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Master Thesis

«Logistics insourcing as catalyst to impact firm's performance:
The Magris Group Case. »

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Abstract

An analysis of Magris Group insourcing strategy.

Indeed, insourcing is often defined as the practice when a company decides to manage internally the activities that before were delegated to an external partner.

The shift from outsourcing to insourcing can happen for a series of reasons: for example, from a change of the business organization or for a dissatisfaction in merit to the solution of outsourcing previously activated.

In this research, the effects of poor outsourcing strategy are investigated for the case study at hand. Among the most relevant ones, the main affected areas are: service level, costs and the relation with 3PL.

Accordingly, all of these converges through one main reason: lack of control. Indeed, poor outsourcing strategy might led to lack of control. As a result, lack of control over managerial and operational areas makes the company to have a poor vision over the entire company. Therefore, Magris Group cannot oversee its actions and its performance.

Consequently, not being able to track and to monitor its progresses make Magris in a disadvantage position, where the company cannot detect its errors, cannot make corrective actions to increase performance and cannot even being informed about its actual performance.

In particular, this research was conducted through literature studies in this area that deepened the relevant theoretical background. Moreover, to strengthen the theory supported by this research, the use of data was crucial: both qualitative (interviews) and quantitative (KPIs) data had been analyzed.

Finally, through last two chapters, the main findings are detailed and conclusions are drawn. Specifically, the aim is to confirm the argument expressed in the Thesis Title: "Logistics insourcing as catalyst to impact firm's performance"

Preface

This dissertation is submitted for the *MSc in Supply Chain Management at Tilburg University* (NL). Along with that, it will contribute to integrate the *MSc in Management* I am currently attending at *Luiss University* (IT) with a Double Degree program.

First of all, I would like to thank Magris Group for giving me the opportunity to conduct this research within their company boundaries, to deepen the dynamics of an interesting context at logistics level, and for giving me the necessary support.

The research described herein was conducted under the supervision of Professor Pietro De Giovanni in the Department of Management, Luiss University and *Professor Eirini Spiliotopoulou* in the Department of Supply Chain Management, University of Tilburg, in Academic Year 2020-2021. Thus, I would like to profoundly thank my supervisors for guiding me through the final step of student, giving me precious advices and the instruments to do my best.

In addition, I would like to thank my *University Luiss Guido Carli* for having selected me for such a prestigious Double Degree program at a prestigious University as Tilburg University.

Furthermore, I express my gratitude to *Tilburg University* for giving me the opportunity to participate in such a program of known educational, academic and professional relevance.

Above all, I thank my family for giving me the support, love, happiness and the means to build a future for myself. I thank my boyfriend for giving me love, support, and belief in myself every day. I thank my friends, who choose daily to stand by me. I thank all of them for bringing out the best version of myself.

Finally, a thank to my resilience, commitment, determination, passion and sacrifice, which has allowed me to get to this point, and so many more milestones to come.

- **Definitions**

Term	*Definition*
Value Added	Value Added Logistics *(*VAL*)* is the creation of a higher added value in the logistics chain
Cost Advantage	The firm has advantages over competitors in terms of costs
Logistic Direction	Complete overview and control on company's logistics activities
Third-Party Logistics	Businesses to outsource elements of company's distribution, warehousing, and fulfillment services.

- **Abbreviations**

Abbreviation	*Term*
3PL	Third-Party Logistics
HORECA	Hotellerie-Restaurant-Café acronym
WMS	Warehouse Management System
SAP	System Applications and Products in data processing
TMS	Transportation Management System
KPI	Key Performance Indicators

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1. Introduction

The aim of this research is to investigate how insourcing Magris logistics activities will help the company to ameliorate its performance. In particular, the final scope of logistics insourcing for Magris would be to obtain the direct management and overview of logistics processes. Consequently, it will potentially reduce the related cost of outsourced activities, while at the same time being able to directly and real-time manage the service level and the expected delivery time.

More specifically, Rudaya (2008) defined the process of outsourcing as a management methodology in the economic systems which relies on the integration of key resources and competences of the organization with the resources and competencies of external providers of specialized services that will guarantee the reach of a synergistic effect.

Nonetheless, outsourcing practice is not exempt from risks, as delegating a strategic function to a third party could result in a lack of control over a cornerstone of the business model. Indeed, the logistics company will incur the costs previously incurred by its customer, to which it will then apply a mark-up, which will determine its profit (De Giovanni and Vinzi, 2014). Therefore, there is an obvious disadvantage for the customer, who is forced to pay more by outsourcing the entire logistics process to a third party rather than internally managed logistics. In these terms, although logistics outsourcing does not offer a fully economic advantage (except for economies of scale), it is effective in terms of non-monetary cost - energy and resources - that the company no longer has to employ in managing logistics.

Indeed, internal logistics could deliver business processes cheaper than the outsourcing company (Snihs, 2010). In this regard, the practice of insourcing refers to internalizing an outsourced activity that has not been executed within the organization previously, often defined as outsourcing turnback (Maelah et al, 2010).

From theoretical literature, it supported the idea that a company requires to identify the balance in terms of efficiency, focus, control and autonomy (Kippenberger, 1997). Indeed, outsourcing turnback permit the company to manage challenges coming from the outsourcing solution and reacting to opportunities (Veltri et al.,2008) Consequently, a firm might proceed with insourcing when the outsourced practice did not reach the expected results (Tadelis, 2007).

Hence, a company change course when it experiences that outsourcing is no longer the best option (Chapman & Andrade, 1998). Furthermore, through insourcing, the company could increase responsiveness, customer satisfaction and quality, with faster turnaround times, acquiring higher level of control of the

previously outsourced activity's costs, having a cost advantage (Heaton, 2004). Opportunities related to insourcing are related to improvement in efficiency, quality and lower costs and lead to improved management of bureaucracy, accountability and turnaround time (Heaton, 2004; De Giovanni and Cariola, 2020).

Consequently, this has a strong relevance since it is assumed that price, guaranteed delivery time, service level and quality are a crucial factor in making business decisions by a firm (Qian, L.,2013). Nonetheless, challenges are related to insourcing process: indeed, when deciding to backsourcing the company has to manage these cost issues related to necessary competences as time, money and effort (that company was lacking previously of outsourcing process), might turn out to be higher than expected (Chapman & Andrade, 1998).

1.1 Problem Identification

In this research paper, the theoretical framework analyzed above will be implemented in the suitable empirical case: Magris Group. More specifically, Magris Group is an Italian leading company in the distribution of professional cleaning solutions and, since 1976, Magris is present and operates throughout the country. Magris, with 155 millions of turnover is mainly engaged in the sale of products and equipment for professional cleaning, catering products and courtesy lines for guests. In addition, a division of Magris (Magris Service) deals with the sale, rental and service of industrial cleaning equipment. At the international level, since 2014 Magris is member and shareholder of Inpacs, the largest European group of distributors specialized in B2B resale of cleaning and hygiene products, catering products, medical assortments and personal protective equipment, being present in more than 40 countries worldwide.

Generally, Magris always had the entire logistics process outsourced: from warehouses to transportations. In the last few years, Magris perceived not cost-effective commercial agreements with their logistics partners, with inconvenient terms that lead to non-competitive costs. Indeed, Magris had structural partnership with partners that holds logistics cost as a percentage of turnover, which could be drastically reduced by using cost per line picking and cost per volumetric delivery per province. Related to this, the logistics department was not properly internally developed but outsourced.

Moreover, contracts for warehouse management and deliveries calculated as a percentage of revenue. This is a frequently used coordination mechanism to manage collaborations as it incentivizes parties and make them direcyly responsible for their strategies and actions (Buratto et al., 2019). According to Magris' CEO, this also generates non-alignment of incentives and benefits between Magris and logistics partners. For example, with this approach, a decrease in back orders or an increase in euro delivery did not generate savings for Magris.

In this regard, a review of the decisions to internalize and outsource logistics processes is necessary because logistics for Magris is a core function of the business, where it is necessary to internalize the direction that is in the hands of logistics partners. More specifically, from a logistics perspective, Magris Group holds a very competitive logistics cost in the considered sector of reference in Italy. On the contrary, the costs turn out to be not very competitive with its competitors abroad (DE, USA).

What needs to be considered is that Magris logistics outsourced process could incur in some difficulties in the management of highly diversified and numerous warehouses in the Italian territory. By virtue of this, Magris has problems in directly managing, monitoring the entire logistics processes and, thus, due to a lack of holistic overview, guaranteeing to its customers a certain level of orders fulfillment with goods on stock being outsourced, and thus in hands of logistics partner.

Furthermore, this problem is also related to management of heterogeneous and diversified requests according to the type of customer, which leads to problems in directly monitoring the delivery time with certainty and the level of service. In fact, Magris has a highly diverse consumer base in terms of services, quantity and timing, making it difficult to directly manage delivery time and service level and take actions when necessary, being the entire logistics process outsourced. For example, delivery in 24/48h max. is required for the Horeca market, full scheduled delivery for Facility Management. Or, again, delivery in a specific time window, or delivery with call to fix time and date, delivery to the floor (Desktop Delivery) or, finally, contract deliveries for Hospitals. Consequently, this wide consumer base, along with the necessity to monitor the entire shipping process in order to intervene at time when necessary, bring Magris to the necessity to have a clear overview of the entire shipping process and perhaps insourcing the logistics process to ease the direct management of the actions and clear and transparent monitoring.

On this matter, Magris implemented the practice of insourcing for the first time in its recently opened warehouse in Fara Olivana, which is located in Northern Italy. Going into the details, with Fara Olivana warehouse Magris have internalized the logistics direction, the ownership of the WMS, the processes and they are also testing direct deliveries (without transit point). At the Fara Olivana warehouse, as Magris CEO mentioned, now they are paying for picking as a euro line and deliveries as a volumetric cost per cap. In fact, the more they improve incoming orders, the more they can push the logistics cost down.

Moreover, in this regard, Magris wants to make adjustments at logistics level in order to make the delivery in a certain time and monitoring it, having complete control of everything and knowing exactly, measured analytically, when the order is loaded, how quickly it is processed, when it is delivered to the customer and know if they can guarantee service level that they promised.

To conclude, Magris aims at revising outsourcing decisions of logistics processes to get the direction of logistics, being able to get a direct, real-time monitoring activities ensuring a more efficient and controlled management.

1.2 Problem Statement

How can insourcing of logistics processes improve Magris Group S.p.A. performance?

1.3 Conceptual Model

After having identified the problem statement, the empirical problem has been constructed based on a cause-effect relationship between phenomenon and undesired effect. Indeed, there is empirical evidence that Magris Group S.p.A. is experiencing a failure in holding a comprehensive and holistic view of the logistics.

Consequently, logistics outsourced process, linked to a lack of a holistic vision and comprehensive view of firm's logistics operations resulted in an inability in overviewing the entire logistics process, making Magris unable in directly managing it, fixing problems in real-time when necessary and to track the performance. This has various indirect effects: it might lead to a poor service level, or to high costs related to poor managed logistics processes and inefficient outsourcing strategy with 3PL.

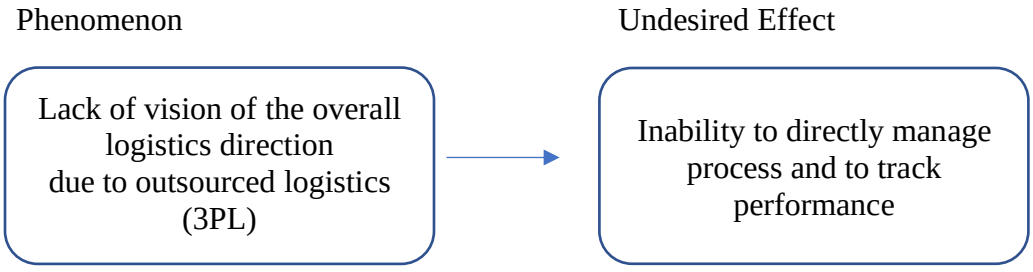

Fig. 1 Empirical Problem

Based on the empirical problem, the conceptual model can be constructed based on a link between Concept 1 and Concept 2. More specifically, the first concept is represented by the necessity of internalization of outsourced practices. Indeed, a shift to insourcing could be necessary for a firm to cope with problems as a whole and to find integrated ways to manage processes in order to optimize the overall system. (Archetti, C., Grazia Speranza, M., 2014). Consequently, Concept 1 have a significant impact in firm's performance (Concept 2).

Therefore, lack of logistic overview results in lower performance of the company, decreasing efficiency, leading to high costs related to outsourcing (term contracts with 3PL) and not guaranteed service level.

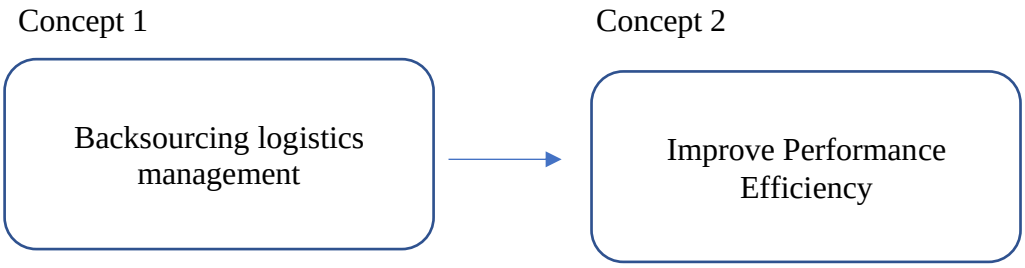

Fig. 2 Conceptual Model

1.4 Research Questions

Being this study a theory supportive inductive research study, research questions should be used to find an optimal structure of the thesis. Moreover, research questions should be answered to solve the problem. Thus, once research questions are answered, it means that our problem statement is answered as well.

Then, research questions should be about phenomenon and undesired effect and the concepts of conceptual model. More specifically, firstly the 2 theoretical questions should be addressed, then other practical questions should be addressed to check practical application of theory.

1. *What are the possible drawbacks of logistics processes outsourcing?*
2. *How can insourcing increase performance?*
3. *Which are the main reasons why Magris decided to insource the logistics process?*
4. *How can Magris respond to its inability to directly manage process?*
5. *Which measures Magris implemented and which are the main effects after the implementation of such measures?*

The first two will be answered using literature studies. On the other hand, the third, fourth and fifth questions will be answered using empirical data collection and analysis.

2. Theoretical Framework

This chapter analyzes in detail the academic literature connected to the conceptual model described in the previous chapter. It is structured in three main parts. The first one analyzes more in-depth the comparison between outsourcing and insourcing practices through academic lenses. Then, the second one and the third one analyzes the positive and negative effects of, respectively, outsourcing and insourcing practices. Finally, the third one analyzes the benefits and the related risks of insourcing activities.

In relation to what stated above, indeed, success of many industries is nowadays attributed to the performance of logistics operations (Knemeyer and Murphy, 2004). Indeed, as proposed by in its article, company's performance and competitive success in a value chain is enhanced and sustained by several factors, as follows:

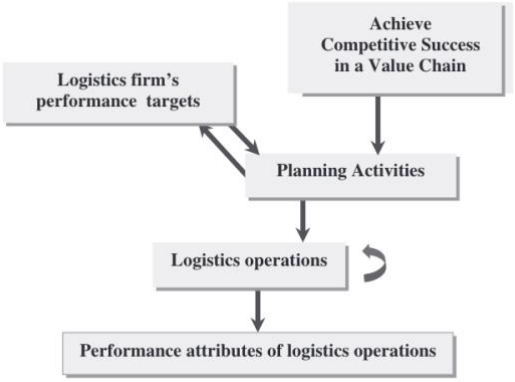

Fig. 3: Graphical representation of evaluation framework (Kayakutlu G., 2011)

2.1 Outsourcing vs. Insourcing: a comparison of opposite strategy

There has been a lot of attention by academics on strategic decisions on the right approach toward the organization. Therefore, in the literature can be found many definitions of outsourcing and backsourcing. In particular, outsourcing is defined firstly by the actors involved: the client company and the outsource company.

Then, it is defined as an arrangement that is mainly based on taking operations outside of the company and contracting with a service provider (Lejeck, 2016). In addition, outsourcing is defined as the act of getting

semi-finished, finished products or services from outside company, whose the outsourcers is called “buyer”, whereas the company providing the services is called “vendor” (Dolgui A. & Proth J., 2013).

On the other side, insourcing can be defined as the return of a functionality to the company (Lejeck, 2016). Consequently, after outsourcing practice, insourcing inevitably increases the resources and employees within the organization. Furthermore, Hartman et al. (2016) defined insourcing as the decision to reincorporate outsourced activities back to the company that had been previously transferred to an external supplier. Or, still, Maelah et al. (2010) defined insourcing as the withdrawal of activities previously carried out by an external actor.

Furthermore, an in-depth analysis about core differences in opportunities and implementation had been carried out by Kalinzi (2016). More specifically, in his paper he mainly focused about 6 main dimensions, where the most relevant in this case of outsourcing logistic activities are:

- *cost to the company*
- *resources requirements*
- *control and autonomy*
- *location*

In particular, for the considered case, those main dimensions are referred to the logistic process that had been outsourced to a third-party company due to reasons of costs, resources and location, having as main drawbacks the loss of control and autonomy.

To go more into details, each dimension identified by Kalinzi (2016) delineates several output relatively for insourcing and outsourcing procedure, as follows:

ISSUE	INSOURCING	OUTSOURCING
Location of performing a task	done solely from within a company's own operational infrastructure	uses companies not affiliated with the outsourcing company to perform a task
Cost to the Company	generally more expensive to a company because new work processes must be developed to start the new division of the company	uses an outside company that already has a workflow developed and employees familiar with the process
Resources requirements	uses resources already owned by the company to achieve a goal	do not use their own resources for manufacturing products or providing services
Control/Autonomy	have complete control over its operations and employees	have little to no managerial control over the way in which the outside company operates
Location	have little to no managerial control over the way in which the outside company operates	involves using an outside company that is not near the main company's operations

Activities	appropriate for activities such as program finance, human resources and core competencies	More diligent and more flexible.payroll, cleaning, IT and Telephony systems, and facilities management.

Fig. 4: Logistics Outsourcing Decision Strategies (Kalinzi, 2016).

