2014).

Considering the descriptions of B2C and B2B companies, it is possible to ascertain several differences. Table 1 presents the differences between B2C and B2B markets.

	B2C	**B2B**
Target	End consumers	Companies
Product range	Generalised	Specialised
Market size	Large	Small
Sales volume	Low	High
Transaction value	Low	High
Decision making	Individual	Involves several people
Demand	Desire	Necessity

Choice	Emotional	Rational
Sales cycle	Short	Long
Purchase process	Safe	Risky
Customer loyalty	Low	High

Table 1. Differences between B2C and B2B markets *(Kolis & Jirinova, 2013; Rėklaitis & Pilelienė, 2019; Saha et al., 2014)*

The main difference between these markets is the target. B2B companies provide their products and/or services to other businesses, while B2C sell directly to end-consumers. A reason for this difference relies on the product range of these companies, as B2C companies have a more generalised offer, whereas B2B companies exchange specialised products and/or services (Kolis & Jirinova, 2013; Rėklaitis & Pilelienė, 2019).

However, these differences will impact the market size, sales volume, and transaction values. A consequence of B2B markets being limited to a "number of specialised producers" (Rėklaitis & Pilelienė, 2019, p. 76) is that the market size of these companies will be smaller than B2C companies. Nonetheless, because of their specialised product range, B2B sales volume and transaction value is higher (Kolis & Jirinova, 2013; Rėklaitis & Pilelienė, 2019).

Due to the nature of B2B markets, the customers' purchase decisions are more complex than in B2C markets. The decision making that goes into purchasing a product involves several people, is ruled by necessity, and product and/or company choice is done rationally. Therefore, the sales cycle is longer than the cycle in a B2C purchase and the purchase process is riskier (Rėklaitis & Pilelienė, 2019; Saha et al., 2014).

Moreover, the customers' relationships in these two markets also differs. B2C customers tend to be "less loyal and therefore more likely to switch" than B2B customers, whose transactions requires more "reliability among trading partners" (Kolis & Jirinova, 2013, p. 24).

Within these markets, there are different companies that may vary in size and sales volume. A large sector of the economy is composed of enterprises that are micro, small, or medium, hence the importance of defining these companies.

4 Small and medium enterprises

In most parts of the world, Small and Medium Enterprises (SME) are significant sectors. According to Anjum (2019, p. 1238), "half of the two-third of businesses in the world comprises of SMEs". Their role in the economy of the countries is enormous, since they are capable of improving the "income distribution, employment creation, poverty reduction", as well as the growth of export, and therefore being an essential part in the development of a country (Anjum, 2019; Pandya, 2012, p. 426).

The SME term can have different definitions, depending on the country. Normally, the definition of SME is based in "either headcount or sales or assets" of the company (Pandya, 2012, p. 426). In the European Union (EU), the "staff headcount and financial ceilings" determine the categories of the enterprises (European Comission, 2003, p. 39). There are three categories: micro, small, and medium. Micro enterprises have up to ten employees and the annual turnover and/or balance sheet total does not exceed EUR 2 million. Small enterprises employ up to 50 people and the annual turnover and/or balance sheet total does not surpass the EUR 10 million. Medium enterprises have fewer than 250 employees and the annual turnover and/or balance sheet total goes up until EUR 50/43 million (Table 2) (European Comission, 2003; Pandya, 2012).

Category	**Staff headcount**	**Turnover/Balance sheet total**
Medium Enterprise	< 250	≤ € 50 m / ≤ € 43 m
Small Enterprise	< 50	≤ € 10 m
Micro Enterprise	< 10	≤ € 2 m

Table 2. SME categories according to the European Commission (2003)

These companies are "considered as the backbone of European economics and growth" (Lima et al., 2019, p. 1). A report from the Instituto Nacional de Estatística (INE) (the National Statistical Institute of Portugal) concerning the statistics on SMEs, reported that in 2008, there were 349.756 SME in Portugal. This represents 99.7 % of the companies and, from this percentage, 86 % are micro enterprises. SMEs were responsible for 57.9 % of turnover in 2008 (INE - Instituto Nacional de Estatísticas, 2010; Lima et al., 2019).

Regardless of the company size, staff headcount and turnover, all provide services or products. Their activities connect business and customers through the employment of supply chain management.

5 Supply chain management

The different companies that compete in the market need to implement effective supply chain management (SCM) activities. SCM focuses in connecting the business, suppliers, customers, and other partners, by improving the supply chain performance and operational activities. These activities increase the efficiency of supply and demand, thus allowing the companies to better coordinate all materials and products in the chain, increase their market participation, improve the quality of the provide services, increase their competitiveness, and better manage all the information (Kot, 2018; Michigan State University, 2020; Perboli et al., 2018).

Therefore, one can argue that SCM and logistics activities are the same concepts, however there are differences between these concepts. While SCM manage the whole supply chain process from the manufacturer to the end consumer, logistics is the "process of managing the procurement, movement and storage of materials, parts and finished inventory" within the organisation (Christopher, 2005, p. 4). Logistics are a part of the business supply chain management activities (Christopher, 2005; Novillo Villegas & Haasis, 2017; Perboli et al., 2018; Zrenner et al., 2017).

Logistics involves the process of providing the customer with the exact service or product requested. This means, delivering the exact quantity of the desired product, through the intended way at the right place, and with a fair quality/price relation. In order to uphold this process, there needs to be an effective and efficient "planning, executing, and monitoring" flow of all activities from the product storage to the generated information (Islam et al., 2013; Novillo Villegas & Haasis, 2017).

According to Islam et al. (2013, p. 5), there are five key elements in logistics, namely "transport, warehousing, inventory, packaging, and information processing". Each element has an important role in the product and information flow from the supplier, within the organisation, and to the customer. Therefore, a good logistics system needs to be implemented to achieve an efficient service to the customers and increase its market competitiveness, improve the operations flow, and reduce the costs associated with these processes (Christopher, 2005; Islam et al., 2013; Tesfay, 2014).

The rise of technology and the increase of customer's demand for new and innovative products and faster deliveries, drove the business to implement technological systems to support logistics management. The digitalisation of these processes can assist the

companies in staying competitive, quicky satisfy the customers' demands, and improve their product and information flows (Schlüter & Hetterscheid, 2017; Wagner & Kontny, 2017; Zhang et al., 2020).

Along with logistics management comes the reverse logistics. Reverse logistics has its name for being considered the opposite of logistics, by being the practice of returning the product from its destination to the seller and/or manufacturer. According to Govindan and Bouzon (2018), this process includes all the activities related with managing, processing, and disposal of products in their various lifecycles, namely production, packaging, use, and distribution phases. The implementation of reverse logistics can be seen as a business strategy and opportunity for the companies, by increasing the customers' satisfaction. It can also improve the products sustainability since the company will provide a thoroughly waste management (Govindan & Bouzon, 2018; Liao, 2018; Prajapati et al., 2019).

The reverse flow of products and information can be complicated due to the distribution and transport of the products, the types of products, and the reasons for return. Therefore, the following section six will provide a better view on product return management.

6 Product Return Management

The rise of demand made the companies launch new and improved products. This situation also allows for the increase of returns, whose companies need to effectively deal with. However, depending on the type of company, the market nature, and the supplied products, the complexity of the return process may diverge (Niemann et al., 2017; Xu et al., 2018).

6.1 Product return

According to Zailani et al. (2017, p. 24), product returns can be considered as "reverse logistics", since it involves both logistics and "products' reverse flows". This process is responsible for the flow of products from the customers to the companies. The product return management involves several activities such as the operationalisation of the physical return of products, information flow, finances control, and the establishing of "processes and structures to handle these activities" (Morais et al., 2017; Ramírez, 2012; Russo et al., 2016, p. 889; Zailani et al., 2017).

Therefore, companies must employ customer return policies. Xu et al. (2018, p. 3715) expressed that these can "eliminate customer uncertainty about product value", which in turn will serve as a guarantee for them. The use of return policies can draw more customers, increases demand, help companies to stay competitive, and reduce customer's risk. It can also assist in maintaining a good relationship with the customer, enhance their loyalty and provide an overall positive image of the company in front of the customer market (Ciribeli & Médice, 2019; Ramírez, 2012; Santos et al., 2019; Xu et al., 2018).

However, the companies that perform product return activities must consider all the associated costs. These costs can derived from "collection, inventory, transport, and storage" processes (Ramírez, 2012, p. 1138). Even non-defective returns can result in financial losses for the companies. It is essential that companies develop effective product return management systems to reduce losses (Cui et al., 2020; Morais et al., 2017; Ruiz-Benítez et al., 2014; Shaharudin et al., 2015).

The product returns process can be comprised of six phases, according to Bernon et al. (2016, p. 5). By controlling the process through these phases, companies are able to manage the information more easily, reach a resolution faster, and reduce the associated costs. The phases are the following: customer return request; return logistics; processing and sortation; inventory control; repair and refurbishment; and final disposition (Figure 2) (Bernon et al., 2016; Ramírez, 2012).

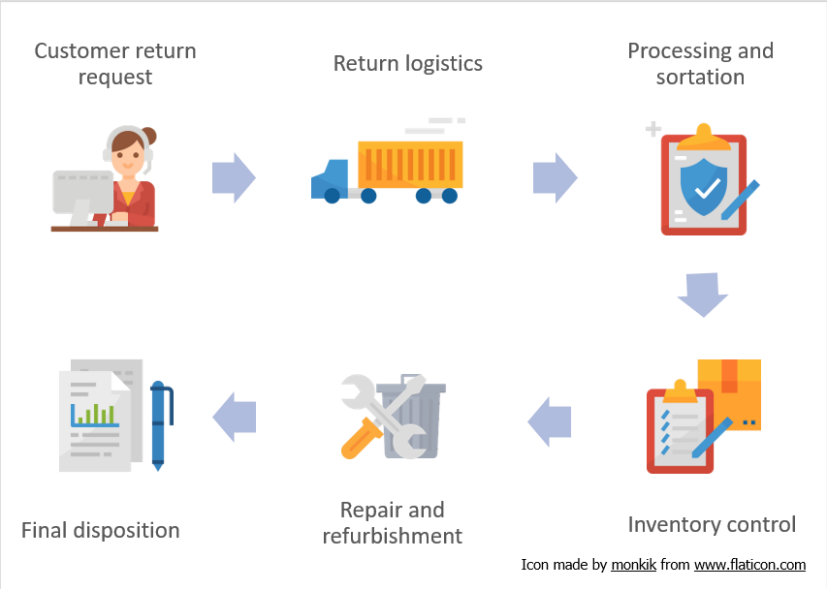

Figure 2. Phases in product return processes (Bernon et al., 2016)

An important aspect to consider in a customer return request is its reason, since customers may decide to return a bought product for several reasons. Lee (2015, p. 50) state that the most common reasons are "product failure, damaged product, wrong delivery, incomplete shipments, lower than expected product quality, not being satisfied, and consumer fraud". Shaharudin et al. (2015, p. 222) also stated some reasons for returns, namely "warranty, service, and end-of-use items". Besides these reasons, there are also "false failure returns", which consist in returns where the product is in good conditions, but the customer decides to return it (Xu et al., 2018, p. 3714).