Hence, through a comparative analysis, both practices of insourcing and outsourcing had been delineated in more details in literature. Indeed, according respectively to the six dimensions previously mentioned, insourcing operates solely from a company's own operational infrastructure; it is generally more expensive for firm due to the necessity to own the asset; it uses the already-owned resources of the company to get the goal; it has complete control over its operations and employees, involves operations on site or located somewhere close; it is appropriate for activities such as program finance, human resources and core competencies (Kalinzi, 2016).

On the other hand, still in the light of the six dimensions of Kalinzi primary data findings, outsourcing main aspects are delineated as: the task performing by companies not affiliated with outsourcing company; using an outside company already having a functioning and well-developed workflow and skilled personnel; not using owned resources of outsourcing firms for manufacturing products or services providing; outsourcing company has little or no control at all on how the partner company operates; involves an outside company that is no near to main company's operations; the activities are more diligent ad flexible (Kalinzi, 2016).
A company's decision to outsourcing logistics processes depends mainly on their purpose and strategy of the logistics function.

According to the relevance of logistics in the industry and the company in-house logistics competence, the Bolumole matrix (Figure 5) identifies the case whether the company should perform it in-house, spin off its logistics know-how, outsource the logistics function, or outsource certain functions while maintaining control of the process (Bolumole, 2001).

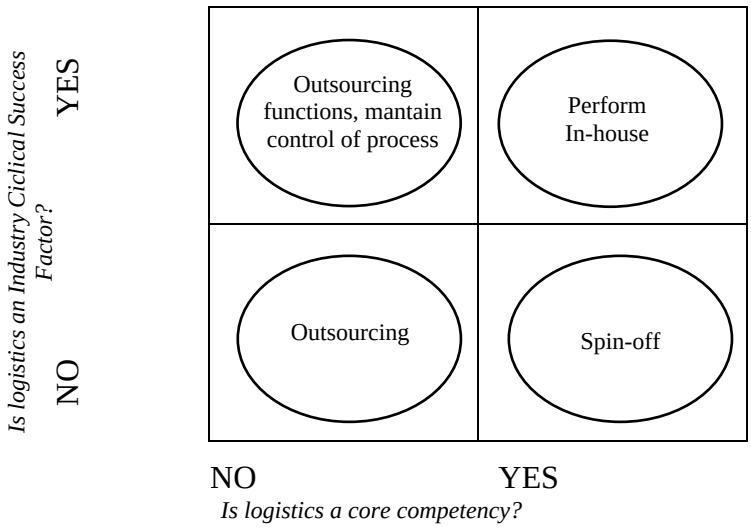

Fig. 5: Logistics Outsourcing Decision Strategies (Bolumole, 2001)

When opting for outsourcing, the strategic alliances is fundamental, leading to long-term consequences to the performance of the company in the value chain (Lee & Cavusgil 2006). Indeed, the main factors that need to be considered concern compatibility, matching and aligned expectations and compatible objectives. Furthermore, with an outlook more focused on operational terms, costs and service quality, reliability, flexibility, and responsiveness should be in line with the company necessities (Selviaridis and Spring, 2007).

To conclude, in this section the core concepts of outsourcing and insourcing had been analyzed to better understand further theoretical and practical discussion. Then, there is the evidence that strategic sourcing decisions depends on the environment and the company reference and have to be evaluated case by case. With a reference to the case study under consideration, the other sections will analyze in-depth the main outsourcing drawbacks and insourcing opportunities to increase firm's efficiency.

2.2 Outsourcing logistic activities: Benefits and Risks of 3PL

The decision whether to outsource or not the logistics process considers the possibility to increase and add value to the company's activities, to increase logistics performance. (Christopher, 1998).

There is evidence from literature that outsourcing logistics practices it is very often motivated by the expectation that this will lead to increase in performance due to lower costs or increase in quality factor inputs such as expertise, knowledge, and skills obtained by contracts with service provider (Carmel & Tjia, 2005; Manning, Larsen, & Bharati, 2015; Oshri et al., 2015; De Giovanni, 2020a).

Hence, logistics outsourcing permits the company to focus on its central competencies and make the most of external resources and expertise in handling logistics activities (Min, 2013). The potential benefits of logistics outsourcing embrace, according to Min (2013),: cost savings, improved cash flows, better asset management, greater distribution networks, quicker customer responses, a reduced burden for capital investments, and supply chain flexibility. Considering that logistics outsourcing unchains the company's key asset such as cash, personnel, equipment, and time, it is more and more considered as a fundamental strategic move. Indeed, this has become normalised, then being an option in competitive business environments. Its core value rest in cost saving opportunities, due to outsourcing tendency to augment operational efficiency by reducing investments in noncritical assets and the cluster of resources in the company's core competency (Min, 2013).

More specifically, companies are growingly outsourcing not only operational logistics functions such as transportation and warehousing, but also strategic ones, such as IT services and logistics management

(Langley and Infosys, 2019). The increasing number of companies that are looking to improve 3PL approach relies mainly on the essential benefits that are consequent to this practice. In this regard, the commissioning of logistic processes to a third party bring to a relevant reduction in costs arising from transportation, warehousing and personnel costs.

To better define and to understand 3PL (Third-Party Logistics) concept, 3PL has been defined in various ways in the literature; Lieb (1992) indeed, as ‘‘The use of external companies to perform logistics functions that have traditionally been performed within an organization. The functions performed by the third party can encompass the entire logistics process or selected activities within that process.’’ This definition propose that Third-Party logistics involve any type of outsourcing of logistics activities formerly performed in-house (Hilletofth & Hilmola, 2010).

Indeed, 3PL outsourcing of logistic activities ensure a more focus on core activities that have a strong impact on Company’s business, with a related competitive advantage. Another main driver for adding value from outsourcing activities is related to and augmentation of efficiency, flexibility and productivity, and a subsequent increase in quality. To go more into details, 3PL includes integration with a third party leading to new chances to get in touch with new experiences, opportunities and collaborations, exploring a different outlook and know-how toward a business. Also, from a frame of the network theory, outsourcing services furnish the 3PL user with a chance to exploit the 3PL’s expertise in handling with complex logistics process and documentation requirements (Min, 2013).

Another driver of 3PL that adds value to a company is the third party high-qualified personnel that takes part in this process that will be responsible for the outsourced logistic process. Consequently, the company that outsources logistic processes to a third company take an advantage on already-owned technology and assets, with a consequent declined need to own and get access to them.

Furthermore, some indirect effects are directed toward an increase of customer service and extension of market knowledge (D. Waters, 2014). Concerning what said at the beginning of this paragraph, that 3PL logistics practices it is very often motivated by the expectation that this will lead to increase in performance, in the case company are unable to achieve the performance level they expected, companies tend to be unsatisfied with outsourcing. In this context, while dissatisfaction occurs, companies try to find an alternative path leading to better performance (Desai, 2016). Generally, the increase level of dissatisfaction related to outsourcing practice is directly linked to company’s propension toward backsourcing.

Moreover, there is a growing evidence from literature to the “dark side” of outsourcing practices. Indeed, those drawbacks are identified in terms of risk of losing competences and hidden costs, leading to a

mismatch between short-term and long terms cost-savings, putting at risk the outsourcing strategic objectives. Hence, risks as loss of control, flexibility, reputation issues and poor performance may arise.

More specifically, one of the main drivers of dissatisfaction in adopting outsourcing practices is the missed control upon management of logistic activities. Indeed, this could lead to problem of real-time or missed identification of customer's problems. Moreover, also the quality cannot be secured, along with uncertainty of superfluous costs.

In addition, linked to the previous point, outsourcing of logistics activities cannot minimize costs. Thus, many companies performing outsourced activities cannot guarantee cost reduction (Langley, 2006). Indeed, being cost savings the main objectives of outsourcing, it might often increase the costs of operations, contrary to expectations (Embleton & Wright, 1998). Moreover, it can be also the case that some outsourced activities cannot give any extra-values.

Then, the certainty for the company about delivery on time of its products, in right quantity and with pre-determined quality can determine dissatisfaction for a company in outsourcing practice. In this regards, trust and commitment are fundamental, while lack of commitment and trust in communication can lead to several problems (Hertz & Alfredsson, 2003). Indeed, a not well managed and integrated coordination cannot lead to an adequate communication between the firms, therefore leading to poor efficiency and to a short-life relationship. On the other hand, a long-term relationship based on trust can guarantee advantages in terms of revenues and performance.

Another drawback concerning outsourcing practices can be associated with Value Chain: indeed, the complex interaction between multiple entities located geographically in distant areas along with the coordination of those. Embelton & Wright also assess the risk of decreasing control, workforce misdirection, increase in contract costs and reduction in quality control (Embleton & Wright, 1998). Furthermore, the technological complexity surrounding the outsourcing strategy can increase the risks of delivery, demand forecasting, and level of service to consumers (Preeker and De Giovanni, 2018). From outsourcing literature background, hidden costs are often not considered. For this reason, some authors rely on the importance of the latter. Indeed, recurring hidden costs in outsourcing practice are the costs that occur in the transferring of know-how and work to the supplier. Moreover, the mismanagement of outsourcing relationship can also be significant.

In the light of what explained above, risks of outsourcing are a relevant matter, that might be the reason and the incentive to the firm to backsourcing. Indeed, the main risks are related with strategic and economic area. In this matter, Barthélemy (2003) defined seven mistakes, better known as "seven deadly sins" as factors

driving to negative effect of outsourcing. In particular, the most relevant for this research are the following: writing a poor contract, resulting in higher costs, a reduction in the service level and an opportunistic behaviour; moreover, the issue of overlook of hidden costs of outsourcing is treated, as the contracting costs; the author investigated the importance of employees uncertainty feeling that drives their behaviour toward unproductiveness; one of the most relevant point for the scope of this research is the lost control of outsourcing activities; finally, the outsourcing strategy based on a long term relationship might fail into a "relationship trap", resulting in high-cost contracts difficult to withdraw.

Furthermore, considering what has been described until now, it is crucial to keep in mind the contrasting goals the buyer and the supplier might have, with misaligned objectives and, thus, poor performance (Barthélemy, 2003).

From empirical literature concerning outsourcing pros and cons, the main criticism identified in outsourcing mainly concern the high-costs related to enforcing performance, the high-costs related to adaption to changes, the potential risk connected to opportunism and the loss of expertise that can be useful and valuable in long-term (Tadelis, 2007).

2.3 Insourcing logistics activities as booster to add value and its related risks

The conclusion from the previous section has relevant implication for the other side of the coin. Therefore, according to Tadelis (2007), a company tend to backsourcing when the outsourcing process did not reach the expected results and then outsourcing is no longer beneficial, while opting for other strategic options could be better. Consequently, the evidence from these studies suggests that companies tend to backsourcing when the environment changed and the main drivers toward outsourcing cease to exist, leading mainly to waste of money (Tadelis, 2007).

From this study it has also been highlighted that backsourcing can always be considered as an option, where evaluation of sourcing practices and comparison with strategic alternatives could be constantly made, weighting main benefits and challenges of any considered options.
In this context, academic literature on insourcing practices found a fertile ground. In the light of empirical studies, backsourcing creates several chances and opportunities for the companies: increase in customer satisfaction, higher quality, increase level of responsiveness and faster turnaround times (Heaton, 2004).

More specifically, backsourcing enables the company to get control of previous outsourced activities. Indeed, this control re-take is directly linked to a more efficient communication toward the company and a significant improvement in cost advantages, even though they could be observed in the medium-long term.

(Heaton, 2004). More precisely, insourcing can be seen as a booster to company's performance from which derives various opportunities as increase in quality, efficiency, cost reduction, enhancement of accountability, turnaround times and bureaucracy. Furthermore, the difficulty to integrate infos and systems between a company and a third-party logistics services may slow down and break the relationship (Stojanovic, 2012).

Concerning insourcing, companies might gain benefits in terms of keeping the control and prevent doubts related to logistics activities (Tsai, 2012). In other circumstances, insourcing is favored for prevent the effects of an unsatisfactory of outsourcing relationship (Stojanovic, 2012). Indeed, relevant infos are tracked and secured because of an insourcing decision (Wan, 2015). Indeed, with insourcing, many outsourcing risks are alleviated.

Further downsides of insourcing are related to the possible cost savings that are not created. Thus, the degree of flexibility might be diminished (Wan, 2015). Logistics insourcing companies might lost, excluding outsourcing, logistics professionals and specialized (Stojanovic, 2012). Moreover, the company that opt for a strategy of insourcing logistics activities might incur in a high amount of fixed costs (Stojanovic, 2012).

In addition to this, other downsides of insourcing practices are related to the long-term costly activities, in particular for employees of time-intensive tasks (picking, packing and shipping in-house). Thus, insourcing company might necessitate of additional warehouse, where all these costs can be included very quickly. Then, insourcing might lead to a lack of flexibility in case of extraordinary or diversification activities. Moreover, the rate of risk of error might increase, leading to backordering. This concept is strictly related if logistics activities is not company's core concept, that will lead to harder and costly work, shifting the focus of core business, thus losing opportunities of growth.

Other studies on backsourcing practices highlights the relevance connected to the strategic footprint, aiming at increasing the Value Added for the company. Within this framework, internal knowledge is enhanced and stimulated through backsourcing, reducing the rate of dependency and risk toward the contracting partners. Therefore, knowledge is re-internalized and kept within company's boundaries. (Bengtsson et al., 2005)

3. Methodology

This chapter provides the methodology adopted to conduct this study. In particular, in 3.1, Research Design is explained, then Data Collection in 3.2, thus Data Analysis will be explained in 3.3.

3.1 Research Design

The scope of this research is to investigate on outsourced logistics practices of Magris Group S.p.A. and to observe and evaluate impacts of backsourcing practice on company's efficiency. Therefore, this study begins from an empirical problem, going backward from observations to theories, with the scope to find general conclusions.

For this reason, this research is considered as theory supported inductive research. Thus, it is defined as a reasoning constructing or evaluating inductive arguments on peculiar observations. (Wayne Gregory, R., & Muntermann, J., 2011). Moreover, inductive research results in a development of a new theory or, more often, in contributing to existing theories. Consequently, being the purpose of my research to better investigate Magris activities within its firm's borders, the case study method can be considered as the best approach in this context.

In particular, benefits of the case study approach can be identified as robustness in the research method, ensuring a holistic and in-depth investigation (Zainal, Z., 2007). In fact, there is clear evidence that a researcher, through case study, is able to go beyond the quantitative results, thus being able to understand in-depth the behavioural conditions through the company's perspective (Zainal, Z., 2007).

Moreover, research based upon case study method contains both quantitative and qualitative data, aiding the procedures and the consequent findings of a phenomenon through comprehensive outlook and analysis of the case under examination (Tellis, W. M., 1997). In addition, qualitative research gains more relevance when dealing with researcher's scope to go in-depth with the comprehension of a specific topic, generally adopting an inductive research method (Bryman & Bell, 2011, p. 386).

In this context, also quantitative approach is considered, to make evaluations through quantitative data about the insourcing process and its related costs and operational activities. Indeed, since the research is including both quantitative and qualitative approaches, it could be considered a mixed-method, even though higher relevance and attention is given to qualitative approach to achieve the scope of the thesis itself.

In this research, both primary and secondary data are be used: indeed, primary data are gathered for the specific scope of the study, being more authentic and with a higher level of validity; then, a particular focus on interviews and the observations with the company regarding outsourcing activities. In addition, the interviews are based on a semi-structured way, meaning that the respondent has to answer an already set up set of open-ended questions (Jamshed, 2014). Moreover, secondary data are also used with the aim of collecting data. Hence, secondary data are not collected by the researcher, but by other people and for other purposes than the one of this study, concerning documents on performance reviews and reports.

3.2 Data Collection

Before developing the Research Proposal, I conducted a semi-structured interview as one-to-one: with CEO and four employees Magris Group in logistics department. In this regard, I conducted the interview to gather all data that could be relevant in constructing the backbone of the thesis and to address the main problem Magris was facing at logistics level.

Therefore, a semi-structured interview was conducted, based on prepared questions, with the flexibility to include additional ones, according to the necessities. During the preliminary interview, the CEO gave me a general outlook on Magris, then he went into details for what concern logistics problem and related undesired effects. For the purpose of conducting the interviews, the company has been contacted personally through semi-structured interviews. The interviews were conducted through on-line meetings due to Covid-19 contingent pandemic situation.

The scope of those interviews was to extrapolate relevant information concerning the core topic of this research through an internal outlook with qualitative data from the CEO, managers and employees. Thus, this was necessary to go more in-depth with the case study of Magris company in order to investigate on the current situation and to propose the most appropriate solution in the light of this.

The table 1 identifies the interviewees, their area of competence, the duration and the place of each interview. In the APPENDIX C, the integral transcript of 3 out of 5 interviews had been reported. In particular, the CEO and the Employee of Control Management had been intervisted more than once, as reported in Table 1. Moreover, in the Appendix also relevant information are reported in the Data Display (Appendix B), with respect to the coding scheme (Appendix A).

In order to carry out this research and for its purpose, both qualitative and quantitative data are necessary. Therefore, qualitative data are useful to capture the cause behind a problem, quantitative data to

measure the economic impact of a firm. Furthermore, in drafting the Thesis, semi-structured interviews are used to gather all relevant information and required data.

The interviews conducted are mainly one-to-one, since the CEO has a general overview of entire scene, while the four managers of logistics provided a more specific and technical details, being them close to the problem. Those interviews are semi-structured, meaning that a formalized list of questions is not followed, allowing for a discussion with the interviewer.
The core arguments of those interviews rely mainly on Magris logistics activities, relationships and contracts with logistics partners, identification of problems at logistics level, description of Fara Olivana progresses, in-depth description of CEO and logistics employee points of view, etc.

In addition, I used quantitative measures as KPIs to collect some relevant data. In light of this, since Magris is recently observing progresses of the recently insourced and automized processes, where the logistics direction is on their hands, the KPIs provide a more in-depth analysis of Magris performance. The outcomes of the KPIs will be discussed at the last chapter of the thesis and will function as main indicator to observe the actual monitored performance of the company.

Before starting the process of data collection for the entire thesis, I asked consent for disclosure of information and consent for recording the interviews. Hence, being the purpose of data collection to record the respondent's perspective appropriately and a recording device is essential (Patton, 2002). In the whole interview process, I tried to reduce errors and biases as much as possible. In addition, I transcribed all the interviews, asked feedback from the interviewees, and also translated those interviews in English from original language (Italian).

For what concern modality, since face-to-face are not allowed due to Covid-19 issue, those interviews are held through on-line devices (Microsoft Teams) in order to address the problem.

Moreover, I used both primary and secondary data in order to extend the data available for the research. Indeed, while primary data are collected through interviews, secondary data are collected through quantitative measures of Performance Indicators.

The use of data triangulation aided me to increase the reliability of my research. Various types of triangulation are applied for my research in order to increase reliability: by data source, so collection of different data; by method, data collection through interviews and company documents. Finally, triangulation by theory had been used in the theoretical framework using data from different sources (Miles and Hubermann, 1994).

In addition, for what concern sampling strategy, I used non-probability sampling. Indeed, non-probability sampling is associated with qualitative research and case study (Taherdoost, 2016). More specifically, critical sampling strategy was used as I made interviews with the CEO and logistics employees, therefore selecting people whose role inside the company is coherent with the goal of my research.

Moreover, also purposive sampling was applied: thus, it is typically used in qualitative research in order to detect and pick the information-rich cases for the most appropriate use of available resources. Therefore, this includes selection of people that are informed with a phenomenon of interest (Etikan, I., 2016).

INTERVIEWS			
INTERVIEWEES	*AREA OF COMPETENCE*	*DURATION*	*PLACE*
CEO	Magris Chairman of the Board	4h total (cumulative)	On-line meetings
Employee of control management	Control Management	2 h	On-line meetings
Employee of commercial department	Commercial	1 h	On-line meetings
Employee of IT department	IT	1 h	On-line meetings
Employee of purchasing department	Procurement	1h	On-line meetings

Table 1: Interviews details

The table 1 identifies the interviewees, their area of competence, the duration and the place of each interview. In particular, with the CEO and the Employee of Control Management, more than one meeting had been scheduled. Indeed, 3 meeting had been scheduled with Magris CEO and 2 with the Employee of Control Management.

Moreover, the analysis of quantitative data helped me to evaluate the main insights for the scope of my thesis. Thus, the main KPIs Magris uses to track its performance had been collected and analyzed for their scope and their indications. In particular, they are summarized in Table 2 as follows:

KPI	Definition	Measure
Costs	Track the basic measure of timely delivery in its complete condition	Monitoring of the proper processed order management
Inventory	Metrics that helps company to make decisions about stocks	Stock alignment
Service level	The ratio of shipped orders on or before the requested ship date divided by the total number of orders.	Delivery time

Table 2: List of analyzed KPIs

This table indicates the various KPIs furnished by Magris for the case at hand, their definition, and how they are measured by Magris.

3.3 Data Analysis

In order to assign to collected data a significant meaning in my research, I organized data through by similarities and differences. Firstly, I created two main categories starting from conceptual model (Insourcing of Logistics Process, Increase in Efficiency).

Then, subcategories had be identified for the two main categories, as it is observable in Appendix B. Moreover, I assigned to each category and subcategory labels in order to facilitate memorization and recognition. Therefore, due to the qualitative nature of the data, a code display format had been used to provide a visual representation in presenting information. It displayed the connection between main categories and subcategories. In such way, information is visually clearer and get a significant meaning. Moreover, data collected is inserted in data display (Appendix B) to address relevance with literature chosen for the purpose of the research.

In order to increase the reliability of the data, I repeated the process more than once, to ensure reproducibility and stability. Moreover, internal homogeneity and external homogeneity was used in order to evaluate the coding scheme (Appendix A). In particular, the former refers to similar data in same category, the latter different data in different categories. Consequently, this facilitates recognition of causal relation between main categories and subcategories, thus supported by literature and practical example.

4. Empirical Findings and Implementations

Data collected from previous chapter had been analyzed in the light of the research questions.

The goal of this study, by answering the research questions, is to investigate which are the reasons behind the insourcing practice implementation, how this situation had been implemented and which are its main effects.

In particular, in this chapter, the main empirical findings resulting from data collection are discussed. More specifically, this chapter had been organized around the logical reasoning and explanations resulting from main insights. Indeed, starting from the Main causes toward insourcing of logistic process (4.1), problems that Magris was facing are discussed. Then, the measures implemented to react to such problems are analyzed (4.2). Finally, the last chapter focuses on main impacts of the measures implemented (4.3).

4.1 Main causes toward insourcing of logistic process

This section will explore the reasons behind the implementation of insourcing strategy. More specifically, the main problem faced by Magris was the lack of control over logistics processes. Indeed, as expressed in the Empirical Problem, Magris suffers lack of logistics direction because the entire process was outsourced to 3PL. Consequently, this is related to Magris inability to overview and to directly manage the entire shipping process and its related costs, service level and delivery time.

To go more in-depth with Magris state of affairs, the lack of control was translated in Magris' performance. Indeed, the main manifestation of the lack of control due to outsourcing is clearly expressed in the following subchapters.

4.1.1. 3PL

Magris outsourced of logistics activities to 3PL is a significant manifestation of the problem of lack of control. Indeed, for what concern Third-Party Logistics, with Magris traditional warehouses the company is not able to monitor the entire process of the orders from the very beginning. Therefore, this happens because the mechanism, as described in interview with CEO, works as follows: Magris receive the order, but then the order enters in the warehouse to be processed, going into the hands of the 3PL. Then, the 3PL manages the entire process of the order: the order is prepared, then it is picked by a transporter and thus shipped toward the

customer. At this point, Magris will receive information about the order only when it had been shipped and when it is delivered. With this process, therefore, Magris does not know at which phase and where the order is. Therefore, this led to a lack of overall monitoring on the entire shipping product, being it managed by a third party with no updates about the status of the order. The only updates Magris receives about the order are if the order had been shipped and when it has been delivered.

Moreover, the lack of monitoring is worsening by not having a digitalized tracking system, where company could be able to oversee the process of the order, without involving Magris in making most appropriate choices for its client. In addition, when the order enters the 3PL, in case of out-of-stock for ordered articles, the 3PL decided on its own which product to deliver as substitutes.

Therefore, relation with 3PL is strictly related with lack of logistics process monitoring, where, according to the Interviewee 2 (Control Management Employee) "if the 3PL manages everything autonomously without communicating, we obviously do not have direct control over what the logistics provider does".

To go more in depth, firstly Magris had unprofitable and not well implemented contracts with their 3PL. The contracts covered both order management and delivery operations. Thus, according to standing contract between Magris and its partners, they always receive a stable percentage on the Magris turnover (10%), as it will be explained in more details in the following subchapter. This measure is quite inefficient, not allowing to measure the efficiency of the 3PL and not incentivizing the 3PL to work properly and to make improvements on performance.

To conclude this section, as mentioned the externalized logistics processes to 3PL do not allows Magris to have an overhead control over the entire process. Thus, this means that the entire operation is left in the hands of 3PL, on which Magris have no choice other than to trust their work. In practice, this is translated in actual "shift of responsibility" from the core company to 3PL. Again, since there is lack of control over their operation, there is a low trustworthiness toward their operations that Magris is actually unable to monitor and to measure performance. Certainly, as confirmed by Interviewee 2, "the lack of monitoring along with poor coordination and communication lead inevitably to improvable results".

4.1.2. High Cost

With the traditional warehouses management of Magris, where logistics processes are managed by 3PL, Magris incurs in high costs.

First of all, connected to the contracts mentioned in the paragraph above, they are not inefficient only in terms of employee's performance, but mostly in terms of costs. This is so because the terms of the contract established between Magris and 3PL are getting unprofitable in the long run. Indeed, the 3PL receives a fixed remuneration (a fixed percentage over Magris turnover, around 10%) regardless their actual effort. Certainly, this turns out to be in the long term unprofitable for the company, because a fixed percentage of the turnover is always destined to the 3PL. Indeed, it might happen a period that they work less or not at full capacity, but they are actually paid the same percentage as the period before. Moreover, as the CEO highlighted in the interview, "it could be more efficient, instead of paying a fixed percentage over the turnover, a percentage per picking. In practice, it means that they are paid for the amount of order they are shipping".

In addition, this scenario is not efficient in particular because, according to CEO, it might lead very often to the case of double delivery for the same order. In practice, it means that the same order might be divided in two different shipments by the 3PL not caring about the costs of a double shipment since they receive a fixed remuneration on turnover, but Magris actually suffers a cost for a double shipment.

Moreover, what said until now is actually related with full capacity of the operations. Indeed, from Interviewee 4, it came out that since the 3PL has a fixed remuneration regardless its work, it happens that the 3PL might not care about optimization of resources. In this case, the 3PL might not fully optimize the number of packages to transport within one truck, or which roadmap would be more efficient and cost-savings. Therefore, this will have for Magris a clear impact over costs.

Furthermore, as Magris CEO highlighted during interviews, "we are actually having non-competitive costs with our competitors". Therefore, this means that Magris has no advantage in terms of costs with respect to its competitors, being a penalty in order to maintain position with market. Connected to this point, the challenge in maintaining position within the market due to non-competitive costs results in a loss of potential gains deriving from a most appropriate cost management. Indeed, by having cost advantage, and thus being competitive within market, it allows Magris to explore unexplored territories to potentially expand the market.

Finally, the last point connected to high costs Magris is facing is related to wasted costs of unexploited capabilities. More specifically, as mentioned above, the 3PL might misbehave and might not care about fully exploitation of capabilities of the resources. For example, a track not fully packed, or the human labor not implemented at full capacity, or again the shipment route might not be optimized at 100% capacity, Therefore, this is translated in wasted money for Magris.

4.1.3. Uncertain Service Level

As mentioned in the Chapter 1, Magris holds a wide diversification on its customer base, dealing with different customers operating in HORECA market. Indeed, each customer has different necessities and preferences, for instance in terms of size of the order and delivery time. Indeed, for example customers that operates in the restaurant market might require shipments almost every day, at early morning, in small sizes, with specific indication on the location and on the delivery and requires Magris to answer to its necessities. Nonetheless, in this context Magris is able only to signal different necessities of its customer to the 3PL, but the whole activity is left in 3PL hands, being Magris unable to properly monitor if the requests are followed, neither intervene in case they are not. Therefore, the more complexities and necessities have to be managed in their orders, the less adjustments are easy to be made according to different necessities. Connected to this point, a lack of monitoring over the entire processing of the order would lead Magris to be unaware on how necessities of its customers are managed.

Therefore, if contacted by the Customers, Magris is not able to give proper indications about the status of the order neither to make adjustments directly, but then it has to make a second step by involving 3PL and asking updates or giving instructions to fix a problem.
Another point, connected to what mentioned above, would be the incapacity to intervene in case of urgency. Indeed, by lacking monitoring, in case of extraordinary requests or in call for updates, Magris lacks capacity to intervene. Or even worse, Magris is not even able to detect error, by not monitoring the process.

Therefore, what said above strengthened the fact that, not holding the control of the logistics process and thus not being able to be responsive toward clients, Magris relationship with its clients is impoverished. Thus, this is crucial since Magris work is mainly based on its loyal clients, with whom the company has forged trust and relationship over time. Therefore, as theory suggest, communication and transparency are vital in order to enforce trust.

Furthermore, as Interviewee 3 said, “We are actually incapable to monitor the level of service 3PL can guarantee. Therefore, we cannot establish quality, speed and performance of our operations carried out by a partner”.
Thus, the actual level of service cannot be monitored neither guaranteed by Magris, that urged the company to react.

The main impacts of lack of control had been explored on previous chapters. What is common for all 3 points mentioned above is that, due to lack of monitoring, Magris is unable for all of them to actually make

measurements about performance and actually check the progress. Indeed, with lack of monitoring and internal data, Magris is not able to have a dashboard where to put all KPIs and to make measurements. Therefore, Magris urged to take some actions.

4.2 Call-to-action: measures implemented to react

In this section the "how" will be explored, meaning that the core implemented actions that had been taken by Magris in order to react to the problem of lack of control

4.2.1. Insourcing of logistic process

If before the logistics process was left in the hands of 3PL, now Magris decided to internalize it. Indeed, if before the 3PL managed the entire process from the order arrival to the delivery, now it gained control on the entire process of the order, leaving only the delivery operation to 3PL. Therefore, according to what Interviewee 3 said, "We started to manage the order from the inside, taking control on our core business".

Consequently, Magris introduced its employees in logistics management processes and within warehouses, that before was composed by 3PL employees. In particular, along with employees in managing all phases before delivery, it was inserted an expertise able to add value to this massive change: a Magris logistics engineering.

Furthermore, considering that now 3PL is responsible only for the delivery activity, Magris revised their inefficient contracts, as mentioned in the paragraph above. Indeed, now contracts with 3PL concerns only the delivery activity and are based on variable tariffs depending on volumes of the order and location of destination.

With this logistic model, efficiencies are gained on shipment phase. This happens because, due to contracts terms changed and due to automized systems explained in chapter below, massive shipments are encouraged. Indeed, now transporters care about their delivery routes and filling of the track, since they are paid euro/shipment. Moreover, along with transporter advantage, now also the automized TMS signal the fastest and most convenient delivery route to take.

"Internalization for us immediately means coordination and internal communication. We cannot lose pieces of the entire puzzle if we have everything in home. We are capable to oversee every phase, to know who to contact in case of problem, and we are actually able to detect if there is a problem" that was what Interviewee 4 stated talking about Magris internalization strategy.

To conclude, the internalization of the logistics process goes hand in hand with automatization of the processes. This is so because would have been unfeasible to manage internally all massive processes previously outsourced in a company large as Magris is. Therefore, all process that had been internalized, then had been automized by Magris, that will be detailed in the following subchapter.

4.2.2. Automatization of internalized processes

"In order to manage the internalized process properly, we decided to automize it. This was a necessary step because of our company's size. It would be unfeasible to internalize the process of our big firm without having a system that allows us to actually oversee and manage everything" those are the words of CEO. Therefore, after having internalized their core business, they automized it.

Firstly, the automation was done through SAP implementation. In details, SAP is a modular management software that allows Centralized System of Information and Data Management, capable of managing resources and to plan activities. It allows a company to perform activities internally on its own, connecting all parties within the same firm, ensuring coordination and communication. Moreover, what is mostly relevant is that it allows the company to have a view from above on the entire processes. More specifically, with the module SAP Warehouse Management System (WMS), Magris has a flexible and automated support in processing all orders and in managing stocks in its huge warehouses. Moreover, Magris can process the logistics processes more efficiently thanks to SAP implementation.

Or again, the system allows to have an efficient and optimized allocation of resources within inventories for the warehouses. In practice, with SAP implementation Magris can now observe the indicator of perfect stock alignment. Since this measure is based on the percentage of ordered items and delivered items, it is supposed to be at 100%, meaning that ordered items are actually available in warehouse. This is now measurable, aiding Magris to have an actual control over warehouse alignment and to track progresses. Moreover, this measure is analyzed, along with other measures detailed below by Magris management.

Automatization of the entire process also allows the company to make substitution on the out-of-stock product ordered automatically, without human errors. Indeed, as Interviewee 5 stated, "If a client orders item A, but it is actually unavailable, in the previous scenario the 3PL decided on its own which product could be delivered as substitute, and might end up opting for delivering item B. This of course might lead to errors due to human nature. Right now, we have an algorithm that in registry reports automatically that item A has as substitute in case of out-of-stock item B. Then, the system will automatically indicate item B in case of lack of item A."

Then, this automized system is directly owned by Magris, meaning that they can actually access each module to have a full overview. Even further, customer will receive notifications through emails about the update of its order.

Furthermore, Magris is now capable with its own instruments to implement a tracking system, meaning that the client is now able to check through its portal the status of its order.
Along with all mentioned until now, Magris implemented also TMS (Transportation Management System), a software that automatically organizes the delivery routes.
Or still, the monitoring system allows Magris to detect errors. Indeed, in case of double delivery for the same order, it is a signal that something went wrong. Now the company is actually capable to identify where is the error and for which reason happened.

At this point, all implementations mentioned until now enables Magris to actually have measures to track the processes. Indeed, in all phases of the order now the process is traceable: for instance, Magris can measure the total of the processed orders, in which time, how many are delivered and all intermediate steps. The monitoring of performance is done by Magris on Excel through data flows, derived from WMS.

For instance, through fill rate (percentage of in stock items with respect to requested orders) it is possible to manage the Service Level. In particular, the Service Level is monitored internally by Magris at different phases of the order:

1. *Order received*
2. *The processing of the order (total or partial, in case of out-of-stock of ordered items)*
3. *Delivery*

In all these phases Magris is now able to make verifications with indicators at each phase, compared to before that was unable to even see the status of the order.

Connected to the Service Level, Magris now manages the various necessities of its customer base with registry inserted in WMS. Therefore, if clients require specific terms for the shipment and the delivery, it is managed through registry of automized system. When recording the shipment, specific requests and needs are managed internally in the client registry. Here, standard fields are valorized. For instance, if the clients require a call in the delivery phase, it will have a diversified preparation flow, that includes a call for delivery appointment. Indeed, the system automatically sets the terms of the shipment and the delivery that had been signaled in the registry.

Furthermore, “With monitored system, we are actually able to oversee the turnover and the order management cost and transport cost”. This enables the company to actually make an equal allocation of costs.

To conclude, in this section the measures implemented by Magris to react to problems (Chapter 4.1) are explored. In particular, Magris measures implemented are internalization of logistics process and consequent automatization of these. In the following section, the effects arising from such implementation are discussed.

4.3 Effects: illustration of considerable impacts and evaluation of ameliorated performance

In this paragraph, in the light of what detailed in previous chapters, the most significant effects of implemented measures are illustrated. Moreover, even the evidence of why this situation is actually improved will be highlighted.

Indeed, with the implemented process, SAP automatically determines the exact orders that can be processed. Thus, this is measured by Magris in terms of efficiency as follows: if the signaled available item is in reality out-of-stock, it is a signal that there is some misalignment between the system and the warehouse. In this way, Magris now fixes the problem immediately. In this regard, being a crucial indicator for them the percentage of ordered items and the actual delivered items (fill rate), they are now ended up with a fill rate of 97%, which is close to the total absence of error. Moreover, the measurement indicates a deviation of 3%, that actually allows Magris to fix the error. With the system, the company is forced to align real stock with stock in the system due to constant monitoring. Consequently, it reduces the percentage of human errors. In this way, Magris can detect errors and work to minimize and avoid them. Therefore, company is now able to track the improvements is making. This measurement was done by Magris through the Inventory KPIs (as stated in Chapter 2, Table 2).