From literature (Ciribeli & Médice, 2019; de Brito, 2004; de Brito & Dekker, 2004; Ferguson et al., 2006; Huang et al., 2011; Lee, 2015; Russo & Cardinali, 2012; Shaharudin et al., 2015; Xu et al., 2018), it is possible to determine six major categories for customer returns (Table 3).

Return category	**Category description**	**Literature**
Product warranty	• Product failure • Damaged product • Product maintenance	(Ciribelli & Médice, 2019; de Brito & Dekker, 2004; de Brito, 2004; Lee, 2015; Russo & Cardinali, 2012; Shaharudin et al., 2015)
Company service	• Wrong delivery • Incomplete shipments • Error in the order processing • Internal communication	(Ciribelli & Médice, 2019; (de Brito & Dekker, 2004; de Brito, 2004; Lee, 2015; Russo & Cardinali, 2012)
External services	• Damage during transport • Product loss • Long delivery time	(Ciribelli & Médice, 2019; de Brito & Dekker, 2004; de Brito, 2004)
Product performance	• Lower quality than expected • Customer not satisfied	(Ciribelli & Médice, 2019; de Brito & Dekker, 2004; de Brito, 2004; Lee, 2015)
Customer returns	• Error in the order request • Customer cancels the order • Customer does not make stock • Retailer's customer drops the order	(Ciribelli & Médice, 2019; de Brito & Dekker, 2004; de Brito, 2004; Lee, 2015)
False return	• Customer fraud • Customer regret • Customer not understanding how the product works • Customer drop the order	(Ciribelli & Médice, 2019; Ferguson et al., 2006; Huang, et al., 2011; Lee, 2015; Russo

	• Customer bought multiple items	& Cardinali, 2012; Xu et al., 2018)

Table 3. Product returns reasons by categories

When companies have established a clear system to manage the product returns, they are able to reduce "unwanted returns" and "operational costs", effectively manage "inventory levels" and "product recovery values" (Bernon et al., 2016, pp. 5–6), as well as devote the necessary human and space resources (Bernon et al., 2016; Cui et al., 2020; Lesmono et al., 2020).

Upon establishing the product return process, the differences of these in the B2B and B2C markets need to be determined. Therefore, the following section will provide the main variations in product returns in both these markets.

6.2 Differences in product return in B2B and B2C companies

Despite the increase in the products' quality along the years, the number of product returns did not decrease. Therefore, each company must be able to manage the increase flow of returns, as well as all communications and information that result from these processes. Depending on the market nature, and consequent customers (end-customers or businesses) and products, the management of returns can differ. Accordingly, the implementation of product returns management can directly affect internal and external stakeholders (Bernon et al., 2016; Lee, 2015; Rocha & Babo, in press; Russo et al., 2016; Stock & Mulki, 2009; Zailani et al., 2017).

There are six phases in the product return process, as stated by Bernon et al. (2016) (Figure 2). When companies follow these phases, they will be able to manage return requests, process and sort the returned products, control inventory levels or repair/refurbish the products, and ultimately achieve a returns disposition and consequent completion. Simultaneously, all communications and information resulting from these processes will be easily managed (Bernon et al., 2016; Zailani et al., 2017).

As Table 1 presented, B2C companies have a larger market size than B2B companies, thus more frequent returns. Also, because these purchases are normally based on the emotional aspect instead of rational, the customer often regrets their purchases and intend to return them (Rėklaitis & Pilelienė, 2019; Stock & Mulki, 2009; Xu et al., 2018).

On the other hand, B2B companies sell a larger quantity of products in each order and generally these orders have a higher transaction value, therefore the customer return requests are riskier and can entail greater monetary losses. Furthermore, because B2B companies offer more specialised products, their customers are well aware of the quality and value of the product, hence the purchase, and consequent return, are thoroughly considered (Kolis & Jirinova, 2013; Russo et al., 2017; Shaharudin et al., 2015).

Stock and Mulki (2009) conducted a study to examine the product return practices of different types of businesses. The main findings were that retailers (B2C) were able to recover a higher product value from return processes than other companies (B2B). However, these companies also deny more returns requests than wholesalers and manufacturers.

On the contrary, due to the closer relations and loyalty in B2B market, there is a mutual awareness on the need to reduce returns to maintain profit. Consequently, the return policies in these businesses are more liberal with "manufacturers (…) accepting all unsold products returned within prescribed periods of time" (Stock & Mulki, 2009, p. 52).

Both company types must properly manage their product returns, since these practices can influence the consumer buying behaviour, encourage purchase intent, and positively broaden the relationships with their target. Still, most companies do not engage in proper product returns processes. The use of knowledge management processes can help reducing the uncertainty of these practices and facilitate the activities workflow (Lesmono et al., 2020; Ramírez, 2012; Stock & Mulki, 2009).

In B2C context, customer product returns are normally due to the discrepancy between the expected and received product. Additionally, these markets also receive more fraudulent requests since the return policies are usually very liberal to capture customers. However, without a proper returns' management, the companies cannot control the high volume of returns and incurring in monetary losses. In order to accept return requests, B2C companies need to collect and ship the products back to their suppliers (B2B companies), which in turn will refurbish for resale, repair or dispose the damaged product (Fu et al., 2016; Lee, 2015).

On the other hand, there are two main reasons for B2B companies, namely manufacturers, to adopt a product return management practices: to support B2C (commercial) returns and to reach sustainable and environmental objectives. While wholesalers will adopt these

practices to re-assure and guarantee the product quality to the customer. The ability of the businesses to perform product return management and "provide fast product replacement" is necessary and serves as an advantage to these companies. In B2B context, the effectiveness of product returns management will assist in achieving customer satisfaction, reduce the returns process costs, and encourage sustainable practices by repairing, refurbish and reuse recovered parts or materials, that may not be resold, thus reducing waste (Lesmono et al., 2020, p. 51; Zailani et al., 2017)

One way to better control and manage customer's product returns, managers can use specific frameworks with that purpose. The following subsection will present some existing frameworks for product returns management.

6.3 Product return management frameworks

Some B2B companies do not engage in returns management in an active and serious way and tend to perform these activities internally by having a "part-time management personnel" for processing and managing all customer requests and subsequent actions (Stock & Mulki, 2009, p. 52). On the other hand, there are companies that resort to outsourcing to returns management to have a quicker redistribution and faster product value recovery (Purolator International, 2014; Shaharudin et al., 2017; Stock & Mulki, 2009; Zailani et al., 2017).

To understand the management of these activities and respond to each situation accordingly, De Brito (2004) developed a reverse logistics framework. The framework was built based on "three sources of input: selective literature (…), a review of case studies (…), and the knowledge on reverse logistics that was accumulated" by the researcher. From this, it was provided a framework for the basic understanding of reverse logistics according to five viewpoints: why-receiving; why-returning; what; how; and who (de Brito, 2004, p. 40; de Brito & Dekker, 2004).

The why-receiving dimension is classified by the reasons why companies engage in reverse logistics practices. De Brito and Dekker (2004) stated that there can be three reasons: economics, where companies profit from the returned products; legislation, when companies are obliged to accept the returns; and corporate citizenship, which occurs when companies are socially impelled or motivated to do it. The economic driver can lead to direct or indirect gains. In case of manufacturers, the returns can bring direct gains since they can recover the value of the products with reusing the raw materials or reducing

disposal costs. In turn indirect gains can be from protecting the intellectual property of the products, provide a green image of the company or improve the relation with the customers (de Brito, 2004; de Brito & Dekker, 2004).

In the why-returning dimension there are the reasons for returns, which can be grouped in manufacturing reasons, distribution reasons, and customer reasons. These reasons are grouped in terms of their stage in the supply chain. The manufacturing reasons can be done when the products fail the quality control and need to be return or when there is a raw material surplus. The distribution returns refer to B2B commercial returns, stock adjustments or functional returns. An example of these returns is when there are wrong or damaged deliveries. Then the customer returns can vary from B2C commercial returns, warranty returns, or service returns. This type of returns can be when the customers benefit from reimbursements or guarantees, or when the customer returns a product to be repaired (de Brito, 2004; de Brito & Dekker, 2004).

The third-dimension concerns what is actually being returned, the characteristics and type of the products returned. This can be important to understand how value can be recovered from the returns or what end to give to them. Therefore, characteristics such as composition, deterioration, and use-pattern, and the product type, being it consumer goods, packaging, industrial goods, or civil objects need to be considered (de Brito, 2004; de Brito & Dekker, 2004).

The following dimension is how which addresses how reverse logistics works in practice and its activities. The processes in reverse logistics are in the following order: collection, inspection, selection, sorting, and recovery. As their names suggest, the collection refers to gathering the return products to then be inspected, selected and/or sorted. At this point, the products quality is assessed and a decision on their recovery is made. Depending on the quality of the products returned, there are different recovery options, either direct or process recovery. The direct recovery occurs when the product quality and overall conditions are pristine, and the product can go directly into the market and sold again, or it can be re-used or re-distributed. On the other hand, process recovery options are repair, refurbishing, manufacturing, retrieval, recycling, and incineration. These happen at different levels according to the re-process required (de Brito, 2004; de Brito & Dekker, 2004).

At last, the who dimension is related to who are the actors in the reverse logistics and what are their roles. According to de Brito (2004), there are three roles in this process: managing/organizing, executing, and accommodating. Therefore, each actor has a different role and objectives. At the managing role are the actors that are responsible for the reverse logistics process. At the executing role, there are the people who execute the activities. Then, at the accommodating role are the people who return the products and the future clients. Therefore, there are four actors, the forward supply chain actor, the specialised reverse chain actor, the governmental institutions, and the opportunistic players (de Brito, 2004; de Brito & Dekker, 2004).

Summarising, the five dimensions are: why receive the products, why are products returned, what is being returned, how reverse logistics works in practice, and who is executing the reverse logistics activities. The following Figure 3 presents the framework:

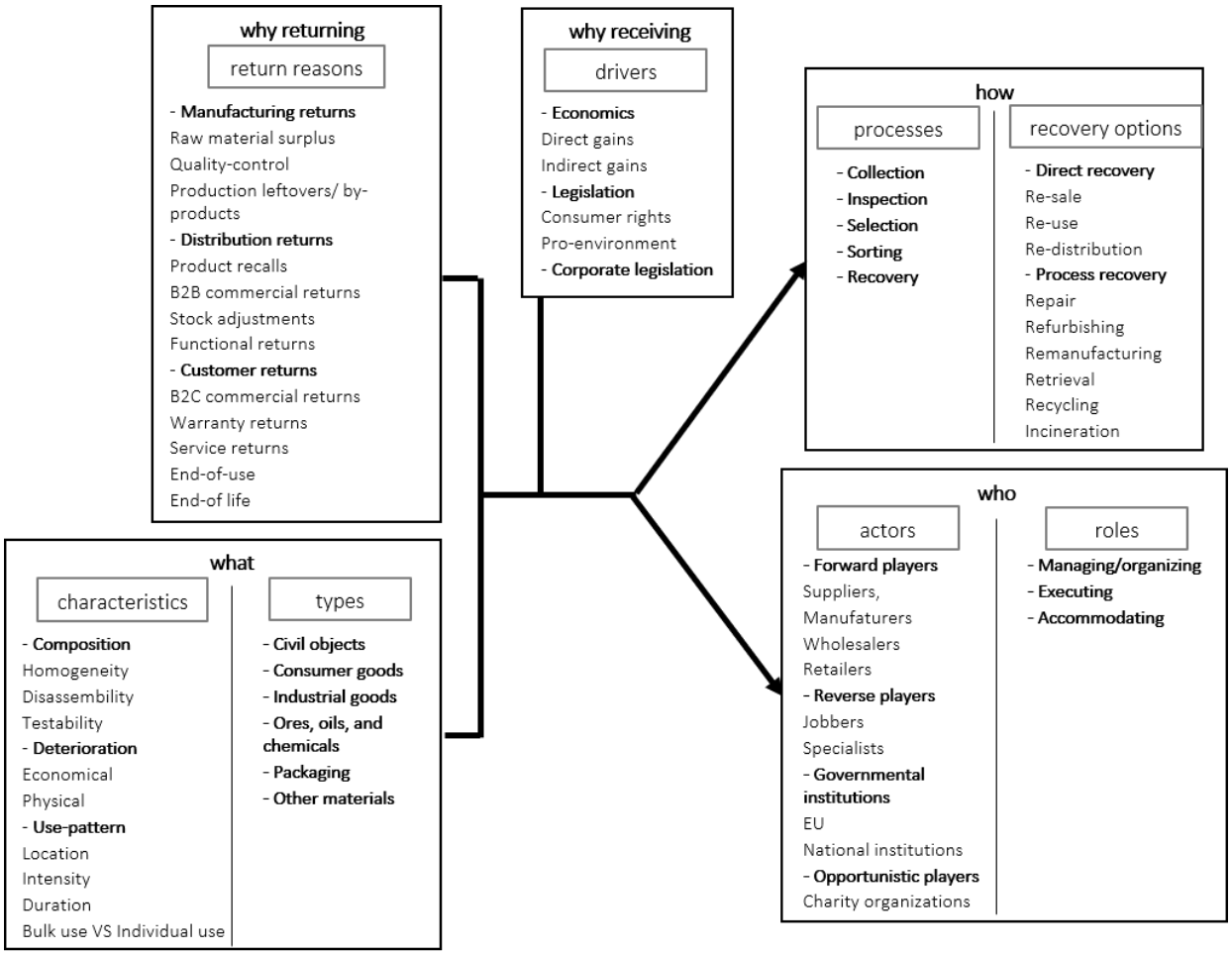

Figure 3. Reverse logistics framework (de Brito, 2004)

Nonetheless, in 2011, Lambert et al., realised that there was a lack of literature regarding the implementation of reverse logistics in companies. Therefore, their paper, supported in an extensive literature review, developed a decisions conceptual framework. The framework which aims to be easy to use, generic, and applicable to a wide variety of situations, considers the following seven elements: "the coordinating system, the gatekeeping, the collection, the sorting, the treatment, the information system, and the disposal system" (Lambert et al., 2011, p. 568).

The person responsible for overseeing the product return management uses the coordinating system. The gatekeeping is the process that the customer encounters when they intend to return a process. The collection, as the name suggests, is the transport of the product back to the company. Then, upon the arrival of the product at the company, there is the sorting of the product, that is, the examination of the product. This examination allows to decide treatment options, such as product "repair, reuse, remanufacturing, upgrade, and repackaging" (Lambert et al., 2011, p. 570). The disposal system consists in the end of the process and the decision to compensate (or not) the customer, depending on the company's return policies. The information system interacts with all elements of the process and allows its management and information sharing. Figure 4 presents a system to manage product returns.

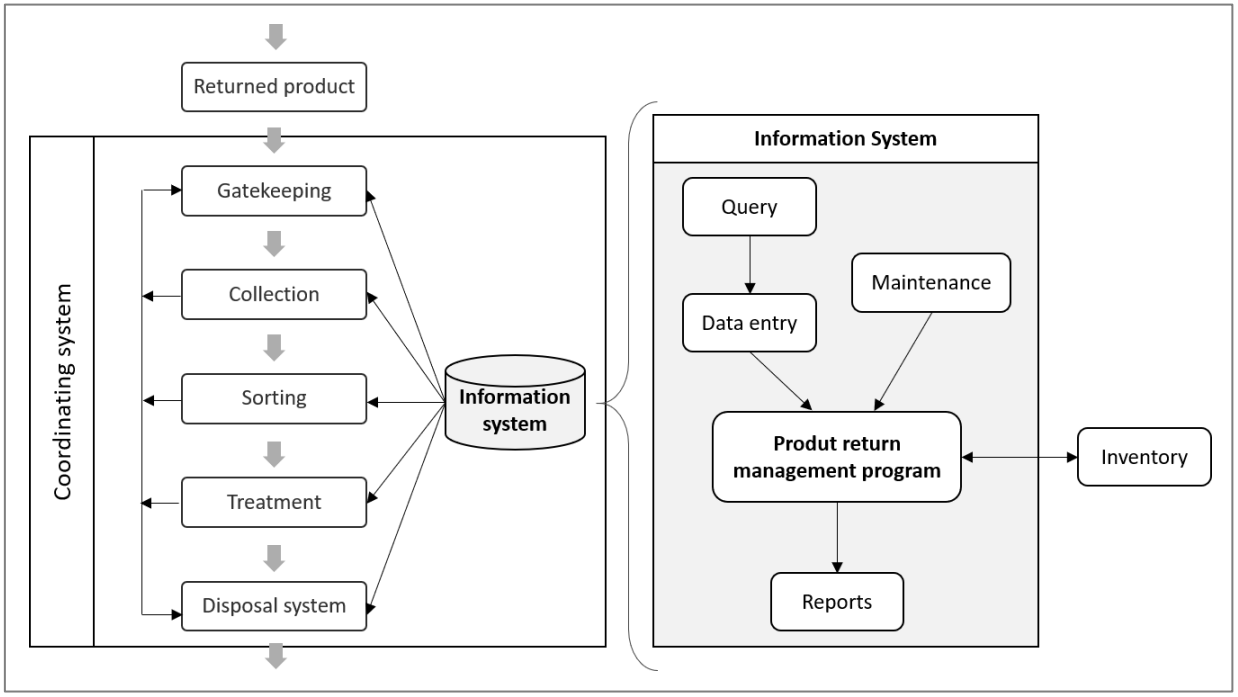

Figure 4. Product return management system (Adapted from Lambert et al. (2011)).

As presented in Figure 4, the information system is responsible for gathering all information to improve the process and the customer' satisfaction. It also allows to share the information with all stakeholders and promote transparency. However, despite the importance of an information system for product return management, Lambert et al. (2011, p. 573) also stated that a "specific information system" for a product returns does not "currently exists because too many customizations and modifications are required".

As previously said, information systems can assist in managing the returns workflow. The rise of technology came to support these practices, along with assisting with knowledge management, which is a crucial point of any organisation.

7 Knowledge management

According to Maravilhas and Martins (2019), data that is organised, categorised and contextualised becomes information. Then, information is internalised by its user and employed to a specific task or function, which in turn becomes knowledge. Therefore, knowledge originates from data and is a "high-value form of information that is structured for making decisions and taking actions" (Magnier-Watanabe & Benton, 2017, p. 329).

Considering that knowledge is generated from information that has been assessed, merged, inspected, and rearranged by individuals, organisations need it to succeed. Consequently, its importance is recognised as a strategic and social tool that influences their management. Knowledge is necessary for decision making. Organisations provide a space for sharing and exchanging knowledge and individual experience collaboratively. (Magnier-Watanabe & Benton, 2017; Maravilhas & Martins, 2019).

Nonetheless, knowledge can be categorised in two dimensions - tacit and explicit; (Polanyi, 1966 as cited in Magnier-Watanabe & Benton, 2017, p 329). Tacit knowledge can be described as the "points of view, technical skills, and know-how" of an individual. It is the knowledge that exists in people's minds and is difficult to transfer and express. On the other hand, explicit knowledge can be described as objective and rational and thus easily expressed and understandable (Cairó Battistutti & Bork, 2017; Magnier-Watanabe & Benton, 2017, p. 329).

As already said, knowledge is essential in organisations, therefore it needs to be stored and shared with the stakeholders. The knowledge that can be shared is the explicit

knowledge since it is not gathered within a few individuals. According to Smith (2001, p. 315), explicit knowledge is valuable and needs to be codified and "stored in a hierarchy of databases" to be accessed and reuse by any individual in the hierarchy to "solve many similar types of problems or connect people" (Magnier-Watanabe & Benton, 2017; Smith, 2001).

However, in other to share and better manage the knowledge, the organisations may need to invest in infrastructures that can support this information. The use of technology can increase the efficiency of the businesses processes by improving the information flow and knowledge sharing. Digital technologies have greatly influenced the life of people and businesses. Knowledge Management (KM) assists in organising companies' processes, gathering the collective knowledge, sharing it among the stakeholders, and making it available to use, update and learn from it. A broad definition of KM is "getting the right knowledge to the right person at the right time" (Bagavathi, 2019, p. 3; Girard & Girard, 2015; Santoro et al., 2018, Smith, 2001).

From these definitions, it is possible to ascertain that KM is an important aspect of organisations. It is the "systematic management of an organization's knowledge assets" (Bagavathi, 2019, p. 1). There are several activities involved in this process, such as the "creating, acquiring, sharing and managing knowledge at individual and organisational levels" (Hafeez-Baig & Gururajan, 2012, p. 2437). Also, the use of systems able to "sustain and enhance the storage, assessment, sharing, refinement, and creation of knowledge" are essential (Bagavathi, 2019, p. 1; Hafeez-Baig & Gururajan, 2012).

This last part has gained more emphasis with the evolution of Information and Communication Technologies (ICT) and with the organisational changes. KM technologies use ICT to assist the organisations in the tasks of "create, codify, and share knowledge" (Bagavathi, 2019, p. 4). There is a large range of KM technologies that organisations can implement to improve their workflow systems. Some of these tools are content management systems, business intelligence, and collaboration tools. Figure 5 establishes the connection between all these concepts (Antonova et al., 2006; Bagavathi, 2019; Moffett et al., 2004).

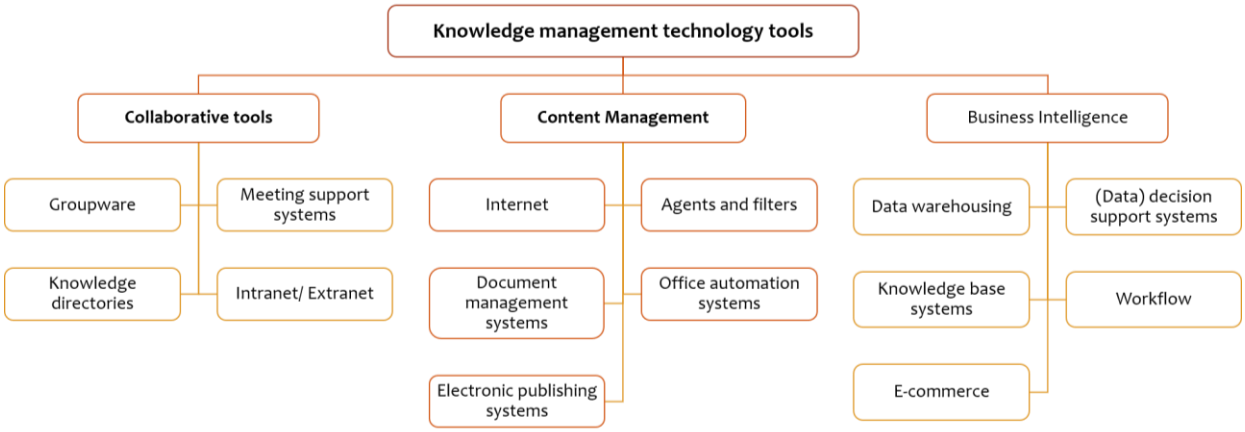

Figure 5. Technology tools for knowledge management (Adapted from Moffett et al., (2004))

Content Management Systems (CMS) assist in "control the creation and the distribution of information" (Benevolo & Negri, 2007, p. 10) by providing methods and procedures that allow the users to collect, store, monitor, browse, access, manage, publish, retrieve, and decide the purpose of the content in an organisation (Benevolo & Negri, 2007; Rosenblatt & Dykstra, 2003).