KPI	Definition	Measure	Calculation
Inventory	Metrics that helps company to make decisions about stocks	Stock alignment	Percentage of picking errors.

Table 3: Inventory KPI

As it is reported in Appendix D, Magris is now capable of evaluating performance through Inventory KPI. Indeed, it indicates the alignment between actual in-stock items and in-stock items signaled by SAP. The significant value of good performance would be a value of line processing as close as possible to 0. Thus, it means that the order had been processed without errors. Therefore, it means that the items ordered and signaled in SAP were actually present on stock, and thus are ready to be shipped immediately. This alignment of stock

reduces the percentage of error. This measurement helps Magris monitoring their errors and it is guiding them toward a performance increasing, still having 3% of deviation, as said before.

"We are now dependent on data." stated Magris CEO, adding that "We made measurement and weighing of all items in the warehouse for weight and volume. This was done to enables the system to make an automatic estimation of costs for shipments". Therefore, if in previous situation the performances were not measurable, now they are.

"Finally, now we have measurable KPIs that define the performance we want to achieve" stated the CEO, "They enables us to monitor performance and to take corrective actions to achieve the goal" . The company is actually able to make measurements, then to evaluate the perfect order. The perfect shipment is defined by CEO as "the order delivered before or at the exact date indicated by the client, in the exact quantities".

The scope of the measures implemented by Magris was actually the experienced result: minimize backorders and trying to process all items in just one order, resulting in higher service and less costs for double delivery.

Moreover, as mentioned in previous paragraph, the revised contracts encourage the aggregation of massive orders, due to transporter advantage in terms of remuneration and due to TMS indication of shortest and most efficient route. This is translated in actual scenario, according to Interviewee 2, with a cost advantage position for the company.

In addition, related to costs, the CEO stated that "The automized warehouse, with alignment of stock, means correct disposition of articles. In turns, when the order arrives, it is highly likely that all items ordered are in-stock. Therefore, the in-stock of all requested articles means no double delivery for out-of-stock items. This is a clear saving in terms of costs.". Moreover, he added that "In this way, without double delivery, we win twice: firstly, we deliver a better service to the client. Secondly, we cut down logistics cost (that in the previous scenario, with previous contracts, would have been more profit for 3PL)".

To measure the costs, as reported in Table 2 (Chapter 2), Magris uses the In time full delivery Rate KPI. Its calculation is based on the actual processing.

KPI	Definition	Measure	Calculation
In time full delivery	Track the basic measure of timely delivery in its complete condition	Monitoring of the processed order management	% of unique shipment per order

Table 4: Costs KPI

Indeed, Appendix E reports the number of processed orders with respect to the number of shipments. Therefore, the optimal value would be one-to-one metrics, meaning that for one order, just one shipment was delivered.

Consequently, this measure can actually detect the costs related to the order if the order was delivered with just one shipment. This is so because a double shipment for the same order it is translated automatically in more costs suffered by the company. Magris is now using such measure to detect its progress with number of shipping per order, trying to push the ratio at 1. It will aid the company to actually detect its weaknesses and thus focus on single shipments.

Moreover, also the clients can benefit of these measures. Indeed, now Magris enables the client through a tracking system to control the status of its shipment at each phase. Therefore, "This is a great advantage in terms of traceability of the shipment", as mentioned by Interviewee 4. Moreover, through registry in WMS, the company can register the expressed necessities of the customers for the shipping and the delivery. With this, they are avoiding risk of human errors, because everything is registered and planned. Connected to this point, with the flow of data every disservice is demonstrable because everything is registered. In addition, the performance is monitored, tracking the timing of the processing, of the delivery and if there has been any delivery attempt.

With traceability, the service level is enhanced because, in case of requests from the client side, Magris is able to directly and promptly give information. Furthermore, in case of unforeseen (ie. delay of the shipment or requests from clients), Magris is now capable to detect the problems, to intervene and to signal them to the clients. Therefore, the company can give direct and immediate responses about the status of the order. Even more, the company can give a clear photograph of the shipping time in a transparent way through a monitoring of the order flow. The order flow will signal to Magris, through an ad hoc SAP section: order placement, order processing, order picking and order delivery.

Thus, a transparent and predetermined communication about time avoid perception of disservices from the client side. Indeed, "if the client receives a prior communication that its massive shipment will require 20

days, it will expect the delivery to take this exact time. On the other hand, if the client is unaware about the delivery time, he will perceive 20 days for delivery as disservice" highlighted Interviewee 5. Therefore, transparency and direct communication gained with this implementation enhanced the perceived service level.

More specifically, one of the measures Magris can actually use as Service Level, as detailed in Table 2 (Chapter 2), is calculated upon speed of processing orders.

KPI	Definition	Measure
Service level	The ratio of shipped orders on or before the requested ship date divided by the total number of orders.	Delivery time

Table 5: Service Level KPI

Magris is now capable to track service level, through on-time delivery analysis. Indeed, Appendix F reports the number of processed orders, lines orders transmitted to logistics, lines of collected orders and lines with Transport Document emission. All these data are compared by Magris with daily total processed orders. By making such comparison, now Magris is able to monitor the speed of processing orders.

Finally, measures taken allows the company to actually take control over its core business, that was previously left in the hands of 3PL. "Previously, the 3PL had no interest about increasing the performance and efficiency, because it was not their core business. Then, internalization enables management from inside, where everything becomes more efficient." claimed the CEO.

To sum up, the core advantage for Magris was to gaining control and traceability, enabling the company to track progresses and to take corrective actions. According to CEO, "In a such big company, the big problem is not knowing how to deal with a problem, not even knowing where and what is the problem."

5. Conclusion and recommendations

In this chapter Conclusions (5.1), Recommendations (5.2), Limitations (5.3) and Future Research (5.4) are addressed.

5.1 Conclusion

The purpose of this research was to answer the problem statement reported above, in Chapter 1.2 : "How can insourcing of logistics processes improve Magris Group S.p.A. performance?". Indeed, through the explored theoretical framework, this thesis firstly analyzed the literature supporting this problem statement.

This study highlighted a significant relation between insourcing of logistics processes and company performance. By internalized the processes, Magris was enabled to oversee over the entire company operations. Then, processes could be measurable and performance is verifiable through measurement system, mostly KPIs. Indeed, the company now is able to have a holistic overview on the entire process and thus obtained all relevant data.

Along with this, also data through automatization are easily manageable. This combination brought to the possibility of using indicators. Thus, as seen in previous chapter, Magris is now using KPIs as indicators to measure the performance in the troubling areas. This is vital for the company since they can actually identify their problems and trying to correct it, making the most appropriate corrective action. This will help them to check their progresses and to improve poor (or improvable) performance, where detected.

It can be concluded that, once the core business had been internalized, then the company got an organic overview of the entire process, with acquisition of data and easy management of the entire company. Therefore, also thanks to automatization, the processes can be monitored. Thus, monitoring of performance enables the company to check progresses and to strive for desired performance. In this way, objectives are clearly delineated and identifiable for everyone, enabling the company to understand how to make progresses and their advancements.

Therefore, the gained control and introduction of measurement systems enables the company to check the progresses.

5.2 Recommendations

The results of this study can aid other firms operating in the same market. It will help them to have control over their core business, in order to track performance and driving it toward desired results. Then, it has to be said that this study has external validity for all cases that matches similar situation. Indeed, the basic assumption in this case relies mainly on Magris position in the market, activities, financial positions, relations with 3PL and, mainly, in their internal and historical structure of the company.

More specifically, similar cases are the ones that have as outsourced activities the core business of the company, and then desire to insource. Therefore, in order to extend these argumentations toward another situation, having external validity, it is crucial to consider several variables that allows the discussion of this research to remain firm and reliable.

In the light of observed results, the advice would be to maintain inside the company the core business in order to manage it in line with business KPIs. Moreover, in order to do that, it would be significant to maintain and increase monitoring systems that might guide the company toward expected results. In addition, monitoring system enables also to reduce the rate of error, aiding to detect the nature of the error, and to fix it in reasonable time.

Secondly, it is crucial to constantly verify the ex-post 3PL in terms of costs and performance. This is so because 3PL might act for their interests and are misaligned with company's KPIs. Their work has to be monitored in order to address if they are actually contributing or slowing down company's effort toward expected results.

Finally, the third recommendation would be to constantly operate to pursue the street of internal coordination, communication and traceability. Indeed, as this research revealed, the most critical factor that is determinant for Magris performance and efficiency is the logistic control.

Related to this, communication between parties it is vital to be updated and to ensure control. Thus, to guarantee a clear overview of all processes, communication and coordination between all firm segments it is highly recommended.

5.3 Limitations

It has to be said that, inevitably, this research encountered some limitations in its elaboration.

The first limitation of this study was the timing. Therefore, since this implementation was done approximately 6 months ago, the reliability of the KPI data is quite low. Moreover, it will surely be more sophisticated in the long run. This is so because the process is now at its first stage, so the results are not the ones in the long term. Indeed, with long terms results it could have been more reliable to analyze data that are actually significant.

The second limitation is that this implementation happened through pandemic situation, that might be directly or indirectly influenced the actual performance of the company.

According to what said in this chapter, it would be more significant to analyze implemented results in the long run, when the situation is more stable and has been arranged. Given all these limitations, research will find a fertile ground for further studies.

5.4 Future research

Future research should fill the gap of this research, linked to the limitations expressed in the section above.

Firstly, as mentioned in chapter above, it would be interesting to analyze the effect of the insourcing practice after this initial stage of settlement. Thus, in the long run the situation should be stabilized. At this point, data would be more reliable and significant. Alternatively, blockchain can be used to verify, manage, and pursue the transactions to force the parties to stick with the initial settlements (De Giovanni, 2020).

In particular, it would be interesting to analyze more in-depth the theme of innovation and automatization as booster to firms' performance and efficiency. Indeed, in this research it is analyzed just as additional and consequent factor, but it would be worthwhile to analyze its function as a stand-alone factor and its consequential effect on company's performance and efficiency.

To conclude, this would address unexplored grounds that would have external validity and that would integrate and contribute to this research, providing additional value.

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APPENDIX

APPENDIX A

Coding Scheme

CATEGORY	CODE	SUBCATEGORY	SUBCODE	DEFINITION	CITATION
INSOURCING OF LOGISTICS PROCESS	IOLP	BENEFITS OF INSOURCING	BOI	All data aiming to sustain Insourcing Of Logistics Process (IOLP) through Benefits Of Insourcing (BOI)	Backsourcing creates several chances and opportunities for the companies: increase in customer satisfaction, higher quality, increase level of responsiveness and faster turnaround times (Heaton, 2004).
INSOURCING OF LOGISTICS PROCESS	IOLP	DRIVERS OF INSOURCING	DOI	All data related to Drivers of Insourcing Of Logistics Process (IOLP) which affects Drivers of Insourcing (DOI)	A company tend to backsourcing when the outsourcing process did not reach the expected results and then outsourcing is no longer beneficial, while opting for other strategic options could be better (Tadelis, 2007).
INSOURCING OF LOGISTICS PROCESS	IOLP	LOGISTICS CONTROL	LD	All data related to how Logistics Control (LC) affects Insourcing Of Logistics Process (IOLP)	Backsourcing enables the company to get control of previous outsourced activities. Indeed, this control re-take is directly linked to a more efficient communication toward the company and a significant improvement in cost advantages, even though they could be observed in the medium-long term (Heaton, 2004).
INSOURCING OF LOGISTICS PROCESS	IOLP	THIRD PARTY LOGISTICS	3PL	All data related to Third Party Logistics (3PL) which impacts on Insourcing Of Logistics Process (IOLP) decisions.	Embelton & Wright also assess the risk of decreasing control, workforce misdirection, increase in contract costs and reduction in quality control as a risk of Outsourcing (Embleton & Wright, 1998).
INSOURCING OF LOGISTICS PROCESS	IOLP	MONITORED PROCESS	MP	All data related to Monitored Process (MP) which affects Insourcing Of Logistics Process (IOLP)	Furthermore, through insourcing, the company could increase responsiveness, customer satisfaction and quality, with faster turnaround times, acquiring higher level of control of the previously outsourced activity's costs, having a cost advantages (Heaton, 2004).
INSOURCING OF LOGISTICS PROCESS	IOLP	TRADITIONAL WAREHOUSES LOGISTICS PROCESS	TWLP	All data related to Traditional Warehouses Logistics Process (TWLP) which impacts on Insourcing Of Logistics Process (IOLP) decisions	''The use of external companies to perform logistics functions that have traditionally been performed within an organization. The functions performed by the third party can

					encompass the entire logistics process or selected activities within that process (Lieb, 1992).
INCREASE IN EFFICIENCY	IIE	IMPACTS OF PERFORMANCE	IOP	All data related to how Impacts Of Performance (IOP) affects Increase In Efficiency (IIE)	More precisely, insourcing can be seen as a booster to company's performance from which derives various opportunities as increase in quality, efficiency, cost reduction, enhancement of accountability, turnaround times and bureaucracy (Stojanovic, 2012).

APPENDIX B

Data Display

MAIN CATEGORIES	INSOURCING OF LOGISTICS PROCESS						INCREASE IN EFFICIENCY
CODE	IOLP						IIE
SUBCATEGORIES	BENEFITS OF INSOURCING	DRIVERS OF INSOURCING	LOGISTICS CONTROL	THIRD PARTY LOGISTICS	MONITORED PROCESS	TRADITIONAL WAREHOUSES LOGISTICS PROCESS	IMPACTS OF PERFORMANCE
SUBCODE	BOI	DOI	LC	3PL	MP	TWLP	IOP
Interviewees							
CEO	"In my opinion, the benefits are already starting to be seen with a lower percentage of errors. For sure, the biggest benefit is the ability to scale the warehouse."; "Certainly, the main advantage is scalability and responsiveness. Then, will be lower error rates and cost benefits; "	"We always had this pressure to have a better logistics cost, because our first cost, we always try to push logistics to cost less. To save money with efficiency, our solution has been to internalize and automate Fara Olivana."	"What it means is that we start and we manage to have a dashboard, we manage to put KPIs and we manage to make measurements. This was the big logic behind this choice, because it is impossible to collapse the cost of logistics only by squeezing the logistics."	"In those cases, the logistics operator basically has full direction of the logistics, they even have their own warehouse management system so we don't know anything. The approach was different for the new warehouse in Fara Olivana."	"Internalization will allow us to have control and do targeted actions to measure the level of service. In our estimation, it will allow us to dramatically decrease the logistics cost going forward and increase the level of customer service. In addition to these big innovations, we will also have such a	"In traditional warehouses we didn't see anything. We leave all the management to 3PL, and in the moment in which it comes prepared the order base logistics even arrived in logistics commerce, they managed all. In the traditional warehouses, instead, you always pay a percentage on the turnover, for which in this way we have put also	"so I think that logistics efficiency solved well becomes a competitive advantage, which you can then eventually sell. It's strategically important: become logistically efficient."; "To save money with efficiency, our solution has been to internalize and automate Fara Olivana."

					level of service in terms of traceability."	of the inner incentives."	
Employee of control management	"I have already answered this question in part earlier: increased service level, cost reduction, flexibility, improved management and coordination are all there as benefits."	"And then the fact to create a great warehouse, just in order to centralize and to reduce the inefficiencies tied to the presence of multiple warehouses, therefore with costs of management also warehouse and costs and eventual transfers."	"There is a need to put in place a management control of logistics processes."	"But there is then also a discourse that the 3PL always receives the percentage on the turnover, that one is stable therefore it does not measure neither the efficiency of the supplier and therefore it does not push 3PL the 3PL to improve itself."	"But there is also more monitoring of what the logistics supplier does and therefore it certainly brings benefits in terms of profitability, cost reduction, because it allows to have a control that otherwise would not exist."	"And therefore this thing of optimization of the turn of deliveries in the traditional warehouses lacks, lacking the logistic direction."	"And then the efficiency from the operational point of view that had to be transformed into efficiency from the point of view of costs and improvement of service quality."
Employee of commercial department	"The internalization of the logistic process in Magris in my opinion would bring benefits at any level, costs, work optimization and better management of resources according to the expectations and needs of the company and the customer."	Risk of human error: improved stock management in general. Facilitates the security of delivery to the customer and simplifies the responsiveness and accuracy of procurement. Reactivity: By internalizing the process, workers are much more aware of the company's needs and fully share its objectives. Costs: Internalizing	"The necessity to get the logistic control arise due to the lack of monitoring of the entire logistics process. This is a choice driven by necessity."	"3PL contracts agreement is not efficient as it could by internalizing logistics process."	"A higher level of monitoring ensure a better management of logistics process, ensuring higher service level and more control."	"The internalization, with the consequent increase of monitoring, make Magris more controllable and manageable internally, in step with the times and active and constantly updated with the current market, which in recent years has changed very quickly both in terms of speed of delivery, and in precision and increasingly demanding requests from customers."	"The efficiency from the operational point of view that had to be transformed into efficiency from the point of view of costs and improvement of service quality."

		processes also allows to optimize management and resources, thus reducing costs.					
Employee of IT department	"The benefits are: increased service level, reduced costs, flexibility, improved management and coordination."	"Internalization and automation were a forced choice because we now had so many warehouses. Making this transition was necessary because otherwise costs would have exploded. And so did the lack of control."	"At Fara Olivana we're trying to have to work on total control, so we're building a tracking system to monitor the entire order process, internally of course."	"Attempts are still being made to leave the last mile of warehouse management to third parties as well, but you always go back, you always take a step back because it's not easy to get to the level of service you would like."	"On the contrary, fully monitored management allows you to achieve the expected level of service and efficiency standards, along with the achievement of KPIs."	"Instead, in a traditional warehouse this does not happen: when the order enters the warehouse it is a piece of paper, which is given to a third party who then prepares it and gives it to a transporter, then they do not know where this matter should end up until someone brings it back."	"Fully monitored management allows you to achieve the expected level of service and efficiency standards, along with the achievement of KPIs."
Employee of purchasing department	""In my opinion, internalizing logistics processes would bring benefits at all levels, primarily customer satisfaction, but also the management of all business processes. Precise and efficient logistics, particularly with regard to the purchasing department, allows better planning of supplies."	"Obviously the service level Magris with a logistics of the traditional warehouses is not the maximum one, always because as said over the error margin, above all human it is high, as well as the costs that sure if outside from the standard, for whichever type of job they are extra to consider. In addition, the responsiveness to requests should also be considered, which does not always reflect the request or the specific need of Magris."	"A warehouse with WMS allows to automate many processes and therefore allows a greater control, a better management and concentration of the resources, allowing consequently to increase and improve the service level of Magris."	-		"In the traditional logistic processes both for what concerns the specific activity of picking and warehouse and for what concerns goods pickups, transfers and deliveries are: Lack of precision at stock level (manual work compared to a warehouse with WMS certainly brings a high margin of error) and at pickup level (deliveries we do not have certain dates and often there are delays, loss of goods/confusion by the carrier)"	"Compared to Fara Olivana, a traditional Magris warehouse has less precision and less material control, resulting in inaccurate stock and more errors."

APPENDIX C

Interview transcription

- *[Interview 1, CEO]*

Data: 09/04/2021

Interviewer: (2) Camilla Cruciotti

Interviewee: (1) CEO

Type of Interview: Semi-structured interview

Location: On-line Interview through Microsoft Teams platform.

Length of Interview: 1 hour

Language of the Interview: Italian (translated in English)

Before starting interview:

- *Introduction of the researcher and of the research topic*

I am Camilla Cruciotti, a 23 years old student attending the master in Supply Chain Management at Tilburg University. Here in Tilburg, I am attending a Double Degree Program in partnership with Luiss University, where I am attending a MSc in Management.

Today, this interview will take place for the scope of collecting data for my Master Thesis. The scope of this thesis is to demonstrate that the insourcing of logistics process increases in performance. In particular, the increase in the performance is enhanced and permitted by the gaining of logistics direction, obtained through insourcing. Indeed, through your recently inserted and used KPIs, the company is able to monitor and track the progress, thus take corrective actions to achieve desired results and ameliorating the performance.

- *Do you consent to use this data for academic purposes?*

Yes, I accept.

1. *<u>How did you manage 3PL in traditional warehouses?</u>*

In traditional warehouses, we have an operator to whom we pass the bills, and he processes and manages them independently, also the warehouse deliveries and the rest. At 3PL, we pay a percentage of the turnover. That was the old approach we had.

If there are second deliveries and issues regarding delivery, those are issues that they (3PL) handle themselves. In those cases, the logistics operator basically has full direction of the logistics, they even have their own warehouse management system so we don't know anything.

The approach was different for the new warehouse in Fara Olivana. There are two external operators, always from external cooperatives, but they are practically internalized because almost 90% of the employees work only for us. The 3PL is based on transport and the picking part and warehouse management. There are two differences: that the WMS is our own, the implementation was done by us with SAP and we follow the processes directly.

Then picking, on the other hand, is done by a cooperative directly managed by us. And transport by another company.

In addition, the big news is that we no longer pay a percentage of the turnover, but we adopt pricing methods that are proper to logistics: the euro, the cost per picking and the volume weight for the transport part. In the process, simulations were made with data, by engineers and we have a file with all the quantitative data, and that is what we based our decision to internalize and automate on.

2. *What do the costs look like as a result of internalization?*

At the cost level, we are not at capacity. In fact, we have disputes with logistics operators. But now that with the hiring of a new logistics engineer we're slowly getting everything settled. Out of five months or a few months it's been since we implemented Fara Olivana, now it's coming into full swing.

3. *What was the direction of the logistics directorate like in traditional warehouses before?*

In traditional warehouses we didn't see anything. We leave all the management to 3PL, and in the moment in which it comes prepared the order base logistics even arrived in logistics commerce, they managed all.

Today, however, the direction is ours, in the sense that only feasible and necessary goods arrive, and all the management of picking and processes in preparation of the goods comes from us, with our system. What it means is that we start and we manage to have a dashboard, we manage to put KPIs and we manage to make measurements. This was the big logic behind this choice, because it is impossible to collapse the cost of logistics only by squeezing the logistics, the only way is also improving on other

functions, so if we improve for example the average euro delivery on sales, so instead of delivering an average of 100 euros we deliver 500 euros, automatically the cost of delivery as a percentage is lowered. In the traditional warehouses, instead, you always pay a percentage on the turnover, for which in this way we have put also of the inner incentives.

4. *For Fara Olivana, what are the major benefits you have seen, considering the initial investment as an initial adjustment?*

In my opinion, the benefits are already starting to be seen with a lower percentage of errors. For sure, the biggest benefit is the ability to scale the warehouse.
We were struggling in the beginning. We struggled a lot given the peak of orders in September (opening date Fara Olivana), but with the old approach of traditional warehouses it would have been impossible to manage everything, add new people and make it productive right away thanks to the WMS and logistics processes.
Certainly, the main advantage is scalability and responsiveness. Then, will be lower error rates and cost benefits; precise alignments between warehouse and stock, so if there is a mismatch and no one notices, automatically the system identifies the problem.

5. *Impact of a Fara Olivana versus traditional warehouses in light of your needs and issues.*

The biggest changes: one is that we moved from a direct delivery model to a direct delivery and transit point model. we no longer serve as traditional warehouses did, as central warehouses with distribution centers. This is the first change.
Just doing this means a few things: if there are 5 customers ordering, you take the 5 orders once and bring them into different goods processing, and then it requires that in transit there is someone sorting the goods and preparing the rounds.
SAP will allow us to have control and do targeted actions to measure the level of service. In our estimation, it will allow us to dramatically decrease the logistics cost going forward and increase the level of customer service. In addition to these big innovations, we will also have such a level of service in terms of traceability.

6. *What benefits have you found from the Fara Olivana implementation?*

We always had this pressure to have a better logistics cost, because our first cost, we always try to push logistics to cost less.
To save money with efficiency, our solution has been to internalize and automate Fara Olivana.

7. *I agree with you. I think it was a right and necessary choice.*

Let's also look at a virtuous example: Amazon. Its strength lies in having a very efficient logistics process, so I think that logistics efficiency solved well becomes a competitive advantage, which you can then eventually sell. It's strategically important: become logistically efficient.

8. *How do you manage the relationship with 3PL employees?*

It's like an outsourcing of logistics staff management, which if for many numbers is very heavy, from a point of view at the operational level and a logistics operator also provides the flexibility, having more customers, to do the accordion effect so that we for example have big peaks at the beginning of the month and less after, they can manage on different customers and rebalance. In the contract we made with Fara Olivana, we included 50 customized vans so the customized van that makes last mile deliveries.
It's quite a model that you see a lot I think yes and albeit to make direct deliveries. So yes in my opinion it's a good idea that last mile control. Absolutely, to date it is still outsourced, as staff management we are now doing a test on making direct deliveries with our vehicles and also to introduce some electric vehicles to start, but the staff in these terms remains outsourced.
I don't think we'll ever directly hire drivers, let's say what we can do, however, is to basically have partner companies that manage the staff, that is, that manage the drivers, because as cooperatives there are tax advantages and the employees, even though the cooperatives change, we choose to carry them for years.
What we do is: we buy our own investment vehicles. We ask someone, I mean people who run other warehouses: our historical drivers who we give the vehicles to.

Interviewer: So, this part of the transport remains outsourced but only formally, in practice it is as if it were internalized.

Interviewee 1: Yes, we make all the investments. But they manage people and they do the personnel management and the salary management.

They are their employees, however under our suggestion of which ones to make.

Interviewer: Perfect, thank you Davide, you've been very kind. I thank you for your time and the information that you gave me. Have a nice day and I'll talk to you soon.

Interviewee 1: No worries Camilla, it's a pleasure. We'll catch up with you. Have a great day to you.

- *[Interview 1, CEO]*

Language of the Interview: Italian transcription

Prima di iniziare l'intervista:

- Presentazione del ricercatore e del tema della ricerca

Sono Camilla Cruciotti, una studentessa di 23 anni che frequenta il master in Supply Chain Management all'Università di Tilburg. Qui a Tilburg, sto frequentando un programma di doppia laurea in collaborazione con l'Università Luiss, dove sto frequentando un MSc in Management.
Oggi, questa intervista avrà luogo allo scopo di raccogliere dati per la mia tesi di master. Lo scopo di questa tesi è dimostrare che l'insourcing del processo logistico aumenta le prestazioni. In particolare, l'aumento della performance è potenziato e permesso dal guadagno di direzione logistica, ottenuto attraverso l'insourcing. Infatti, attraverso i vostri KPI recentemente inseriti e utilizzati, l'azienda è in grado di monitorare e tracciare l'andamento, intraprendendo così azioni correttive per raggiungere i risultati desiderati e migliorando la performance.

- Accetta di utilizzare questi dati per scopi accademici?

Sì, accetto.

1. *<u>Come ha gestito il 3PL nei magazzini tradizionali?</u>*

Nei magazzini tradizionali, abbiamo un operatore a cui passiamo le fatture, e lui le elabora e le gestisce autonomamente, anche le consegne del magazzino e il resto. Nel 3PL, paghiamo una percentuale del fatturato. Questo era il vecchio approccio che avevamo.

Se ci sono seconde consegne e problemi di consegna, sono questioni che loro (3PL) gestiscono da soli. In questi casi, l'operatore logistico ha fondamentalmente la direzione completa della logistica, hanno persino il loro sistema di gestione del magazzino, quindi noi non sappiamo nulla.
L'approccio è stato diverso per il nuovo magazzino di Fara Olivana. Ci sono due operatori esterni, sempre di cooperative esterne, ma sono praticamente internalizzati perché quasi il 90% dei dipendenti lavora solo per noi. Il 3PL si basa sul trasporto e sulla parte di picking e sulla gestione del magazzino. Ci sono due differenze: che il WMS è nostro, l'implementazione è stata fatta da noi con SAP e seguiamo direttamente i processi.
Poi il picking, invece, è fatto da una cooperativa gestita direttamente da noi. E il trasporto da un'altra azienda.
Inoltre, la grande novità è che non paghiamo più una percentuale sul fatturato, ma adottiamo metodi di tariffazione propri della logistica: l'euro, il costo per picking e il peso volumetrico per la parte di trasporto. Nel processo, sono state fatte delle simulazioni con dati, da ingegneri e abbiamo un file con tutti i dati quantitativi, ed è su questo che abbiamo basato la nostra decisione di internalizzare e automatizzare.

2. *Come sono i costi a seguito dell'internalizzazione?*

A livello di costi, non siamo alla capacità. Infatti, abbiamo delle controversie con gli operatori logistici. Ma ora che con l'assunzione di un nuovo ingegnere logistico stiamo lentamente sistemando tutto. Su cinque mesi o pochi mesi che sono passati da quando abbiamo implementato Fara Olivana, ora sta entrando a regime.

3. Com'era la direzione della logistica nei magazzini tradizionali prima?

Nei magazzini tradizionali non si vedeva niente. Lasciamo tutta la gestione al 3PL, e nel momento in cui viene preparata la logistica di base dell'ordine anche arrivato in logistica commerciale, hanno gestito tutto.
Oggi invece la direzione è nostra, nel senso che arriva solo la merce fattibile e necessaria, e tutta la gestione del picking e dei processi di preparazione della merce viene da noi, con il nostro sistema. Quello che significa è che noi partiamo e riusciamo ad avere un cruscotto, riusciamo a mettere dei KPI e riusciamo a fare delle misurazioni. Questa è stata la grande logica dietro questa scelta, perché è impossibile far crollare il costo della logistica solo spremendo la logistica, l'unico modo è migliorare anche su altre funzioni, quindi se noi miglioriamo per esempio la consegna media di euro sulle vendite,

quindi invece di consegnare una media di 100 euro consegniamo 500 euro, automaticamente il costo della consegna in percentuale si abbassa. Nei magazzini tradizionali invece si paga sempre una percentuale sul fatturato, per cui in questo modo abbiamo messo anche degli incentivi interni.

4. *Per Fara Olivana, quali sono i maggiori benefici che avete riscontrato, considerando l'investimento iniziale come un adeguamento iniziale?*

Secondo me i benefici si cominciano già a vedere con una percentuale di errori inferiore. Sicuramente il beneficio maggiore è la capacità di scalare il magazzino.
All'inizio facevamo fatica. Abbiamo faticato molto visto il picco di ordini a settembre (data di apertura di Fara Olivana), ma con il vecchio approccio dei magazzini tradizionali sarebbe stato impossibile gestire tutto, aggiungere nuove persone e renderlo produttivo da subito grazie al WMS e ai processi logistici.
Certamente, il vantaggio principale è la scalabilità e la reattività. Poi, saranno minori tassi di errore e vantaggi in termini di costi; allineamenti precisi tra magazzino e stock, così se c'è una mancata corrispondenza e nessuno se ne accorge, automaticamente il sistema identifica il problema.

5. *Impatto di una Fara Olivana rispetto ai magazzini tradizionali alla luce delle vostre esigenze e problematiche.*

I cambiamenti più grandi: uno è che siamo passati da un modello di consegna diretta a un modello di consegna diretta e punto di transito. non serviamo più come facevano i magazzini tradizionali, come magazzini centrali con centri di distribuzione. Questo è il primo cambiamento.
Fare questo significa alcune cose: se ci sono 5 clienti che ordinano, si prendono i 5 ordini una volta sola e li si porta in diversi punti di lavorazione della merce, e poi si richiede che in transito ci sia qualcuno che smista la merce e prepara i giri.
SAP ci permetterà di avere il controllo e di fare azioni mirate per misurare il livello di servizio. Secondo le nostre stime, ci permetterà di diminuire drasticamente il costo della logistica in futuro e di aumentare il livello di servizio al cliente. Oltre a queste grandi innovazioni, avremo anche un tale livello di servizio in termini di tracciabilità.

6. *Quali benefici avete riscontrato dall'implementazione di Fara Olivana?*

Abbiamo sempre avuto questa pressione per avere un costo logistico migliore, perché il nostro primo costo, cerchiamo sempre di spingere la logistica a costare meno.
Per risparmiare con l'efficienza, la nostra soluzione è stata quella di internalizzare e automatizzare Fara Olivana.

7. Sono d'accordo con te. Credo sia stata una scelta giusta e necessaria.

Guardiamo anche un esempio virtuoso: Amazon. La sua forza sta nell'avere un processo logistico molto efficiente, quindi penso che l'efficienza logistica risolta bene diventi un vantaggio competitivo, che poi eventualmente si può vendere. È strategicamente importante: diventare logisticamente efficienti.

8. Come gestisce il rapporto con i dipendenti della 3PL?

È come un outsourcing della gestione del personale logistico, che se per molti numeri è molto pesante, da un punto di vista operativo e un operatore logistico fornisce anche la flessibilità, avendo più clienti, di fare l'effetto fisarmonica per cui noi per esempio abbiamo grandi picchi a inizio mese e meno dopo, loro possono gestire su clienti diversi e riequilibrare. Nel contratto che abbiamo fatto con Fara Olivana, abbiamo incluso 50 furgoni personalizzati quindi il furgone personalizzato che fa le consegne dell'ultimo miglio.
È un modello che si vede spesso, credo di sì e anche se per fare consegne dirette. Quindi sì, secondo me è una buona idea il controllo dell'ultimo miglio. Assolutamente, ad oggi è ancora in outsourcing, come gestione del personale ora stiamo facendo un test sul fare consegne dirette con i nostri veicoli e anche per introdurre alcuni veicoli elettrici per iniziare, ma il personale in questi termini rimane in outsourcing.
Non credo che assumeremo mai direttamente gli autisti, diciamo che quello che possiamo fare però è sostanzialmente avere delle aziende partner che gestiscono il personale, cioè che gestiscono gli autisti, perché essendo cooperative ci sono dei vantaggi fiscali e i dipendenti, anche se le cooperative cambiano, noi scegliamo di portarli per anni.
Quello che facciamo è: compriamo i nostri veicoli di investimento. Chiediamo a qualcuno, intendo persone che gestiscono altri magazzini: i nostri autisti storici a cui diamo i veicoli.

Intervistatrice: Quindi, questa parte del trasporto rimane esternalizzata ma solo formalmente, in pratica è come se fosse internalizzata.

Intervistato 1: Sì, noi facciamo tutti gli investimenti. Ma loro gestiscono le persone e fanno la gestione del personale e dei salari.
Sono loro dipendenti, però sotto il nostro suggerimento di quali fare.

Intervistatrice: Perfetto, grazie Davide, sei stato molto gentile. Ti ringrazio per il tuo tempo e per le informazioni che mi hai dato. Buona giornata e ci sentiamo presto.

Intervistato 1: Non preoccuparti Camilla, è un piacere. Ci sentiamo presto. Buona giornata a te.

- *[Interview 2, Employee of Control Management]*

Data: 23/04/2021
Interviewer: (2) Camilla Cruciotti
Interviewee: (1) Control Management Employee
Type of Interview: Semi-structured interview
Location: On-line Interview through Microsoft Teams platform.
Length of Interview: 1 hour
Language of the Interview: Italian (translated in English)

Before starting interview:

- *Introduction of the researcher and of the research topic*

I am Camilla Cruciotti, a 23 years old student attending the master in Supply Chain Management at Tilburg University. Here in Tilburg, I am attending a Double Degree Program in partnership with Luiss University, where I am attending a MSc in Management.
Today, this interview will take place for the scope of collecting data for my Master Thesis. The scope of this thesis is to demonstrate that the insourcing of logistics process increases in performance. In particular, the increase in the performance is enhanced and permitted by the gaining of logistics direction, obtained through insourcing. Indeed, through your recently inserted and used KPIs, the company is able to monitor and track the progress, thus take corrective actions to achieve desired results and ameliorating the performance.

- *Do you consent to use this data for academic purposes?*

Yes, I accept.