This chapter will provide the thesis context. First, an overview on the legislation regarding product return in Europe, and, in Portugal, will be presented. Then the company, where the study is focused, MAIS Automação, will be introduced, as well as an explanation on the return policies and process at MAIS Automação. At last, weaknesses in product return management and its communication, drawn from literature and from the researcher experience, are presented.

8 Returns legislation in Portugal

The EU rules state that when buying products and services in a country that is part of the EU, the "trader must repair, replace, reduce the price or give (the customer) a refund" when the products bought are faulty or when these do "not look or work as advertised" (*Guarantees and Returns*, n.d.). The customer can also benefit from a guarantee of two years to protect them against faulty products. Additional guarantees, that is, warranty, can also be provided to the customer (*Consumer Guarantees*, n.d.).

The EU law also expresses that the customer has 14 days to cancel or return an order made online or outside of a shop, regardless of the reason. However, the right to cancel an order only applies to online or distance purchases. If the customer contacted the seller on the internet but went to the physical shop to pay for the product, they do not have the right to cancel without justification. On the other hand, in the case when all steps were made online, and the customer only went to the shop to collect the product, the right to cancel the order is granted (Decreto-Lei 24/2014, 2014-02-14 - DRE Do Ministério Da Economia, 2014; *Direito de Cancelamento / Arrependimento*, n.d.; *Guarantees and Returns*, n.d.; *Trocas e Devoluções Nas Compras Ou Serviços*, 2020).

In Portugal, a company's physical shop is not legally obliged to accept returns neither replace or return the money when, at the time of the sale, the product was in good conditions and without defects. Nonetheless, many commercial establishments have return policies that allow for replacements or refunds, to attract more customers and provide a positive image (*Trocas e Devoluções Nas Compras Ou Serviços*, 2020).

9 MAIS Automação

MAIS Automação is a B2B Portuguese SME that commercialises electrical and automation products to industry customers. The company was founded in late 1999 and,

in Portuguese, its name stands for Industrial Automation Materials and Services. Its headquarters are in Milheirós, Maia, with a branch in Torres Vedras.

MAIS Automação represents more than twenty international brands in the distribution, quadristic, and industry areas. This commercial company is very aware that the greatest value to offer its customers and suppliers is the provision of a high-quality services, specialised technical advice on solutions and alternatives, and turnkey solutions. To provide the best services to its customers, the company also focuses in having short delivery times, good management of stocks, and make the quality of its products and services, its priority.

With this in mind, MAIS Automação counts with a flexible team of about 30 people, all with great capacity for adaptation and motivation for new challenges. Considering that the market is constantly changing, the team understands that it is necessary to be well informed of the various opportunities and difficulties that arise from it. Thus, the company offers a space that enhances technical development and organisational dynamics.

The motto of MAIS Automação administration and team it to deliver excellence in its service, to grow in its market prestige, instead of aiming for an unsustainable growth in size and revenue. The organisation is in constant expansion and is currently doing business in several international markets.

Considering the company's market, it is important to note that the products and services provided are very specialised. Therefore, the team needs to be well acquainted with all the products to deliver the best services. It develops various projects in partnership with other companies in the industry and with other businesses. This allows to create connection with other organisations integrated in the market, which enables the sharing of ideas, knowledge, and visions.

9.1 Return management at MAIS Automação

Regarding MAIS Automação, it is possible to consult the return policies in their website (MAIS Automação, 2021). Accordingly, it states that returns are only accepted "within a maximum period of 30 days after the date of delivery". To request a return, the customer has to forward, in writing, the proper request document. This document presents a form where the customer states the several important elements, namely the supply document, the product reference, the quantity, and the reason for return.

The decision on whether to accept or not the request is subject to the approval of the company and depends on certain terms. Whatever the decision, it will be communicated to the customer. According to MAIS Automação's rules, requests with the following conditions are not accepted: products purchased by Invoice-Receipt; products which, due to their quantity or specification, are not part of MAIS Automação's normal stock; and products that are not in the shipping conditions of MAIS Automação, thus packaging and/or products must not be physically damaged.

Additionally, the company employs a minimum devaluation of 10% when the returns requested are unrelated to MAIS Automação services, to cover transportation, administrative, and/or restocking costs.

As EU rules state, companies can provide additional guarantees in the form of warranties. Therefore, MAIS Automação, provides a warrany of 12 months to all products, when the damage was not caused by improper use, normal wear of the products or extraordinary phenomena that could cause degradation in the products.

It also, as requested by law, guarantees technical assistance to products that malfunctioned. To require assistance, the customer has to file a request using the same request document used for returns. Which in turn, has to be addressed to MAIS Automação and authorisation to return needs to be provided.

The product return management at MAIS Automação can be explained by the following diagram (Figure 6).

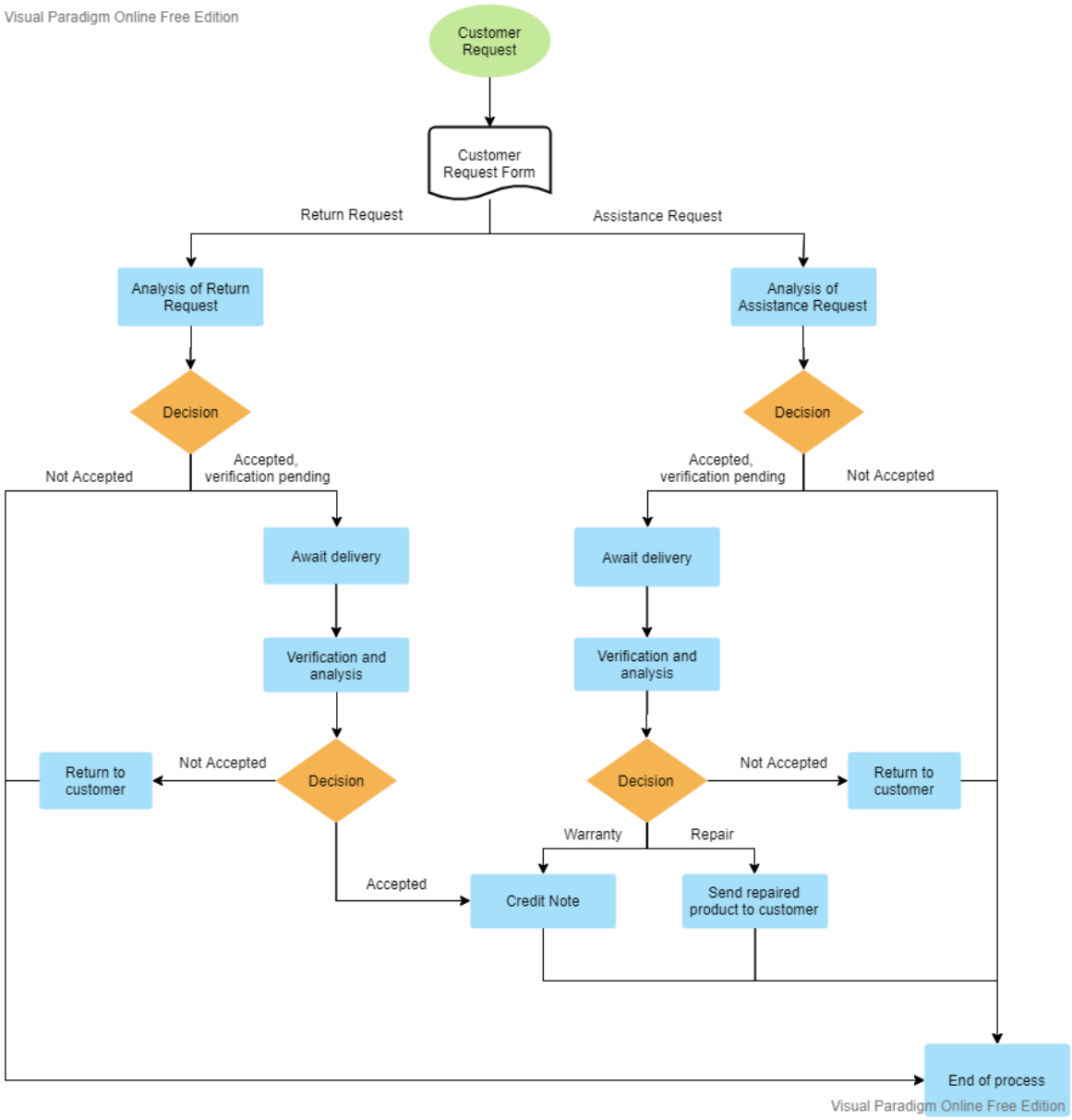

Figure 6. Product return management of MAIS Automação

As seen in the diagram, the process starts with the customer request and the filling of the request form. The request form is a document where the customer states their request for return. This form is also used for assistance requests since the information will flow through the same channels as the returns and complaints.

Upon submitting the request, it will be analysed and a decision is made, depending on the quantity or specificity of the product, the invoice date, and the return reason. However, some of these parameters are not considered for assistance requests, since these requests can be for product repair or when the product is damaged or has a manufacturing defect,

thus is a warranty request. If accepted, the customer has authorisation to return the product.

In case of returns, when the product arrives at the company's warehouse, the product is verified along with its shipping conditions. These conditions are that the product needs to be in the original box, in good conditions, and not used. Once all conditions are verified and met, the credit note can be processed and the product can go back to the inventory. If not, the customer is informed of the product state and it usually is returned to the customer.

On the other hand, assistance requests will either be repaired or their warranty will be in place. The later may entail sending the product to the supplier. The processing of this request is more complex and, since it is not the main focus of this paper, it will not be detailed.

10 Return management weaknesses

In order to have a good and effective return management, companies need to engage in its management with an active approach. The previous chapter has presented the process and its procedures to better control and limit the products' flow. However, the product return management and its consequent communication and information flow can entail some issues and shortcomings. Some of the weaknesses expressed in literature can be encountered in B2B companies that engage in these practices.

Considering the characteristics of B2B companies and product returns management, explained in the previous chapter, some issues can be advanced. As reported in literature, many of these companies do not engage in returns management in an active and serious way. Therefore, these activities may be done internally by having a "part-time management personnel," for processing and managing all requests and actions. That is, people who have multiple roles and tasks at said company, thus do not focus only on returns management (Shaharudin et al., 2017; Stock & Mulki, 2009, p. 52). These situations can come as an issue because when the people involved in these processes have more pressing tasks, for example, the returns management may take longer, and the information may not flow or be correctly stored.