1. *Perspective towards the future of internalization of logistic processes and consequent implications?*

   For the future, surely automated business management will be critical to flows in the fact of having delivery tracks, having all pricing operations much more streamlined and much faster. All these operations and all these implementations will certainly lead to an improvement in logistics service. But already from the first phase of initial chaos due to the change and to the adaptation from traditional warehouses to automated and with internalization of the logistic processes, now we are in a phase of normality, we have re-entered from this part a po emergency that was the phase a po of stravolgimento. Here, according to me is an aspect to be noted in a thesis of this type, give transparency also of the fact that there is a phase of profound upheaval really because it overwhelms the logistics for a commercial company like ours. So, if there is such a massive change as we have had it upsets both the management system in our internal the remittance warehouse system entirely upsets all the processes. Therefore, it is correct according to me also to take over this summit is to level of costs but also to level of structure just because we have identified the necessity to insert a new figure of a logistic engineer that manages the process of people to ad hoc just that it takes care of the direction of the deliveries.

2. *You were really very precise in all your answers. So thank you for that as well. How is the logistics direction of traditional warehouses (no Fara Olivana), how is the whole logistics process perceived?*

   The operator of the logistics detaches the delivery, therefore it creates a logistic document, and if determined articles are not present in the warehouse, it calls the operator of the customer service asking for a substitutive article, with a logic of optimization of the turns that make the various parcels. Or, still, it would be possible to unify the two deliveries and make a single turn in case of neighboring locations for deliveries. And therefore this thing of optimization of the turn of deliveries in the traditional warehouses lacks, lacking the logistic direction; or rather, these logics probably in part are however there, but they are not so institutionalized like in the warehouse of Fara Olivana, for which it is all automated and managed from the logistic direction.

3. *What is the contractual situation like with Third Party Logistics (3PL) for traditional warehouse logistics processes?*

It is a fairly stable situation because they are contracts that we have been carrying out for some time with other suppliers. The cost is composed of a part linked to turnover, then there is a part of extra linked to any additional costs, for example for delivery to the floor rather than other additional services. Then, in that case in addition to the rate on turnover or percentage on turnover or an extra cost for additional services.

It's still not profitable because the percentage in any case is fixed and so you always start from that and add it. So you start from that cost base, plus extra costs and so it's not optimized. But there is then also a discourse that the 3PL always receives the percentage on the turnover, that one is stable therefore it does not measure neither the efficiency of the supplier and therefore it does not push 3PL the 3PL to improve itself.

4. *What impact do you think internalizing the logistics process will have on costs for Magris?*

I expect that the internalization of the logistics process will lead to a significant improvement in costs, precisely because the fact that we have introduced certain company figures that monitor the transition between traditional to automated and internalized allows us to put a magnifying glass on all the flows and, therefore, where there are anomalies, (For example, the departure of a truck to make deliveries empty). We have to fill it for that truck to optimize deliveries and costs. There is a greater monitoring of all those that are the flows in exit.

5. *What factors do you believe drove Magris to open a new warehouse, with WMS and with in-house logistics management? Once identified, what purpose/benefit were they aiming at?*

Fara Olivana was born from the idea of centralizing in a single large autonomous logistics hub to meet the costs of transfers of traditional warehouses, which are in fact absent in Fara Olivana because I always start from the warehouse itself, where everything is and from there we rely on peripheral centers for deliveries. And then the fact to create a great warehouse, just in order to centralize and to reduce the inefficiencies tied to the presence of multiple warehouses, therefore with costs of management also warehouse and costs and eventual transfers. Then, the fact of making it instead so automated was a necessity that precisely you wanted to streamline all flows and make them more traceable for the fact of wanting to implement solutions of tracking the delivery and in each of its phases; moreover, even all the phases for which the automatic creation through precisely this system of logistics operators; and

then the efficiency from the operational point of view that had to be transformed into efficiency from the point of view of costs and improvement of service quality. I certainly expect there to be an improvement and I can confirm that compared to total chaos we have already arrived, with internalization and automation, at a fairly acceptable convergence.

6. *What do you believe have been the factors of innovation and growth that see Fara Olivana different, if we want better, from the traditional warehouses? (e.g. non-manual management -WMS-, increased flexibility..)*

In my opinion, the aspect of the employees themselves should also be considered. The perception is the fact of being able to be part, let's say, of such a big project, to take part in this phase in which the employees are protagonists and witnesses of the change, and therefore also you as an operator feel satisfied. The employees are protagonists of an important project for Magris, so in this process the employees with this involvement has been positive because it has allowed to push further towards this improvement.

7. *What factors have led Fara Olivana to achieve greater control and direction of logistics processes, providing greater logistics direction, as opposed to traditional warehouses?*

Yes. The fact is that we realized that we had a hole in our structure and therefore we had to intervene, inserting a plug in this hole. The plugging of the hole, has then triggered also phase that calls to the obtaining of an advantage that has arrived consequently. However, we realized that, for a warehouse like the one in Fara Olivana, automatically managed, there had to be a team and a structure that could manage and coordinate the various processes. In fact, Fara Olivana has practically centralized 3 hubs in Northern Italy, with automated logics that are convenient but must be managed. There is a need to put in place a management control of logistics processes.

8. *Which are the benefits, according to you, deriving from an automated warehouse and with logistic hiring like Fara Olivana, unlike traditional warehouses? (Ex. Increase of the service level, cost reduction, flexibility, improvement of management and coordination...) - Also refer to benefits expected in the long term and not in place currently.*

I have already answered this question in part earlier: increased service level, cost reduction, flexibility, improved management and coordination are all there as benefits. These are all things that are going to

be seen both in the short term and in the long term, because it's a big investment anyway, but an investment that we expect to pay off for several years. Therefore, all these benefits are own because also the fact to have introduced from the informative systems that allow to make automated the processes concurs also to intervene where there was an upgrade. We intervene on the managerial script, and we make it more suitable to us, that perhaps it comes managed all manually, and the good operator that it does and the not good operator that it does not, and therefore it always remains all a little less sure, but better in general.

9. *How does Fara Olivana, unlike traditional warehouses, contribute and help Magris achieve its KPIs? Also define Magris' KPIs.*

   For Magris, the incidence of the logistic cost always remains the logistic cost on the turnover, and the logistic cost on the turnover is kept under control with the warehouse of Fara Olivana insofar as we have this direction that allows us to optimize the deliveries, therefore reduce the deliveries when they are located at the same destination, rather than filling the means for optimization, therefore it is more in the warehouse of Fara Olivana the insertion of a direction rather than the change of the setting in the definition of the logistic cost.

10. *Do you believe that internalizing logistics processes can have benefits in terms of profitability, cost reductions, increased service level, increased logistics direction and coordination etc.? Mention additional benefits if needed.*

    Yes, as long as there is a Magris figure/operator who monitors suppliers and 3PL. No on the other hand if there is only the logistics provider managing everything, you obviously don't have direct control over what the logistics provider does. Surely, with the internalization of the logistics process there is more coordination in the order-delivery phases, but there is also more monitoring of what the logistics supplier does and therefore it certainly brings benefits in terms of profitability, cost reduction, because it allows to have a control that otherwise would not exist. We have a logistics engineer and other figures who are present and avoid exactly what is happening. They monitor everything and, above all, they also have the skills at a technical level to be able to set up tools to monitor the deliveries that leave.

Interviewer: That's fine, that was very clear, thank you very much. That brings us to the end of our interview. I'll talk to you soon, thank you for your availability and contribution to my research and good work!

Interviewee 2: You're welcome Camilla, it's been a pleasure, let's catch up. Good luck with your thesis! Greetings.

- *[Interview 2, Employee of Control Management]*
  Language of the Interview: Italian transcription

Prima di iniziare l'intervista:

- Presentazione del ricercatore e del tema della ricerca

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Oggi, questa intervista avrà luogo allo scopo di raccogliere dati per la mia tesi di master. Lo scopo di questa tesi è dimostrare che l'insourcing del processo logistico aumenta le prestazioni. In particolare, l'aumento della performance è potenziato e permesso dal guadagno di direzione logistica, ottenuto attraverso l'insourcing. Infatti, attraverso i vostri KPI recentemente inseriti e utilizzati, l'azienda è in grado di monitorare e tracciare l'andamento, intraprendendo così azioni correttive per raggiungere i risultati desiderati e migliorando la performance.

- Accetta di utilizzare questi dati per scopi accademici?

Sì, accetto.

1. *Prospettiva verso il futuro dell'internalizzazione dei processi logistici e conseguenti implicazioni?*

Per il futuro, sicuramente la gestione automatizzata del business sarà fondamentale per i flussi nel fatto di avere binari di consegna, avere tutte le operazioni di pricing molto più snelle e molto più veloci. Tutte queste operazioni e tutte queste implementazioni porteranno sicuramente ad un miglioramento del servizio logistico. Ma già dalla prima fase di caos iniziale dovuta al cambiamento e all'adattamento da magazzini tradizionali ad automatizzati e con internalizzazione dei processi logistici, adesso siamo in una fase di normalità, siamo rientrati da questa parte un po' in emergenza che era la fase un po' di stravolgimento. Ecco, secondo me è un aspetto da rilevare in una tesi di questo tipo, dare trasparenza

anche del fatto che c'è una fase di profondo stravolgimento veramente perché travolge la logistica per un'azienda commerciale come la nostra. Quindi, se c'è un cambiamento così massiccio come quello che abbiamo avuto noi sconvolge sia il sistema di gestione nel nostro interno il sistema di magazzino delle rimesse sconvolge interamente tutti i processi. Quindi è corretto anche secondo me rilevare questo vertice sia a livello di costi ma anche a livello di struttura proprio perché abbiamo individuato la necessità di inserire una nuova figura di ingegnere logistico che gestisce il processo di persone ad hoc proprio che si occupa della direzione delle consegne.

2. *Sei stato davvero molto preciso in tutte le tue risposte. Quindi grazie anche per questo. Com'è la direzione logistica dei magazzini tradizionali (no Fara Olivana), come viene percepito l'intero processo logistico?*

L'operatore della logistica stacca la consegna, quindi crea un documento logistico, e se determinati articoli non sono presenti nel magazzino, chiama l'operatore del servizio clienti chiedendo un articolo sostitutivo, con una logica di ottimizzazione dei giri che fanno i vari pacchi. Oppure, ancora, sarebbe possibile unificare le due consegne e fare un solo giro in caso di sedi vicine per le consegne. E quindi questa cosa di ottimizzazione del giro di consegne nei magazzini tradizionali manca, mancando la direzione logistica; o meglio, queste logiche probabilmente in parte ci sono comunque, ma non sono così istituzionalizzate come nel magazzino di Fara Olivana, per il quale è tutto automatizzato e gestito dalla direzione logistica.

3. *Com'è la situazione contrattuale con la Logistica Terza Parte (3PL) per i processi logistici di magazzino tradizionali?*

È una situazione abbastanza stabile perché sono contratti che portiamo avanti da tempo con altri fornitori. Il costo è composto da una parte legata al fatturato, poi c'è una parte di extra legata ad eventuali costi aggiuntivi, ad esempio per la consegna al piano piuttosto che altri servizi aggiuntivi. Quindi, in quel caso oltre al tasso sul fatturato o alla percentuale sul fatturato o un costo extra per i servizi aggiuntivi.
Non è comunque redditizio perché la percentuale in ogni caso è fissa e quindi si parte sempre da quella e la si aggiunge. Quindi si parte da quella base di costi, più i costi extra e quindi non è ottimizzato. Ma c'è poi anche un discorso che il 3PL riceve sempre la percentuale sul fatturato, quella è stabile quindi non misura né l'efficienza del fornitore e quindi non spinge il 3PL a migliorarsi.

4. *Che impatto pensi che l'internalizzazione del processo logistico avrà sui costi per Magris?*

Mi aspetto che l'internalizzazione del processo logistico porterà ad un significativo miglioramento dei costi, proprio perché il fatto di aver introdotto alcune figure aziendali che monitorano il passaggio tra tradizionale ad automatizzato e internalizzato ci permette di mettere una lente di ingrandimento su tutti i flussi e, quindi, dove ci sono anomalie, (Per esempio, la partenza di un camion per fare le consegne vuoto). Dobbiamo riempire quel camion per ottimizzare le consegne e i costi. C'è un maggiore monitoraggio di tutti quelli che sono i flussi in uscita.

5. *Quali fattori credi che abbiano spinto Magris ad aprire un nuovo magazzino, con WMS e con gestione logistica interna? Una volta individuato, a quale scopo/beneficio miravano?*

Fara Olivana nasce dall'idea di accentrare in un unico grande polo logistico autonomo i costi dei trasferimenti dei magazzini tradizionali, che di fatto sono assenti in Fara Olivana perché io parto sempre dal magazzino stesso, dove c'è tutto e da lì ci appoggiamo a centri periferici per le consegne. E poi il fatto di creare un grande magazzino, proprio per centralizzare e ridurre le inefficienze legate alla presenza di più magazzini, quindi con costi di gestione anche del magazzino e costi ed eventuali trasferimenti. Poi, il fatto di renderlo invece così automatizzato era una necessità che appunto si voleva snellire tutti i flussi e renderli più tracciabili per il fatto di voler implementare soluzioni di tracking della consegna e in ogni sua fase; inoltre, anche tutte le fasi per cui la creazione automatica attraverso appunto questo sistema di operatori logistici; e quindi l'efficienza dal punto di vista operativo che si doveva trasformare in efficienza dal punto di vista dei costi e miglioramento della qualità del servizio. Sicuramente mi aspetto che ci sia un miglioramento e posso confermare che rispetto al caos totale siamo già arrivati, con l'internalizzazione e l'automazione, ad una convergenza abbastanza accettabile.

6. *Quali ritiene siano stati i fattori di innovazione e crescita che vedono Fara Olivana diversa, se vogliamo migliore, dai magazzini tradizionali? (es. gestione non manuale -WMS-, maggiore flessibilità..)*

Secondo me va considerato anche l'aspetto dei dipendenti stessi. La percezione è il fatto di poter essere parte, diciamo, di un progetto così grande, di partecipare a questa fase in cui i dipendenti sono protagonisti e testimoni del cambiamento, e quindi anche tu come operatore ti senti soddisfatto. I

dipendenti sono protagonisti di un progetto importante per Magris, quindi in questo processo i dipendenti con questo coinvolgimento è stato positivo perché ha permesso di spingere ulteriormente verso questo miglioramento.

7. *Quali fattori hanno portato Fara Olivana a raggiungere un maggior controllo e direzione dei processi logistici, fornendo una maggiore direzione logistica, rispetto ai magazzini tradizionali?*

Sì. Il fatto è che ci siamo resi conto che avevamo un buco nella nostra struttura e quindi abbiamo dovuto intervenire, inserendo un tappo in questo buco. Il tamponamento del buco, ha poi innescato anche una fase che chiama all'ottenimento di un vantaggio che è arrivato di conseguenza. Ci siamo però resi conto che, per un magazzino come quello di Fara Olivana, gestito automaticamente, doveva esserci un team e una struttura che potesse gestire e coordinare i vari processi. Infatti, Fara Olivana ha praticamente centralizzato 3 hub nel Nord Italia, con logiche automatizzate che sono comode ma devono essere gestite. C'è la necessità di mettere in atto un controllo di gestione dei processi logistici.

8. *Quali sono i benefici, secondo lei, derivanti da un magazzino automatizzato e con assunzioni logistiche come Fara Olivana, a differenza dei magazzini tradizionali? (Es. Aumento del livello di servizio, riduzione dei costi, flessibilità, miglioramento della gestione e del coordinamento...) - Riferirsi anche ai benefici previsti a lungo termine e non in atto attualmente.*

Ho già risposto a questa domanda in parte prima: l'aumento del livello di servizio, la riduzione dei costi, la flessibilità, il miglioramento della gestione e della coordinazione sono tutti presenti come benefici. Sono tutte cose che si vedranno sia a breve che a lungo termine, perché è comunque un grande investimento, ma un investimento che ci aspettiamo di ripagare per diversi anni. Quindi, tutti questi benefici sono propri perché anche il fatto di aver introdotto dei sistemi informativi che permettono di rendere automatizzati i processi consente anche di intervenire dove c'era un aggiornamento. Interveniamo sullo script gestionale, e lo rendiamo più adatto a noi, che magari viene gestito tutto manualmente, e il buon operatore che lo fa e il non buon operatore che non lo fa, e quindi rimane sempre tutto un po' meno sicuro, ma migliore in generale.

9. *In che modo Fara Olivana, a differenza dei magazzini tradizionali, contribuisce e aiuta Magris a raggiungere i suoi KPI? Definisca anche i KPI di Magris.*

Per Magris l'incidenza del costo logistico rimane sempre il costo logistico sul fatturato, e il costo logistico sul fatturato è tenuto sotto controllo con il magazzino di Fara Olivana nella misura in cui abbiamo questa direzione che ci permette di ottimizzare le consegne, quindi ridurre le consegne quando si trovano alla stessa destinazione, piuttosto che riempire i mezzi per l'ottimizzazione, quindi è più nel magazzino di Fara Olivana l'inserimento di una direzione piuttosto che il cambiamento dell'impostazione nella definizione del costo logistico.

10. *Crede che l'internalizzazione dei processi logistici possa avere dei benefici in termini di redditività, riduzione dei costi, aumento del livello di servizio, aumento della direzione e del coordinamento logistico, ecc. Menziona altri benefici se necessario*

Sì, finché c'è una figura/operatore di Magris che controlla i fornitori e i 3PL. No invece se c'è solo il fornitore di logistica che gestisce tutto, ovviamente non hai un controllo diretto su quello che fa il fornitore di logistica. Sicuramente con l'internalizzazione del processo logistico c'è più coordinamento nelle fasi di ordine-consegna, ma c'è anche più monitoraggio di quello che fa il fornitore di logistica e quindi porta sicuramente dei benefici in termini di redditività, di riduzione dei costi, perché permette di avere un controllo che altrimenti non ci sarebbe. Abbiamo un ingegnere logistico e altre figure che sono presenti ed evitano esattamente quello che succede. Controllano tutto e soprattutto hanno anche le competenze a livello tecnico per poter predisporre degli strumenti per monitorare le consegne che partono.

Intervistatore: Bene, è stato molto chiaro, grazie mille. Questo ci porta alla fine della nostra intervista. Ci sentiamo presto, grazie per la tua disponibilità e il tuo contributo alla mia ricerca e buon lavoro!

Intervistata 2: Non c'è di che Camilla, è stato un piacere, ci sentiamo. In bocca al lupo per la tua tesi! Saluti.

- *[Interview 3, Employee of IT]*

Data: 27/04/2021
Interviewer: (2) Camilla Cruciotti
Interviewee: (1) IT Employee
Type of Interview: Semi-structured interview
Location: On-line Interview through Microsoft Teams platform.

Length of Interview: 1 hour

Language of the Interview: Italian (translated in English)

Before starting interview:

- *Introduction of the researcher and of the research topic*

I am Camilla Cruciotti, a 23 years old student attending the master in Supply Chain Management at Tilburg University. Here in Tilburg, I am attending a Double Degree Program in partnership with Luiss University, where I am attending a MSc in Management.
Today, this interview will take place for the scope of collecting data for my Master Thesis. The scope of this thesis is to demonstrate that the insourcing of logistics process increases in performance. In particular, the increase in the performance is enhanced and permitted by the gaining of logistics direction, obtained through insourcing. Indeed, through your recently inserted and used KPIs, the company is able to monitor and track the progress, thus take corrective actions to achieve desired results and ameliorating the performance.

- *Do you consent to use this data for academic purposes?*

Yes, I accept.

1. *Which are the main problems that you find in the logistic processes of the traditional warehouses?*

In the traditional warehouses substantially problems are found like the traceability of the materials and the precision. Therefore, a whole series of problems linked to the lack of precision that imposes a computerized system, for example of exchange of codes perhaps; or also just to the finding in the warehouse of a code, because not having it computerized it could be put in any place. for which if there is not the historical memory, human, therefore if the expert warehouseman lacks, that knows where the materials are found above all, materials are not found because they are not known where they are.
All this but can be managed always within sure dimensions, and therefore in the small warehouses (and traditional). Instead, the problem is posed for the warehouses of greater dimensions; in the small ones therefore I have all to capacity of sight, the material that is succeeded to manage and gradually that the warehouse increases of dimensions, these problematic ones are made to feel. The main problem

becomes the traceability of the materials, and the precision because perhaps they are exchanged not even realizing it.

Attempts are still being made to leave the management of the warehouse to third parties for the last mile, but they always go back, they always take a step backwards because it is not easy to achieve the level of service one would like. On the contrary, a fully monitored management allows you to reach the expected service level and efficiency standards, along with the achievement of KPIs.

2. *How do you consider the service level of Magris derived from traditional warehouses (no Fara Olivana)?*

Like all things there are advantages and disadvantages, being small these warehouses also manage to have a certain type of efficiency.

So, tracking materials and trying to make as few mistakes as possible. They are also more complex humanly and elastic. The problems start when the warehouse grows in dimensions and it becomes difficult to find materials and the errors increase for confusion or for the lacked deliveries, because it is not found a material that then after there is. Paradoxically therefore it is all tied up to the dimension. Warehouses as big as the one in Fara Olivana (22 thousand meters) would be unmanageable in a traditional way and looking for materials would be impossible to manage.

Therefore, here we say that then the choice has been made also because having to supply a so wide territory and having so many warehouses, there is an extreme redundancy in the materials, therefore in a same article, even if it turns little, it was found in different warehouses. Therefore, an exponential increase of the total value of the warehouse, and therefore a very low total warehouse rotation, because the low rotation materials that however are multiplied for n. warehouses, make to lower the total rotation. Therefore, in order to make up for this they have tried to reduce the stock of warehouse. But this made that there had to make many displacements between the inner warehouses and of many transfers of warehouse.

The service to Fara Olivana, being able to completely monitor the process, increases the difficulty and the costs justly because the service grows.

It often introduces greater costs because there are more controls. They are therefore trying to automate as much as possible and make all those "simple" processes as fast as possible and automatic. They're trying to make them faster, more efficient and therefore require fewer staff hours that they do. The cost always rises, so it's an improvement to get to a right compromise, because the problem is precisely on this compromise: the one that allows you to get to the level of service, without trying to lower costs, otherwise everything would have increased the staff.

3. *How do you consider the logistic costs of Magris deriving from the traditional warehouses (no Fara Olivana)? And again, which could be solutions to implement.*

   Here exactly in the traditional warehouse it was easy to foresee the cost, but the fact to have so many small warehouses (seen the important turnover of the Magris) and therefore to supply so much material, divided in so many small warehouses, that then after the duplication of the supplies, created a cost of all an increase of warehouse. therefore, the cost of investment, or a cost for the inner reservoirs, in case it was wanted to maintain the material only in some warehouses; in case when this served to create warehouses, a transfer had to happen, therefore a cost of inner transport. Therefore, these were the costs, therefore the comparison must be made not so much between a traditional warehouse and an automated warehouse of Fara Olivana, but between many small warehouses and the great one of Fara Olivana.

4. *How is the logistics management of traditional warehouses (not Fara Olivana), how is the whole logistics process perceived?*

   At Fara Olivana we are trying to work on total control, so we are building a tracking system to monitor the entire order process, internally of course. Now the order arrives, passes through the offices and arrives in the warehouse, and through the software we can always see at what point is the delivery or the order or whatever we want, so it is through software that we can see all parts of the order from the beginning to the end. Instead, in a traditional warehouse it does not happen this: when the order enters in warehouse it is a piece of paper, that it comes given to thirds party that subsequently they prepare it and they give it to a transporter, then they do not know where it had to end this matter until someone does not bring back. The use of internalization and computerization makes it possible to always know where an order stands.

5. *What is the contractual situation like with Third Party Logistics (3PL) for traditional warehouse logistics processes?*

   Many warehouses have different managements, so it's a very articulated world. Now that there are still some small realities, so the small warehouses that are managed in an almost familiar way, the warehouses instead that have an external management let's call it therefore with a 3PL. I do not know the details of all the various Magris contracts.

6. *How do you consider the logistic costs of Magris deriving from traditional warehouses (no Fara Olivana)? And again, what could be solutions to implement.*

   As I told you before, the costs in this moment obviously are not there. In the long term, the goal is definitely to maintain the same level of service by decreasing costs. At first, they didn't decrease as much as hoped. Now, however, it is still very early to be able to understand the real effectiveness of this warehouse. But I have seen it in first person, perhaps now they do not diminish drastically the absolute level but to parity of costs they succeed to have a service and a control absolutely unthinkable.

7. *Do you believe that internalizing the logistic processes can represent for Magris an opportunity of improvement of the services and reduction of the costs, also in the long term, as Fara Olivana has set itself? If yes, in what way.*

   In the long term certainly yes, with an improvement in lowering both direct and especially indirect costs, as I said before. At the same costs, but with a consequent improvement in services given by the acquisition of monitoring and logistic direction.

8. *Which factors do you believe have pushed Magris to open a new warehouse, with WMS and internalized logistic direction? Once identified, what purpose/benefit were they aiming at?*

   Internalization and automation were a forced choice, because we now had many warehouses. To make this passage has been necessary because otherwise the costs would have exploded. And therefore also for the lack of the control, that is obliged to grow. Magris grew and got to the point where it couldn't do anything but this, which was necessary given the current situation.

9. *Which do you believe that they have been the factors of innovation and growth that see Fara Olivana different, if we want better, from the traditional warehouses? (e.g., non-manual management -WMS-, increased flexibility...)*

   Exactly, this is what has the power to achieve the objectives. The investments on software and equipment, allow a budget of new means and a frightening movement of the material, besides the fact that it will be succeeded to optimize the same rotation of the warehouse. So, this warehouse against the many small warehouses that by force must have a certain stock of material. The situation in Fara

Olivana has been forced to manage a size of warehouses of this type. Before, there were so many small warehouses that brought in a frightening inefficiency. This transition was an obligatory one.

10. *Which factors have led Fara Olivana to obtain a greater control and direction of the logistic processes, guaranteeing a greater logistic direction, unlike traditional warehouses?*

The main factor was Magris' passion to invest capital to create a logistic pole as well. Surely, the investment has been important and therefore it is the proof that all this can be done because Magris now has to serve a more extended territory (North Italy). Therefore, this warehouse can be exploited well to serve a wide territory but in capillary way. The size of the warehouse is important because it is able to lean on a logistics that then manages the distribution. The logistics of Fara will make all the direct deliveries to customers, but an area is covered directly by a warehouse and then the traditional other areas. So big trucks are sent to small warehouses that only handle the sorting and the last mile. So here it is, in Fara all the material is centralized and arrives, and from there it is massively calculated and sent to others.

11. *Which are the benefits, according to you, deriving from an automated warehouse and with assumption of logistic direction like Fara Olivana, unlike the traditional warehouses? (Es. Increase of the service level, cost reduction, flexibility, improvement management and coordination..) - It refers also to benefits previewed in the long term and not in place currently.*

The benefits are increase of the service level, cost reduction, flexibility, improvement of management and coordination. In particular, the optimization of the supplies on the purchases and the potentiality to exploit also with the suppliers and to obtain of the better conditions, just because also from the suppliers they do not have more warehouses to serve, but they have an only big warehouse to serve.

12. *In which way Fara Olivana, differently from traditional warehouses, contributes and helps Magris to reach its KPIs? Also define the KPIs of Magris.*

This warehouse has potentialities compared to the others, that is to have a greater quantity of materials in the sense of own numbers available, also those to rotation. Because having concentrated here so many small warehouses with a product that in the single warehouses rotated very slowly, here instead it already has a rotation and is made available. And then, the whole organization will be able to bring the reduction of the costs and an explicit improvement in absolute terms. Then, there is a single

warehouse with a high standard of service, while many small warehouses were bound to the standards of that small warehouse. The direction is unique across the board.

13. *You believe that to internalize the processes of the logistics can have benefits in terms of profitability, cost reductions, increase service level, increase logistic direction and coordination etc.? Mention additional benefits if needed.*

Absolutely yes. It is clearly a process that needs to be fine-tuned and we are working on it. But certainly yes, that's the goal as this has been done Mr. Magris, he has invested a lot of money just to get there.

- *[Interview 3, Employee of IT]*

Language of the Interview: Italian transcription

Prima di iniziare l'intervista:

- Presentazione del ricercatore e del tema della ricerca

Sono Camilla Cruciotti, una studentessa di 23 anni che frequenta il master in Supply Chain Management all'Università di Tilburg. Qui a Tilburg, sto frequentando un programma di doppia laurea in collaborazione con l'Università Luiss, dove sto frequentando un MSc in Management.
Oggi, questa intervista avrà luogo allo scopo di raccogliere dati per la mia tesi di master. Lo scopo di questa tesi è dimostrare che l'insourcing del processo logistico aumenta le prestazioni. In particolare, l'aumento della performance è potenziato e permesso dal guadagno di direzione logistica, ottenuto attraverso l'insourcing. Infatti, attraverso i vostri KPI recentemente inseriti e utilizzati, l'azienda è in grado di monitorare e tracciare l'andamento, intraprendendo così azioni correttive per raggiungere i risultati desiderati e migliorando la performance.

- Accetta di utilizzare questi dati per scopi accademici?

Sì, accetto.

1. Quali sono i principali problemi che trova nei processi logistici dei magazzini tradizionali?

Nei magazzini tradizionali si riscontrano sostanzialmente problemi come la tracciabilità dei materiali e la precisione. Quindi tutta una serie di problemi legati alla mancanza di precisione che impone un sistema informatizzato, per esempio di scambio di codici magari; o anche solo al reperimento nel magazzino di un codice, perché non avendolo informatizzato potrebbe essere messo in qualsiasi posto. per cui se non c'è la memoria storica, umana, quindi se manca il magazziniere esperto, che sa dove si trovano i materiali soprattutto, i materiali non si trovano perché non si sa dove sono.
Tutto questo però può essere gestito sempre entro dimensioni certe, e quindi nei magazzini piccoli (e tradizionali). Invece, il problema si pone per i magazzini di dimensioni maggiori; nei piccoli quindi ho tutto a portata di vista, il materiale che si riesce a gestire e via via che il magazzino aumenta di dimensioni, questi problematici si fanno sentire. Il problema principale diventa la tracciabilità dei materiali, e la precisione perché forse vengono scambiati senza nemmeno rendersene conto.
Si tenta ancora di affidare la gestione del magazzino a terzi per l'ultimo miglio, ma si torna sempre indietro, si fa sempre un passo indietro perché non è facile raggiungere il livello di servizio che si vorrebbe. Al contrario, una gestione completamente monitorata permette di raggiungere il livello di servizio atteso e gli standard di efficienza, insieme al raggiungimento dei KPI.

2. *Come considera il livello di servizio di Magris derivato dai magazzini tradizionali (no Fara Olivana)?*

Come tutte le cose ci sono vantaggi e svantaggi, essendo piccoli questi magazzini riescono anche ad avere un certo tipo di efficienza.
Quindi, tracciando i materiali e cercando di fare meno errori possibili. Sono anche più complessi umanamente ed elasticamente. I problemi iniziano quando il magazzino cresce di dimensioni e diventa difficile trovare i materiali e gli errori aumentano per la confusione o per le mancate consegne, perché non si trova un materiale che poi dopo c'è. Paradossalmente quindi è tutto legato alla dimensione. Magazzini grandi come quello di Fara Olivana (22 mila metri) sarebbero ingestibili in modo tradizionale e la ricerca dei materiali sarebbe impossibile da gestire.
Ecco, qui diciamo che allora la scelta è stata fatta anche perché dovendo rifornire un territorio così ampio e avendo così tanti magazzini, c'è una ridondanza estrema nei materiali, quindi in uno stesso articolo, anche se gira poco, è stato trovato in diversi magazzini. Quindi, un aumento esponenziale del valore totale del magazzino, e quindi una rotazione totale del magazzino molto bassa, perché i materiali a bassa rotazione che comunque vengono moltiplicati per n. magazzini, fanno abbassare la rotazione totale. Quindi, per rimediare a questo si è cercato di ridurre lo stock di magazzino. Ma questo ha fatto sì che si dovessero fare molti spostamenti tra i magazzini interni e molti trasferimenti di magazzino.

Il servizio a Fara Olivana, potendo monitorare completamente il processo, aumenta la difficoltà e i costi proprio perché il servizio cresce.
Spesso introduce maggiori costi perché ci sono più controlli. Stanno quindi cercando di automatizzare il più possibile e rendere tutti quei processi "semplici" il più possibile veloci e automatici. Stanno cercando di renderli più veloci, più efficienti e quindi richiedono meno ore di personale che fanno. Il costo sale sempre, quindi è un miglioramento per arrivare ad un giusto compromesso, perché il problema è proprio su questo compromesso: quello che permette di arrivare al livello di servizio, senza cercare di abbassare i costi, altrimenti tutto avrebbe aumentato il personale.

3. *Come considera i costi logistici di Magris derivanti dai magazzini tradizionali (no Fara Olivana)? E ancora, quali potrebbero essere le soluzioni da implementare.*

Qui appunto nel magazzino tradizionale era facile prevedere il costo, ma il fatto di avere tanti piccoli magazzini (visto il fatturato importante della Magris) e quindi di fornire tanto materiale, diviso in tanti piccoli magazzini, che poi dopo la duplicazione delle forniture, creava un costo di tutto un aumento di magazzino. quindi, il costo di investimento, oppure un costo per i serbatoi interni, nel caso si volesse mantenere il materiale solo in alcuni magazzini; nel caso in cui questo servisse a creare magazzini, doveva avvenire un trasferimento, quindi un costo di trasporto interno. Quindi, questi erano i costi, quindi il confronto va fatto non tanto tra un magazzino tradizionale e un magazzino automatizzato di Fara Olivana, ma tra tanti piccoli magazzini e quello grande di Fara Olivana.

4. *Com'è la gestione logistica dei magazzini tradizionali (non Fara Olivana), come viene percepito l'intero processo logistico?*

A Fara Olivana stiamo cercando di lavorare sul controllo totale, quindi stiamo costruendo un sistema di tracking per monitorare tutto il processo dell'ordine, internamente ovviamente. Ora l'ordine arriva, passa per gli uffici e arriva in magazzino, e attraverso il software possiamo sempre vedere a che punto è la consegna o l'ordine o quello che vogliamo, quindi è attraverso il software che possiamo vedere tutte le parti dell'ordine dall'inizio alla fine. Invece, in un magazzino tradizionale non succede questo: quando l'ordine entra in magazzino è un pezzo di carta, che viene dato a terzi che successivamente lo preparano e lo danno a un trasportatore, poi non sanno dove doveva finire questa cosa finché qualcuno non lo riporta. L'uso dell'internalizzazione e dell'informatizzazione permette di sapere sempre dove sta un ordine.

5. *Com'è la situazione contrattuale con la Logistica Terza Parte (3PL) per i processi logistici di magazzino tradizionali?*

Molti magazzini hanno diverse gestioni, quindi è un mondo molto articolato. Ora che ci sono ancora delle piccole realtà, quindi i piccoli magazzini che sono gestiti in modo quasi familiare, i magazzini invece che hanno una gestione esterna chiamiamola così con un 3PL. Non conosco i dettagli di tutti i vari contratti Magris.

6. *Come considera i costi logistici di Magris derivanti dai magazzini tradizionali (no Fara Olivana)? E ancora, quali potrebbero essere le soluzioni da attuare.*

Come le dicevo prima, i costi in questo momento ovviamente non ci sono. A lungo termine, l'obiettivo è sicuramente quello di mantenere lo stesso livello di servizio diminuendo i costi. All'inizio non sono diminuiti così tanto come si sperava. Ora però è ancora molto presto per poter capire la reale efficacia di questo magazzino. Ma l'ho visto in prima persona, forse ora non diminuiscono drasticamente il livello assoluto ma a parità di costi riescono ad avere un servizio e un controllo assolutamente impensabile.

7. *Crede che internalizzare i processi logistici possa rappresentare per Magris un'opportunità di miglioramento dei servizi e di riduzione dei costi, anche a lungo termine, come si è posta Fara Olivana? Se sì, in che modo.*

Nel lungo periodo certamente sì, con un miglioramento nell'abbassamento dei costi sia diretti che soprattutto indiretti, come dicevo prima. A parità di costi, ma con un conseguente miglioramento dei servizi dati dall'acquisizione del monitoraggio e della direzione logistica.

8. *Quali fattori credi che abbiano spinto Magris ad aprire un nuovo magazzino, con WMS e direzione logistica internalizzata? Una volta individuati, a quale scopo/beneficio miravano?*

L'internalizzazione e l'automazione sono state una scelta obbligata, perché ormai avevamo molti magazzini. Fare questo passaggio è stato necessario perché altrimenti i costi sarebbero esplosi. E quindi anche per la mancanza del controllo, che è obbligato a crescere. Magris è cresciuta ed è arrivata al punto di non poter fare altro che questo, che era necessario vista la situazione attuale.