Another possible issue is related with the closer relations and loyalty in B2B market. The customers of these companies are more loyal to the company and less likely to switch, since, due to the risky purchase process, these require "reliability among trading partners" (Kolis & Jirinova, 2013, p. 24). These businesses have good relations with their customers; thus, their return policies tend to be more liberal, and the companies facilitate the returns acceptance. When the policies are not followed, the analysis of return requests and consequent decisions may be more difficult to make due to the numerous exceptions. It also may lead to the discard of some steps and procedures by some of the people involved.

As in any organisation, the information must flow to all the involved people, instead of only being kept with a few people, that is, tacit knowledge. This knowledge must evolve to explicit knowledge (Magnier-Watanabe & Benton, 2017; Maravilhas & Martins, 2019; Smith, 2001). Some methods that can support this can be the storage of all relevant information in hierarchy databases, along with having an effective and successful communication. In order to have a good returns management, the information must flow to all stakeholders so that everyone can have access to it and improve the decision making. Moreover, their opinions must be taken into account when a decision is necessary. These decisions also need to be transmitted to everyone so that a correct management is feasible.

Bernon et al. (2016) has provided the phases on the return process, namely customer return request; return logistics; processing and sortation; inventory control; repair and refurbishment; and final disposition. However, the B2B company at study, MAIS Automação, has a slightly different flow in their product return management, as seen by the procedures in Figure 6. By its observation, it is possible to attain a general idea on how this process occurs in the company: customer return request; request analysis; return logistics; product verification and analysis; and final disposition.

Considering the researcher role in the company, she has a unique point of view on the communication and return management, therefore encountered problems can be described. One of these issues is related to Figure 6, which despite portraying the procedures at the company, in reality, the order of steps, decisions, and some procedures are not always followed. This workflow flaw may be caused from hierarchy and communication issues since the process involves several people.

Another experienced issue is related to the information flow. Since the requests and decisions communication are not regarded, the information does not flow through every stakeholder. This can lead to several issues, such as not providing the customer with a timely answer, not following the acceptance requisites, not being aware on the status of a request, among others. All the expressed shortcomings need to be addressed and solved to attain an efficient product return management and subsequent communication.

The focus of this research is to understand how to improve the workflow in the return process in a Portuguese B2B SME, in particular at MAIS Automação. To do that, according to Baxter and Jack (2008), some basic foundations need to be determined, namely, the research question, sample strategies, data collection and management, and data analysis.

As previously stated, these are the research questions: **RQ1:** How is the process of product return management performed in MAIS Automação (a B2B SME)? **RQ2:** Do all stakeholders have access to all information regarding the product return at any specific time? **RQ3:** How to improve the communication and the workflow related to the product return management in MAIS Automação?

The following subchapters will detail the research process and provide the methodology used to achieve the answers to these questions.

11 Research methodology

This study will adopt a pragmatic research philosophy since it aims to achieve a practical outcome. The use of a canonical action research methodology will assist in finding a practical solution by being an interactive methodology with research cycles. Another important aspect of action research is that it allows the researcher to be part of the study, which is the case (Baskerville, 1999; Cohen et al., 2007; Davison et al., 2004; Sarmento et al., 2003).

It will be used a qualitative approach. The choice for this methodology derives from the necessity to understand the product return processes at MAIS Automação. Qualitative methodologies allow to understand the context and perceptions of the stakeholders. The data collection was performed with semi-structured interviews, since this type of interviews is open and allows for flexibility.

11.1 Action Research

According to Cohen et al. (2007, p. 298), “action research is designed to bridge the gap between research and practice”, by solving real-life problems in an iterative process. Canonical action research is “iterative, rigorous and collaborative”, thus involving the researcher in the study by allowing them to both study and analyse the problem and be

one of the participants (Cohen et al., 2007; Davison et al., 2004, p. 66; Sarmento et al., 2003).

In the field of operations and supply chain management, it is very common for the manager to take "on the role of researcher in addition to her/his regular organisational role" (Coughlan, et al., 2016, p. 1691). Likewise, because action research is a practical methodology, these researchers usually use their practical knowledge as their starting point and then develop their study, with the support of theory, to achieve a practical solution (Baskerville, 1999; Coughlan et al., 2016; Mackenzie et al., 2012).

Each action research cycle "combines diagnosis, action and reflection" (Cohen et al, 2007, p. 298). Firstly, it is important to understand the context and purpose of the research, which is provided in the previous chapters of this thesis. Afterwards, the cycle can vary in the number of steps necessary to develop a solution, nonetheless it normally starts with the data related activities and then it evolves into the planning and action phases. At the end, there is an evaluation step where there is a reflection on the outcomes of the solution implementation. Action research allows for improvement, therefore, it can have as many iterations as the necessary to achieve success, as seen in Figure 7 (Cohen et al, 2007; Coughlan, et al., 2016).

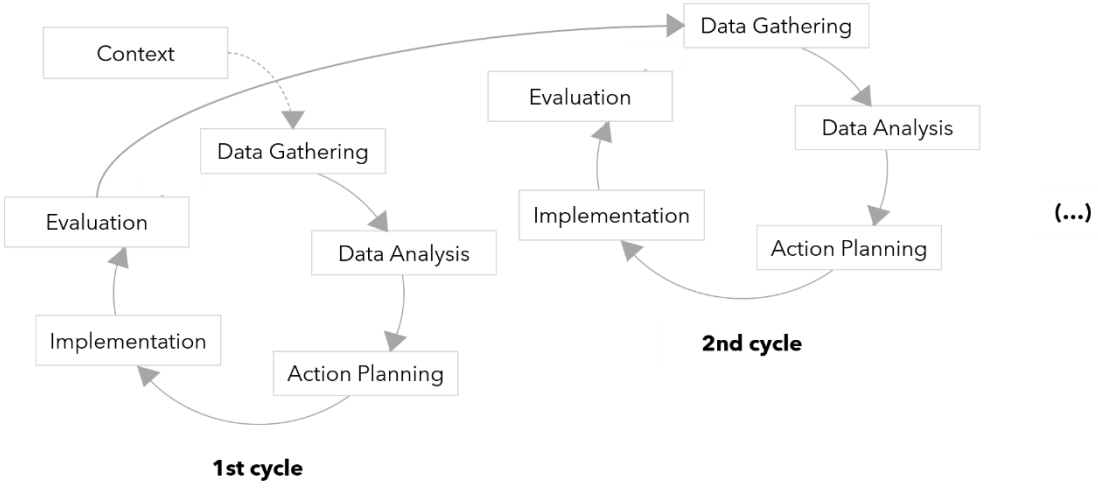

Figure 7. Action research methodology cycles (Adapted from Coughlan & Coghlan, 2002)

Due to time constraints, there will be the presentation of the first three phases of the first cycle, namely data gathering, data analysis, and action planning. The implementation and evaluation phases will be part of a future study. Therefore, the following subchapters will

report the research process. Notwithstanding, the context of the study was already presented in the previous Chapter II.

11.1.1 Interviews to gather data

To collect data, a semi-structured interview guide was designed considering the literature review. This type of interviews is open and has a conversational style which allows to gather new and different ideas. Seeing that the researcher works at the company and thus is acquainted with the interviewed, a semi-structured interview would allow to further explore the topics and gather meaningful answers. The interview guide is presented in Appendix 1 (Harrell & Bradley, 2009)

The participants in the study were chosen for convenience, since the sample members are the employees who are responsible or are part of the return of products' process. This type of sampling is normally done because of its practical side, "such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study" (Etikan, 2016, p. 2).

To acquire relevant information on the workflow of return's communication and opinions on how to improve this communication between peers, seven employees of a universe of about 30, were interviewed, including the researcher. These people were chosen due to their role or previous role in the return process. More importantly, each one was willing to participate in the study and provided their verbal consent. The consent was given before and after the recording started, so that the participant's consent was recorded.

Before each individual interview, the interviewer explained the aim of the study and the importance of each participant to the process, the general contents of the interview guide, as well as the matter of confidentiality which was explained and ensured. The interviews were performed in a face-to-face setting and each one was recorded with the aid of a smartphone. Considering the timing of the interviews, mid-February of 2021 where Portugal was under a state of emergency due to the COVID-19 pandemic, it is also important to state that every precaution was considered, namely the use of mask by the participants and interviewer, the recommended distancing, the door to the room was kept open to allow air circulation, and between each interview, the table surface was cleaned with a disinfectant product.

11.1.2 Analysis of the stakeholders' opinions

The interviews recordings were transcribed and translated to English, for them to be analysed. During its transcription, the participants names were coded to maintain anonymity, and from now on each participant will be addressed as S1 to S7. Consequently, the data was read and categorised in four dimensions.

The dimensions, taken and adapted from de Brito (2004) framework for reverse logistics, which handle returns "decision-making and quantitative support" (p.123) are who is executing the reverse logistics activities, why returning, why-receiving, and how reverse logistics works in practice (Table 4). From the original dimensions, only one is not considered: what is being returned, that is the characteristics and types of the products returned. The decision to not include this dimension is due to the context of the study which is the communication and workflow of the product return management of a SME, therefore this dimension is not necessary.

Dimensions	**Explanation**
Who	who is executing the reverse logistics activities: the people involved in the process and their respective roles
Why returning	why are products returned: the reasons for products' returns
Why receiving	why receive the products: the established requisites and other reasons for accepting returns
How	how reverse logistics works in practice: the procedures in the return process

Table 4. Dimensions for statements categorisation

The first question made in the interviews to every participant was to understand their role in the return process. Considering the sampling process, this question allowed to understand the responsibilities and tasks of each participant. Thus, the statements collected represent the who dimension that is the stakeholders in the return process.

S1 "*got in charge with starting the process*" by organising the return management at the company. S5 works "*in the commercial part"* and is the bridge between the client and the company, thus "*when a client has something to return, (…) I inform the person responsible for the quality and logistics".* The person responsible by analysing all customer's requests is S7, "*I am responsible by receiving the return request* (and) *analyse it"*. Upon, the analyses and decisions of every request, S7 has to "*inform the client on our*

decision. I also inform by email the people at the warehouse, at the front office and the salesperson".

When there are "*dubious situations",* that is in cases where a decision on the request is not easy or obvious, S6 is called upon. S6 is *"the decision maker with the highest degree of responsibility".* S7 also refers that when in doubt *"I contact my colleagues who are more at ease with the products and clients".*

S2 works in the warehouse and their "*role is to receive the returned products*" and "*verify the product"* to assess its conditions when these arrive at the company, and make sure that these are exactly what the client requested to return. S3 also "*receive*(s) *the returned products"* considering their work at the front office. Due to the current pandemic situation, S3 took over the task of processing the credit notes, when S7 went working from home "*before the pandemic situation, I was also responsible by processing the credit notes"* (S7).

In cases where the customer requests technical assistance (PAT), S4 is the one responsible. "*I take care of most of the* PAT's, *which are malfunctioning products*" (S4). These requests also involve the return of a product; thus, the request has to be analysed first. But "*since its* (the product) *arrival (…), until its resolution, it goes all through me*", that is S4.

Another important dimension to analyse is the main reasons why clients want to return products, which is the why returning dimension. According to S6, "(…) *there are several reasons for return, either because we made a mistake (…) or because the product broke down or (…) it was the customer who made a mistake in the product order (…), or because it got damaged during transport.*".

The other participants also expressed some reasons: *"it wasn't what they needed, or they couldn't sell it"* (S1); *"some clients return products for the sake of returning (…) or their final client for some reason cancelled the order and then they want to return the products"* (S2); "*malfunctioning products*" (S4); *"(…) a return that has a manufacturing defect (…) it arrived badly packed, or the client received it damaged"* (S5); "*the final client that cancels an order or the client that makes a mistake (…) Sometimes, it is us that make mistakes, especially in prices, discount errors or shipping"* (S7).

Despite these reasons, S7 provided an explanation on why some of these returns occur: *"Our products have references that are very similar, and sometimes the client thinks that he/she is ordering something and when it is delivered, they realise that it is not what they wanted and want to return it"* (S7).

Upon receiving return requests, the company needs to provide an answer to the client. However, the company needed to first draw return policies or requisites to accept returns. These are the why receiving dimension. The return needs to follow "*certain parameters: if the product is in good condition, if it is in the original box, if it was* (not) *used. And even though, if the invoice has more than 30 days, it can decrease value in the credit note*." (S3). When a "*product that is not in the original box or the invoice has more than a year, it has been sold in over a year, or it is not even from usual stock*" (S1), the request is not accepted.

At the same time, S1 also indicated that when the conditions for returning are not met, the request *"needs to be analysed by the administration and then, depending on the conditions in which the product is, we can give the client an answer*.". Therefore, when asked about the acceptance of returns that do not meet the requisites, S1 stated that "*If the product is very usual to have in stock and it comes from a good client, then (…) we accept it because of the good relationship we have with that client*".

S7 also stated that "*when the requisites are not met, we sometimes accept products (…) that are a little over 30 days, because we do not want to ruin our relationship with the customer. (…) when the product is not very usual (…) I normally talk to the salesperson or someone from the front office to understand if we can sell the product if we accept the return (…) However, in some cases, when I cannot decide I have to contact the administration to decide*". Which was confirmed by S6, when stating that "*if everything is accordingly to procedure, the decision does not need to go through me*", but when *"the client is very important or (…) we think that the request has to be authorized by me, if the value of the transaction is big or the client is protesting, then someone will come talk to me"* (S6).

According to S7, "*sometimes I am only informed of a return request when the product arrives at the warehouse, and they call me to ask about that return (…)",* referring that *"the salespeople also accept returns without telling me (…) I only knew about them when they gave me the return document (…) in those cases I would sometimes accept the return,*

because it would lead to more expenses to send back the return". Another important aspect that was highlighted by S2 was that "*If the return request acceptance is in our email (warehouse), we accept the return. If for some reason, we do not have that return in our email, we do not accept it*". This implies that all returns must be accepted before arriving at the company, otherwise these will be sent back to the customer.

For the how dimension, the interviews allowed to gather an overall perception on the return process since the request by the client until its resolution. This dimension encompasses all activities in the return process. To provide a better perception on each step, Table 5 is divided in five main steps, namely request, analysis and decision, collection, verification, and resolution,

Steps in the How dimension	**Stakeholders' statements**
Request	*"the client (…) send us an email, or call us or (…) our salesperson (…) we ask them to fill up the return document"* (S1)
	"*The client must deliver the return document that we have to make the request to return a certain product"* (S6)
	"*the return is requested by the client, through the phone or personally or through email. When is through the phone or personally, we ask for the request to be made by email (…) so that it can be forwarded to the commercial part"* (S3)
	"the client (…) has to inform us through email, send us the return document filled up and state what is the reason for the return. Then that email is forwarded to the logistics and quality department" (S5)
	"In the request, the client normally says what they want to return, the invoice in which the product was sold, and the reason for return. When they don't give a reason, I normally ask them, since it is important for the analysis. Other times, I ask the salesperson or the person that forwarded me the request." (S7)
Analysis and Decision	"*the commercial part (…) usually responds by saying that we can accept the request accordingly to certain parameters" (S3)*
	"*that email is forwarded to the logistics and quality department and after they validate it, we inform the client of the acceptance or if we don't accept it. And then, depending on return reason there can be a devaluation or not"* (S5)
	"*someone will analyse the return document, to check if the request meets the requirements"* and *"verify if it is accepted or denied"* (S6)

	"The analysis is done by checking if the invoice has less than 30 days and check the stock and movements of the product that is being returned. If all requisites are met, I accept the return and inform all stakeholders. When the requisites are not met or I have doubts about the return, I ask the salesperson or in cases when I cannot decide, I ask the administration (…)" (S7)
Collection	*"depending on return reason (…) the logistics department asks for the collection at the client or the salesperson goes by the client to collects the products"* (S5)
	"In the email where we inform the client of the request acceptance, we tell them how to proceed. When the return is unrelated to our services, we ask them to send the product to our warehouse. If not, we either collect the product by a transporter or the salesperson collects it" (S7)
Verification	"*when a return product arrives (…) we verify the product, if the conditions are good or bad; from that, the client usually already delivers the return document filled up, if that is not the case we have to fill it"* (S2)
	"the product arrives here, either through the warehouse or in person. If it is in person, normally someone at the front office fills the return document and put the product in the warehouse (…). If it arrives through the warehouse, they usually fill up the return document, if it is not filled out, and then put it there on a shelf, where it stays until the credit note is processed. Because it does not enter the stock without having the credit note. Then the product is analysed (…) by the technical department because something can be damaged (…) as a rule we send it to them to test it to see if it really has not been used" (S3)
Resolution	*"from the moment the credit note is processed, the product goes to the batch*" (S2)
	"if we see that the product is really in good condition, we immediately try to process the credit note, then we take the product that is on that shelf and deliver it to the batch (…). Then we send (…) the credit note by email to the client, who then sends us the signed and stamped duplicate, and it is sent to accounting" (S3)
	"When the product has arrived at the warehouse and its conditions were verified, the credit note can be processed and sent to the client. The process can also be closed, by updating the requests map, indicating the credit note number." (S7)

Table 5. How dimension - The procedures in the return process

Table 5 allowed to understand the workflow of the product return. By combining all statements, it is possible to attain an overall perception of the return process management and understand how the information flows. These statements allow to identify a potential flaw in the process. That is, despite the return policies stating that the return document needs to be forward with the request, both S2 and S3 expressed that sometimes the client

does not deliver the document filled up. In those cases, when the return was accepted, they would fill these documents themselves.

Additionally, it is important to clarify whether everyone in this process has or not access to all requests and decisions. As previously stated, S7 said that is only "*informed of a return request when the product arrives at the warehouse"* and that *"the salespeople also accept returns without telling me".* Which demonstrates another flaw in the process since the workflow has not been followed.

Nonetheless, all participants, except S6, stated that they have all the needed information through their emails. Since as S3 stated "*when the clients request a return, we ask them to send an email"* and from that on every information exchange is *"more or less interconnected".* This is supported by S1 who affirmed that "*I always answered with the knowledge of the salesperson (…) and the warehouse (…) so that they know that the product (…) will arrive*". However, S6 stated that did not have access to all information only "*because I don't go and check. Probably if I ask, I do, but I don't have access to it*.." This can be related with S6's role in the company, that is, the administration. According to S7, the people informed of the decisions are "*the client (…) the people at warehouse, at the front office, and the salesperson responsible for the client".*

On the other hand, S1 informed that *"I had a excel with the requests which was always updated (…), I would check that map and update it, to understand what was already there* (at the company)*, and if the credit was already done,* (then) *I would place the number of the credit note and thus the process was close.".* S7 affirms that this map still exists: *"All these requests are saved and organized in a excel map, which states all the relevant information to the process".* However, due to *"our current situation, because I no longer follow all the return process, I not always know when a credit note was processed. Thus, the requests map is not always updated"* (S7).

After analysing all the gathered data, some challenges and weaknesses can be obtained, that is, processes that do not occur as expected. Every participant has a different perspective, therefore each one reports different shortcomings. This was expected since they all have specific roles in the return management, thus each one's challenges can diverge.

However, here is a list of weaknesses and shortcomings, as expressed by the stakeholders: (1) Return requests take too long to be resolved; (2) Information not flowing; (3) People not following the procedures hierarchy.

The first weakness reported above is related to time issues. The stakeholders have expressed that the time taken from the request to its resolution is long. S2 said that "*in time it could be faster (...) there are some situations when the products arrive and stay there for 2, 3 months until we process the credit note*". S5 also agreed that "*the fastest we are the better"*, highlighting however that this "*often depends on our supplier".*

When the return is requested due to a manufacturing defect, the company has to send these products to the suppliers. According to S4, who is responsible for the technical assistance, *"our suppliers, a lot of the times, don't answer or take too long to answer"* and that when "*I get the products, I cannot send it right away* (to the supplier) *because we must collect some products to be sent and to reduce the costs a little*". These situations will add up to the time necessary to close a return request. Therefore, efforts need to be made to reduce the amount of time taken to resolve a return request.

The second shortcoming is related with the information flow and communication issues. S3 expressed some concerns regarding the pandemic situation everyone is now facing: *"working at a distance is not the same as working here, physically (...) the distance is different. And we realised that the returned products were (...) accumulating, and (...) I saw myself not under much pressure in terms of the other tasks (...) I tried to resolve it"*. This was a task that S3 resume when S7 started working from home due to the emergency state: "*When I went home, at the beginning, they would inform me when the product arrived at the warehouse and send me the request document, so I could process the credit note. But after some time, they stopped sending me the documents…"* (S7). This can be seen as a communication barrier, which needs to be fixed to allow a better information flow.

At last, the third shortcoming, that was inferred from the interviews is that there are some hierarchy issues by people not following the workflow, both employees and clients, as for example: "*the salesperson accepts the return request without informing the person in charge"* (S1), *"When customers do not comply or when employees do not comply. (...) Or when the salesperson or the collaborator accepts the return without going thought the procedures or does not respect them"* (S6); *"when the salesperson sends me the request*

and tells me to accept it, even when it does not meet the requisites (…) Sometimes I only know of a request, when someone asks me about the decision, having it arrived at our warehouse" (S7). This shortcoming can induce in other issues; thus, its solving is crucial.

The following statement from S7 sums up the main issue that needs a solution: *"I sometimes feel overwhelmed with the requests (…) sometimes I feel like the workflow is not being followed (…) Even though I receive most of our requests (…) I'm not always aware in which step each return is"*.

Summarising, the main shortcomings and weaknesses expressed in the workflow of the product return management at MAIS Automação are related to time management, information and communication flow, and the respect for the established procedures hierarchy.

11.1.3 Planning of a solution to the problem

The previous section presented a data analysis on the interviews made to some of the people involved in the product return management at a Portuguese B2B SME. From the information gathered, some shortcomings and weaknesses were found, namely **return requests that take too long to be resolved**, **information on return requests not flowing through the stakeholders**, and **people not following the procedures hierarchy**.

Some of these weaknesses could be improved by elaborating a list of guidelines to assist in the management of product returns. Guidelines could support the workflow in every situation thus assisting in the communication and information workflow. Despite the procedures being clear, the elaboration of internal policies is necessary. As S1 suggested, it is important to "*have a hierarchy*" and that "*the decision should always be made by the same person, centralised*". Therefore, according to the stakeholders' opinions, Table 6 presents said list of guidelines.

Guidelines	
1	Formalisation of the return request
2	Transmission of information regarding return requests to the stakeholders
3	Certification that the return policies are enforced
4	Centralisation of the decisions on return requests
5	Receptiveness towards stakeholders' opinions on return requests
6	Verification of the returned products
7	Storage and sharing of all returns' information

Table 6. Guidelines of product return management

The first guideline, *Formalisation of the return request*, is about the formal request by the customer. If the customer has a product to return, they must submit the request formally. The company needs to have an official website where the customer can submit said request along with all relevant information, through a return request form. If these conditions are not possible, the request form must be completed in digital format or on paper by the customer and sent to the company by email, mail or by hand.

The second guideline, *Transmission of information regarding return requests to the stakeholders*, considers the information flow. It expresses the transmission of all requests, analyses, and decisions on return requests to all stakeholders. Upon receiving a return request, the company must inform the customer that said request has been received and it will be analysed. In turn, the request has to be forwarded to the person responsible for its analysis. After the analysis, the decision must flow through the stakeholders. If the decision is favourable, there will be the arrival of the returned products at the company. Its arrival must also be communicated to ensure the continuity of the process and allow its resolution.

The guideline three, *Certification that the return policies are enforced*, reflects the company's return policies. In order for a return to be accepted, it has to fulfil certain requirements, which must be detailed in the company's sales conditions and available for consultation. These policies are important to assure the control of return requests and not incur in monetary losses. Therefore, the companies must enforce these policies.

To make sure that the stakeholders follow the procedures hierarchy, there must be a *Centralisation of the decisions on return requests*, expressed by guideline four. By having a certain number of people involved in the analysis and decision of a return request, this allows the correct flow of procedures. In turn, this centralisation of information acknowledges the established hierarchy.

The fifth guideline, *Receptiveness towards stakeholders' opinions on return requests*, interconnects with the previous guideline. Despite the necessity of having only a small number of people responsible by the analysis and final decision on a request, it is important to consider the opinions of the remaining stakeholders. These stakeholders can have a different view on the products or customer, therefore there need to be a receptiveness towards their expertise and knowledge to take informed decisions.

Upon the arrival of the returned products at the company, the *Verification of the returned products* by competent personnel is in order, thus guideline six. All products that are delivered at the company must have been accepted and their return authorised previously. These must be returned with their respective delivery slip. The verification will allow to understand if the returned products correspond to those of the return request. In this step, their conditions will also be assessed to enable the process continuity.

The seventh guideline, *Storage and sharing of all returns' information*, supports the information flow. To allow all requests, analyses, and decisions to be accessed by anyone at any time, they must be stored in a place that is easily accessible to all stakeholders. With the storage and sharing of this information, everyone can check which requests are pending and which have already been analysed and have a decision. It also allows to verify the requests that have already arrived at the company and which ones are resolved. This allows for a better understanding of the entire process. The data stored will also enable to carry statistical analyses and gage the performance of the returns management to later assess where to improve.

These guidelines were elaborated with the support of the opinions provided during the interviews with the stakeholders and with the literature review. Anyhow, as any other policy enforcement, it is mandatory to present them and take into consideration the opinions of the stakeholders. Only with the acceptance of all will the process achieve the best results.

Regarding the information flow, everyone, except for S6, affirmed to have all the needed information through their email accounts. This situation can be a problem, because all requests and decisions are gathered at each stakeholder email. If any occurrence should happen to the security backups of the email records, all this information could be lost. According to S1 and S7, there is an excel map with all requests and decisions. However, S7 also expressed that *"I cannot follow all the process and correctly update the map."*.

It is also possible to understand that, despite the stakeholders affirmed that they have access to all information, S7 expressed that "*the requests not accepted are only forwarded to the client and salesperson".* This means that not all information flows. Only the requests that are accepted go through all stakeholders.

A place – platform or application – where all these requests, decisions, and process status could be stored is a necessity. This system could also record every user interaction by

saving, for example, who registered the request and who took the decision. This way, every piece of information is gathered in one place and hopefully improve the communication in the product return management. By having the status of the return process, each stakeholder could easily manage their tasks, and, at the same time, the customer could also be informed and involved on their request.

On the other hand, the existence of said system will also enable to build reports on the most frequent reasons for return, who are the customers that make most requests, assess the time average between the request and the end of the process, among other important measures that can assist the company in improving their processes and assess the customer satisfaction.

The analysis of the gathered data supports the delineation of an approach to improve the company's communication workflow. Taken into consideration the concepts of KM systems and CMS, and the necessity to evolve the tacit knowledge into explicit knowledge, Figure 8 presents a framework that can assist in building said application.

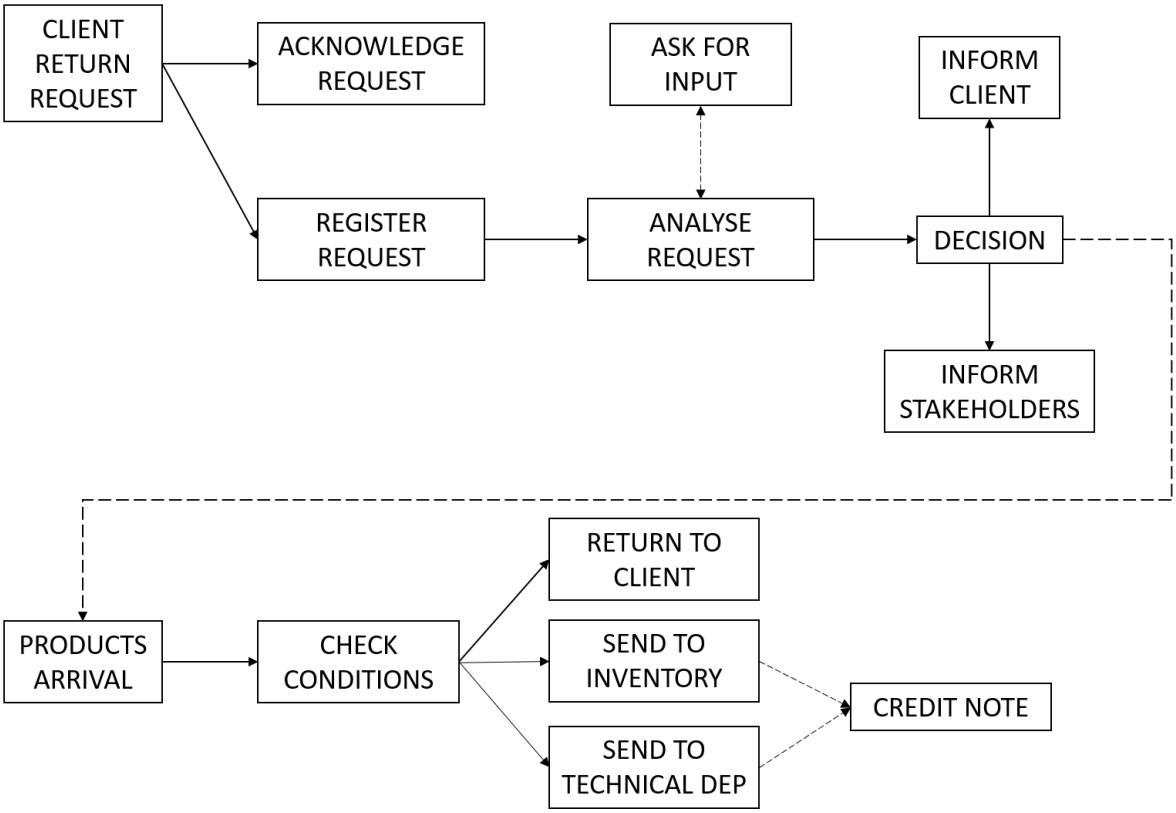

Figure 8. Product return management framework

Considering the company (SME) and to assure that every employee could work with the system designed, that is, one system that is easy to use and does not entails great

technological and digital capabilities, a prototype using MS Excel started to be developed. The use of MS Excel to build the platform is also an economical solution. This platform would later be stored in the internal server of the company so that everyone could have access to all information.

By putting the system there, all team members would have access to it and could easily see all requests and their status, including the members who are working from home. This could decrease the time spent to process credit notes, for example, because the person responsible for it would be able to see which returns are already at the warehouse and in good conditions to go back to the inventory. It would likewise improve the communication between peers since the system also serves as a database of all information regarding every request, therefore all stakeholders would know their pending tasks.

This platform would also decrease the reported hierarchy issues, because, according to Figure 8, the first task is to register the request. This means that everyone with access to the platform can register requests, regardless of who received the request or how it was requested (phone, email or in person). When doing so, the reported hierarchy issues would also decrease, since it would impose the workflow and the procedures to be followed.

Subsequently, the platform had to be designed considering Figure 8. Therefore, by adapting final projects of ISCAP's students from bachelor's degrees, a prototype was developed. These students had, as their project, to solve a problem of the same nature, that is the management of product returns using MS Excel.

The prototype has the following screens. Figure 9 displays the main menu which has the buttons to register return and assistance requests, to check their status, and to record the verified conditions. It also allows to see the lists of clients, products, employees involved in this process, and all returns and assistance requested and made.

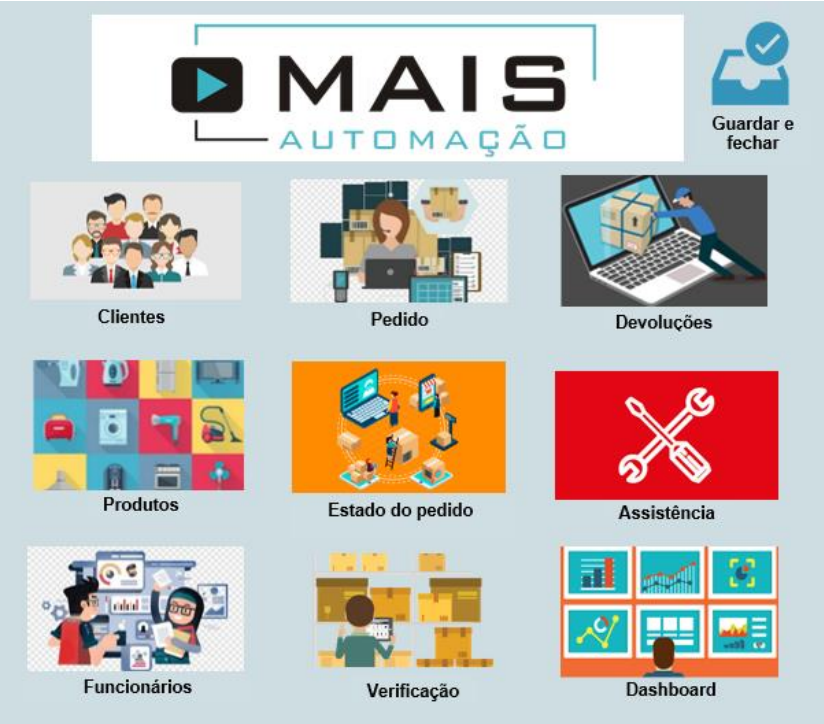

Figure 9. Layout of the main menu

Figure 10 presents the form to register return requests, where the user can input the current date, the client's name, the type of supply document, its number and its date, the product reference and its quantity, and the reason for return. Then the name of the salesperson responsible for this client and the name of the person who registered the request can also be added. The number of the request is inserted automatically, so it does not repeat. Additionally, there is an observation box.

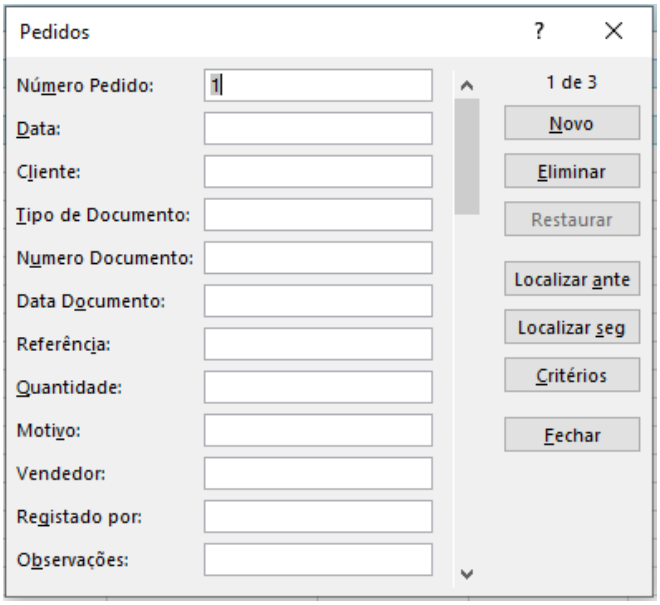

Figure 10. Form to register a return request

The main goal of this platform is to assist the stakeholders in managing the product returns by being an easy way to control all processes involved in said management and improve the workflow. The use of a system like this can also improve the communication between peers since it stores all the information resulting from the request until its resolution. It can also improve the time spent in processing the credit notes by allowing the person responsible for this task to know the status of each request. Hierarchy weaknesses can likewise be solved since, for a request to be accepted, it first needs to be registered and analysed. Ultimately, together with the guidelines, it will improve the workflow.

Due to time constraints, this platform is still in a prototype phase and therefore not yet implemented. In a future study, the following phases of the first action research cycle, implementation and evaluation, will be presented.

12 Discussion and conclusion

This study aimed on the improvement of the communication and workflow of product return management at a B2B SME in Portugal, in particular, at MAIS Automação. MAIS Automação is a company that commercialises electrical and automation products to industry customers. The main focus was on the internal communication of the organisation, between stakeholders.

The research questions drawn were: **RQ1:** How is the process of product return management performed in MAIS Automação (a B2B SME)? **RQ2:** Do all stakeholders have access to all information regarding the product return at any specific time? **RQ3:** How to improve the communication and the workflow related to the product return management in MAIS Automação?

To answer these questions, the researcher employed a canonical action research methodology. The choice for this methodology relied on its characterisation, that is, it assists in finding practical solutions to problems, by being an interactive methodology with research cycles. Another important aspect of this research methodology is that it allows the researcher to be part of the study. The researcher works at MAIS Automação and has a role in the product return management.

This study used a qualitative approach to understand the context and perceptions of the stakeholders. The use of this approach allows to comprehend the context and perceptions of the stakeholders. For data collection there were semi-structured interviews with seven stakeholders, chosen for convenience, which considering the practical side of this study, is a usual type of sampling. It is important to note that a semi-structured interview was selected due to its open and conversational style.

Chapter II presents the return policies and a diagram of the procedures of MAIS Automação which in part answers **RQ1**. From the data analysis, it was possible to perceived that the policies are mostly respected, excepting some cases that will be further explained which are related to the characteristics of B2B companies. Regarding the product return management procedures, Table 5 summarises the stakeholders' perceptions. This table allows for a more in-depth understanding of this process' steps.

As Stock and Mulki (2009, p. 52) expressed B2B companies tend to perform product returns activities internally by having a "part-time management personnel" for processing

and managing all customer requests and subsequent actions. This is corroborated by all the gathered data, since the participants have other roles in the company besides product return management. S3 even said that when "*I saw myself not under much pressure in terms of the other tasks",* meaning that product return management is not managed by only one person that controls every single aspect of it.

From the stakeholders' statements, it was possible to perceive that the main reasons to return products are related with mistakes in the customer order, since some product references are very similar; the customer realising that the product order is not exactly what they needed; the final client cancelling or changing the order; problems in transportation, and malfunction or manufacturing defects. According to Table 3, these reasons fit in the product warranty, company service, external services, and customer returns categories.

The reasons for return can also be related with B2B characteristics and the specification of the products sold. B2B companies sell more specialised product and in higher volume. The customer usually buys out of necessity, depending on their type of company (retailer, wholesaler, or manufacturer) and the nature of their market.

As literature states (Stock & Mulki, 2009), in B2B companies the customer loyalty is high, and the companies are more liberal with their return policies. This is perceived by the interviews where some returns would be accepted, even against return policies due to the good relationship with clients. As stated by S7 "*When the requisites are not met, we sometimes accept products (…) that are a little over 30 days, because we do not want to ruin our relationship with the customer".* Moreover, from this data, it is possible to infer that MAIS Automação's reasons to accept returns fall into the economic driver, more specifically in the indirect gains. These gains are not necessarily monetary but intend on improving the relation with its customers (de Brito, 2004; de Brito & Dekker, 2004).

It is also possible to perceive from the stakeholders' statements, "*from the moment the credit note is processed, the product goes to the stock*" (S2)", "*the return can go back to the inventory"* (S7) *and "it can go into stock right away."* (S3), that most returns, upon assessing, go directly into stock. Which, according to de Brito (2004), is direct recovery since the returned products are in good conditions and can go back into the market to be sold again.

Regarding **RQ2**, *Do all stakeholders have access to all information regarding the product return at any specific time?*, all stakeholders, except S6, indicated that have all the needed information through their emails, which can relate with the administration role of S6. When a decision concerning a return is made, an email is sent to the stakeholders, those are the "*the client (…) the people at warehouse, at the front office and the salesperson responsible for the client"* (S7), when accepted and when "*not accepted are only forwarded to the client and salesperson"* (S7). This means that not all information flows.

However, despite storing all requests and decisions at each stakeholder email account allowing them to have the needed information, this can also pose as a problem. In case of any issue, regarding the security backups of the email records, all information could be lost. There is, on the other hand, an excel map with all requests and decisions. However, S7 also expressed that *"I cannot follow all the process and correctly update the map.".* This can mean that the knowledge is gathered within a few people and not available to every stakeholder.

This study allowed to understand the main weaknesses and shortcomings in the communication and workflow of product return management at MAIS Automação. These are: (1) Return requests take too long to be resolved; (2) Information not flowing; (3) People not following the procedures hierarchy. The communication and workflow weaknesses can be simply covered by a statement of S7: *"I sometimes feel overwhelmed with the requests (…) sometimes I feel like the workflow is not being followed (…) I'm not always aware in which step each return is".*

As previously expressed in Chapter I, companies must communicate effectively, otherwise it can be costly for them. Also, the barriers in communication need to be surpassed to have effective communications. One barrier to communication, which nowadays is very common considering the current pandemic situation, is distance. This was expressed in this study by S7 who went working from home and "*at the beginning, they would inform me when the product arrived (…) But after some time, they stopped sending me the documents".* All stakeholders need to be kept in the loop so that an improved communication and process workflows can be achieved (Cacciattolo, 2015; Fielding, 2006, p. 10).

Upon encountering these weaknesses, it was time to find an answer to **RQ3**: *How to improve the communication and the workflow related to the product return management in MAIS Automação?*

To solve these weaknesses, a list of guidelines was elaborated with concepts of communication and product return management in mind, as well as the feedback from the interviews. These guidelines aim to assist the stakeholders in knowing the most important steps in the communication workflow. However, these can only be effective when all stakeholders have provided their input and accepted them. Only with willing and comprehensive people, a real improvement can be done. Despite these being based on the perception of MAIS Automação' stakeholders, these can be generalised to every company that wishes to improve their communication and workflow in the product return management.

Another solution to solve the expressed shortcomings was with the development of an information system to manage returns, which according to Lambert et al. (2011, p. 573) such system does not "currently exists because too many customisations and modifications are required". The development of a return management system using KM concepts in a MS Excel can be very helpful, since the use of KM technologies can improve the organisation's workflow. By having a place to store all requests, decisions, and process status, the current tacit knowledge evolves to explicit knowledge. Thus, each stakeholder could easily manage their tasks, while, at the same time, keep the customer informed on their request. At the moment, the platform developed is at a prototype phase, nonetheless it aims to assist the stakeholders in managing the product returns.

It intends on being an easy way to control all processes involved in said management and improve the workflow. The use of a system like this can also improve the communication between peers since it stores all the information resulting from the request until its resolution. It can also improve the time spent in processing the credit notes by allowing the person responsible for this task to know the status of each request. Hierarchy weaknesses can likewise be solved since, for a request to be accepted, it first needs to be registered and analysed. Ultimately, together with the following of the guidelines, it will improve the communications' workflow in the product return management of a B2B SME.

For future studies, it would be important to enquire the customers on their satisfaction with the product return management, while assessing their knowledge on the return policies. As S7 expressed *"I don't know if our clients are well aware of our return policies, because a lot of times, I receive return requests of products that we sold last year, and they expect us to accept it".* As stated in section 11.1.2., the customer not always delivers the request document, which may happen because the customers may not be aware of the procedures. Therefore, it would be important to attain the customers perceptions on the return procedures.

In the future, the implementation and evaluation phases of the action planned in this thesis will be addressed. As previously said, due to time constraints, it was not possible to complete the first action research cycle. Nonetheless, considering the importance of improving the communication and workflow at MAIS Automação, these last steps need to be performed.

To conclude, this study allowed to understand how the product return management is performed at a B2B SME in Portugal and identify its weaknesses according to stakeholders. The solution to said weaknesses was the elaboration of a list guidelines to support the decision in every common situation and improve the communication workflow. Although the guidelines were based in the perspectives of MAIS Automação' stakeholders, these can be generalised to every company that employs product return management and intends on improve their communication and workflow.

The guidelines together with an infrastructure that can support the knowledge management will improve the information workflow, the time management, and all hierarchical issues. In this case, the solution for a technological infrastructure was the use of a MS Excel system that works as application to register every request, decision, and status. When implementing the system, it will be stored in the internal server of the company, so it is available to everyone that needs to access the information.

Considering that the implementation phase of the first action research cycle was not yet performed, it is not possible to understand whether improvements on the communication and workflow of the product return at MAIS Automação were observed. Nonetheless, since the study was performed at the company, where some stakeholders were interviewed to attain their experience and perceived challenges, it led to an increase on their awareness about the importance of return management and a change in their

behaviour. This awareness also made the stakeholders understand some of the weaknesses in the process, such as the need to comply with procedures established. Therefore, during the study, some of the presented weaknesses started to be dealt with, namely hierarchy. Nowadays, the requests are usually forward to the person responsible to analyse them, which in turn supports the information flow.

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Appendix I – Semi-structured interview guide

1. What is your role in the return process?

2. How does the return process takes place (request, acceptance,…)?

3. What do you think are the most important steps?

4. What are the biggest obstacles in the return process?

5. Do you always have access to all information? All requests and decisions?

6. What would you change? / How would you improve the current returns process? / What improvements do you suggest?