9. *Quali credi che siano stati i fattori di innovazione e crescita che vedono Fara Olivana diversa, se vogliamo migliore, dai magazzini tradizionali? (es. gestione non manuale -WMS-, maggiore flessibilità...)*

Esattamente, questo è ciò che ha il potere di raggiungere gli obiettivi. Gli investimenti su software e attrezzature, permettono un budget di nuovi mezzi e un movimento spaventoso del materiale, oltre al fatto che si riuscirà ad ottimizzare la stessa rotazione del magazzino. Quindi, questo magazzino contro i tanti piccoli magazzini che per forza devono avere un certo stock di materiale. La situazione di Fara Olivana è stata costretta a gestire una dimensione di magazzini di questo tipo. Prima c'erano tanti piccoli magazzini che portavano un'inefficienza spaventosa. Questo passaggio è stato obbligato.

10. *Quali fattori hanno portato Fara Olivana ad ottenere un maggiore controllo e direzione dei processi logistici, garantendo una maggiore regia logistica, a differenza dei magazzini tradizionali?*

Il fattore principale è stata la passione di Magris di investire capitali per creare anche un polo logistico. Sicuramente l'investimento è stato importante e quindi è la prova che tutto questo si può fare perché Magris ora deve servire un territorio più esteso (Nord Italia). Quindi, questo magazzino può essere sfruttato bene per servire un territorio ampio ma in modo capillare. La dimensione del magazzino è importante perché è in grado di appoggiarsi ad una logistica che poi gestisce la distribuzione. La logistica di Fara farà tutte le consegne dirette ai clienti, ma una zona è coperta direttamente da un magazzino e poi le altre zone tradizionali. Quindi i grandi camion vengono mandati in piccoli magazzini che si occupano solo dello smistamento e dell'ultimo miglio. Quindi è così, a Fara tutto il materiale è centralizzato e arriva, e da lì viene calcolato in modo massiccio e inviato ad altri.

11. *Quali sono i benefici, secondo lei, derivanti da un magazzino automatizzato e con assunzione di direzione logistica come Fara Olivana, a differenza dei magazzini tradizionali? (Es. Aumento del livello di servizio, riduzione dei costi, flessibilità, miglioramento della gestione e del coordinamento). - Si riferisce anche a benefici previsti a lungo termine e non in atto attualmente.*

I benefici sono l'aumento del livello di servizio, la riduzione dei costi, la flessibilità, il miglioramento della gestione e del coordinamento. In particolare, l'ottimizzazione delle forniture sugli acquisti e la potenzialità di sfruttare anche con i fornitori e ottenere delle condizioni migliori, proprio perché anche dai fornitori non hanno più magazzini da servire, ma hanno un solo grande magazzino da servire.

12. *In che modo Fara Olivana, a differenza dei magazzini tradizionali, contribuisce e aiuta Magris a raggiungere i suoi KPI? Definisci anche i KPI di Magris.*

Questo magazzino ha delle potenzialità rispetto agli altri, cioè avere una quantità maggiore di materiali nel senso di numeri propri disponibili, anche quelli a rotazione. Perché avendo concentrato qui tanti piccoli magazzini con un prodotto che nei singoli magazzini ruotava molto lentamente, qui invece ha già una rotazione e viene reso disponibile. E poi, tutta l'organizzazione potrà portare la riduzione dei costi e un miglioramento esplicito in termini assoluti. Poi, c'è un unico magazzino con un alto standard di servizio, mentre molti piccoli magazzini erano legati agli standard di quel piccolo magazzino. La direzione è unica su tutta la linea.

13. Lei crede che internalizzare i processi della logistica possa avere dei benefici in termini di redditività, riduzione dei costi, aumento del livello di servizio, aumento della direzione logistica e del coordinamento ecc. Menziona altri benefici se necessario.

Assolutamente sì. È chiaramente un processo che deve essere messo a punto e ci stiamo lavorando. Ma certamente sì, questo è l'obiettivo come questo è stato fatto signor Magris, ha investito un sacco di soldi solo per arrivare lì.

APPENDIX D

Collected data on inventory KPI: Magris report on percentage of lines order processed with errors

Data	**Lines processed**	**Lines processed with errors**	**% lines processed with errors**
20210603	4929	166	3,37%
20210601	3651	60	1,64%
20210531	1993	69	3,46%
20210528	3510	164	4,67%
20210527	4017	231	5,75%

APPENDIX E

Collected data on costs KPI: Magris report on number of shipments per order

	N. of shipment per order					
Month	**1**	**2**	**3**	**>3**	**Total**	**Processing with one shipment**
1	4405	1818	370	93	668	65,88%
2	5066	1826	409	141	7442	68,07%
3	4729	2089	469	202	7489	63,15%
4	4715	2521	486	105	7827	60,24%
5	2516	997	79	8	3699	69,89%
Total	21431	9251	1813	549	33044	64,86%

APPENDIX F

Collected data on Service Level KPI: tracking of order from processing orders to emission of transport document

Date	**Processed orders**	**Lines orders transmitted to logistics**	**Lines of collected orders**	**Lines with Transport Document emission**
03/06/2021	771	2510	3514	4293
02/06/2021	61	729	1320	751
01/06/2021	641	2955	3361	3514
31/05/2021	738	2840	3095	2078
29/05/2021	109	306	1175	1827
28/05/2021	505	5061	3188	2741

Thesis Summary

This thesis has been conducted with and for Magris Group S.p.A. Company, through the supervision of Luiss Professor Dr. Pietro De Giovanni and Tilburg University Relator Drs. Eirini Spiliotopoulou for the Master's in Management and for the Double Degree Program in Supply Chain with Tilburg University during the Academic Year 2020/2021.

The main subject of this thesis is synthetized in the thesis's title: «Logistics insourcing as catalyst to impact firm's performance: The Magris Group Case. ».

Therefore, this study aimed to analyze the relevance of insourcing in core activities, as Magris Group, and the substantial effects this implementation has on performance and efficiency.

In particular, in this research insourcing of core activities is strictly connected to increase in control and monitoring, which is responsible of substantial changes in performance.

The main findings of this thesis will help the company to better implement insourcing practice and also other companies with similar settings facing similar problem.

1. Introduction, Problem Identification and Research Questions

Chapter 1 is an introductory chapter, where literature review had been conducted and a first outlook on the case study at hand is given. In addition, this chapter explores problem identification and research questions.

The aim of this research is to investigate how insourcing Magris logistics activities will help the company to ameliorate its performance. In particular, the final scope of logistics insourcing for Magris would be to obtain the direct management and overview of logistics processes. Consequently, it will potentially reduce the related cost of outsourced activities, while at the same time being able to directly and real-time manage the service level and the expected delivery time.

More specifically, Rudaya (2008) defined the process of outsourcing as a management methodology in the economic systems which relies on the integration of key resources and competences of the organization with the resources and competencies of external providers of specialized services that will guarantee the reach of a synergistic effect.

Nonetheless, outsourcing practice is not exempt from risks, as delegating a strategic function to a third party could result in a lack of control over a cornerstone of the business model. Indeed, the logistics company will incur the costs previously incurred by its customer,

to which it will then apply a mark-up, which will determine its profit (De Giovanni and Vinzi, 2014).

Indeed, outsourcing turnback permit the company to manage challenges coming from the outsourcing solution and reacting to opportunities (Veltri et al.,2008) Consequently, a firm might proceed with insourcing when the outsourced practice did not reach the expected results (Tadelis, 2007).

Opportunities related to insourcing are related to improvement in efficiency, quality and lower costs and lead to improved management of bureaucracy, accountability and turnaround time (Heaton, 2004; De Giovanni and Cariola, 2020).

In this research paper, the theoretical framework analyzed above will be implemented in the suitable empirical case: Magris Group. More specifically, Magris Group is an Italian leading company in the distribution of professional cleaning solutions and, since 1976, Magris is present and operates throughout the country. Magris, with 155 millions of turnover is mainly engaged in the sale of products and equipment for professional cleaning, catering products and courtesy lines for guests. In addition, a division of Magris (Magris Service) deals with the sale, rental and service of industrial cleaning equipment. At the international level, since 2014 Magris is member and shareholder of Inpacs, the largest European group of distributors specialized in B2B resale of cleaning and hygiene products, catering products, medical assortments and personal protective equipment, being present in more than 40 countries worldwide.

Generally, Magris always had the entire logistics process outsourced: from warehouses to transportations. In the last few years, Magris perceived not cost-effective commercial agreements with their logistics partners, with inconvenient terms that lead to non-competitive costs. Related to this, the logistics department was not properly internally developed but outsourced.

Moreover, contracts for warehouse management and deliveries calculated as a percentage of revenue. This is a frequently used coordination mechanism to manage collaborations as it incentivizes parties and make them direcyly responsible for their strategies and actions (Buratto et al., 2019).

In this regard, a review of the decisions to internalize and outsource logistics processes is necessary because logistics for Magris is a core function of the business, where it is necessary to internalize the direction that is in the hands of logistics partners.

By virtue of this, Magris has problems in directly managing, monitoring the entire logistics processes and, thus, due to a lack of holistic overview, guaranteeing to its customers

a certain level of orders fulfillment with goods on stock being outsourced, and thus in hands of logistics partner.

Furthermore, this problem is also related to management of heterogeneous and diversified requests according to the type of customer, which leads to problems in directly monitoring the delivery time with certainty and the level of service.

Moreover, in this regard, Magris wants to make adjustments at logistics level in order to make the delivery in a certain time and monitoring it, having complete control of everything and knowing exactly, measured analytically, when the order is loaded, how quickly it is processed, when it is delivered to the customer and know if they can guarantee service level that they promised.

To conclude, Magris aims at revising outsourcing decisions of logistics processes to get the direction of logistics, being able to get a direct, real-time monitoring activities ensuring a more efficient and controlled management.

The above can be summarized in the following problem statement: *"How can insourcing of logistics processes improve Magris Group S.p.A. performance?"*

In order to answer the problem statement, five research questions have been formulated:

6. *What are the possible drawbacks of logistics processes outsourcing?*
7. *How can insourcing increase performance?*
8. *Which are the main reasons why Magris decided to insource the logistics process?*
9. *How can Magris respond to its inability to directly manage process?*
10. *Which measures Magris implemented and which are the main effects after the implementation of such measures?*

2. Theoretical Framework

This chapter analyzes in detail the academic literature connected to the problem described in the previous chapter. It is structured in three main parts.

The first one analyzes more in-depth the comparison between outsourcing and insourcing practices through academic lenses.

In particular, outsourcing is defined firstly by the actors involved: the client company and the outsource company.

Then, it is defined as an arrangement that is mainly based on taking operations outside of the company and contracting with a service provider (Lejeck, 2016).

Furthermore, an in-depth analysis about core differences in opportunities and implementation had been carried out by Kalinzi (2016). More specifically, in his paper he mainly focused about 6 main dimensions, where the most relevant in this case of outsourcing logistic activities are: *cost to the company*, *resources requirements*, *control and autonomy*, l*ocation.*

A company's decision to outsourcing logistics processes depends mainly on their purpose and strategy of the logistics function.

According to the relevance of logistics in the industry and the company in-house logistics competence, the Bolumole matrix (Figure 5) identifies the case whether the company should perform it in-house, spin off its logistics know-how, outsource the logistics function, or outsource certain functions while maintaining control of the process (Bolumole, 2001).

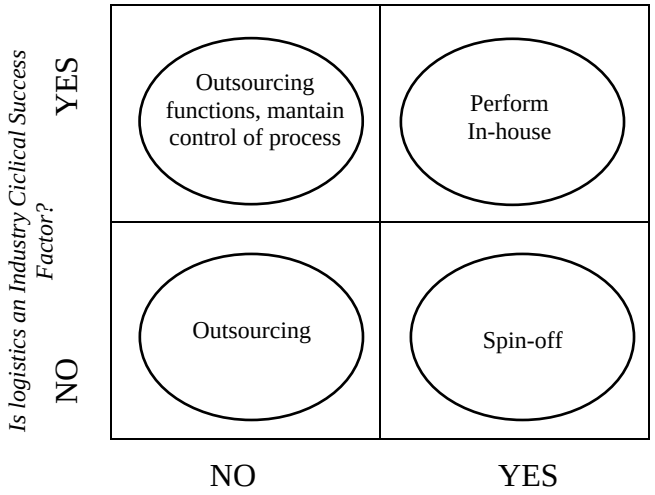

Fig. 5: Logistics Outsourcing Decision Strategies (Bolumole, 2001)

Hence, through a comparative analysis, both practices of insourcing and outsourcing had been delineated in more details in literature. Indeed, according respectively to the six dimensions previously mentioned, insourcing operates solely from a company's own operational infrastructure; it is generally more expensive for firm due to the necessity to own the asset; it uses the already-owned resources of the company to get the goal; it has complete control over its operations and employees, involves operations on site or located somewhere close; it is appropriate for activities such as program finance, human resources and core competencies (Kalinzi, 2016).

Then, the second one and the third one analyzes the positive and negative effects of, respectively, outsourcing practices.

There is evidence from literature that outsourcing logistics practices it is very often motivated by the expectation that this will lead to increase in performance due to lower costs or increase in quality factor inputs such as expertise, knowledge, and skills obtained by contracts with service provider (Carmel & Tjia, 2005; Manning, Larsen, & Bharati, 2015; Oshri et al., 2015; De Giovanni, 2020a).

From empirical literature concerning outsourcing pros and cons, the main criticism identified in outsourcing mainly concern the high-costs related to enforcing performance, the high-costs related to adaption to changes, the potential risk connected to opportunism and the loss of expertise that can be useful and valuable in long-term (Tadelis, 2007).

Furthermore, the technological complexity surrounding the outsourcing strategy can increase the risks of delivery, demand forecasting, and level of service to consumers (Preeker and De Giovanni, 2018).

Finally, the third one analyzes the benefits and the related risks of insourcing activities.

Concerning insourcing, companies might gain benefits in terms of keeping the control and prevent doubts related to logistics activities (Tsai, 2012). In other circumstances, insourcing is favored for prevent the effects of an unsatisfactory of outsourcing relationship (Stojanovic, 2012). Indeed, relevant infos are tracked and secured because of an insourcing decision (Wan, 2015). Indeed, with insourcing, many outsourcing risks are alleviated.

Further downsides of insourcing are related to the possible cost savings that are not created. Thus, the degree of flexibility might be diminished (Wan, 2015). Logistics insourcing companies might lost, excluding outsourcing, logistics professionals and specialized (Stojanovic, 2012). Moreover, the company that opt for a strategy of insourcing logistics activities might incur in a high amount of fixed costs (Stojanovic, 2012).

3. Methodology

This chapter provides the methodology adopted to conduct this study. In particular, in Research Design is explained, then Data Collection and Data Analysis.

The scope of this research is to investigate on outsourced logistics practices of Magris Group S.p.A. and to observe and evaluate impacts of backsourcing practice on company's efficiency. Therefore, this study begins from an empirical problem, going backward from observations to theories, with the scope to find general conclusions.

For this reason, this research is considered as theory supported inductive research. Moreover, inductive research results in a development of a new theory or, more often, in contributing to existing theories.

Moreover, with the choice of the "case study", there is clear evidence that a researcher, through a case study, is able to go beyond the quantitative results, thus being able to understand in-depth the behavioural conditions through the company's perspective (Zainal, Z., 2007).

Furthermore, research based upon case study method contains both quantitative and qualitative data, aiding the procedures and the consequent findings of a phenomenon through comprehensive outlook and analysis of the case under examination (Tellis, W. M., 1997). Indeed, since the research is including both quantitative and qualitative approaches, it could be considered a mixed-method

In addition, qualitative research gains more relevance when dealing with researcher's scope to go in-depth with the comprehension of a specific topic, generally adopting an inductive research method (Bryman & Bell, 2011, p. 386). Thus, also quantitative approach is considered, to make evaluations through quantitative data about the insourcing process and its related costs and operational activities.

In this research, both primary - for the specific scope of the study, being more authentic and with a higher level of validity- and secondary - concerning documents on performance reviews and reports - data are be used.

In addition, the interviews are based on a semi-structured way, meaning that the respondent has to answer an already set up set of open-ended questions (Jamshed, 2014).

For the purpose of conducting the interviews, the company has been contacted personally through semi-structured interviews. The interviews were conducted through on-line meetings due to Covid-19 contingent pandemic situation.

Thus, this was necessary to go more in-depth with the case study of Magris company in order to investigate on the current situation and to propose the most appropriate solution in the light of this.

The semi-structured interviews conducted are mainly one-to-one, since the CEO has a general overview of entire scene, while the four managers of logistics provided a more specific and technical details, being them close to the problem.

In addition, I used quantitative measures as KPIs to collect some relevant data. In light of this, since Magris is recently observing progresses of the recently insourced and automized processes, where the logistics direction is on their hands, the KPIs provide a more in-depth analysis of Magris performance.

Before starting the process of data collection for the entire thesis, I asked consent for disclosure of information and consent for recording the interviews.

The table 1 identifies the interviewees, their area of competence, the duration and the place of each interview. In the APPENDIX C, the integral transcript of 3 out of 5 interviews had been reported. In particular, the CEO and the Employee of Control Management had been intervisted more than once, as reported in Table 1. Moreover, in the Appendix also relevant information are reported in the Data Display (Appendix B), with respect to the coding scheme (Appendix A).

The use of data triangulation aided me to increase the reliability of my research. Various types of triangulation are applied for my research in order to increase reliability: by data source, by method, by theory. (Miles and Hubermann, 1994).

More specifically, critical sampling strategy was used as I made interviews with the CEO and logistics employees, therefore selecting people whose role inside the company is coherent with the goal of my research. In addition, for what concern sampling strategy, I used non-probability sampling. Moreover, also purposive sampling was applied: therefore, this includes selection of people that are informed with a phenomenon of interest (Etikan, I., 2016).

4. Empirical Findings, Discussions and Implementation

Data collected from previous chapter had been analyzed in the light of the research questions.

The goal of this study, by answering the research questions, is to investigate which are the reasons behind the insourcing practice implementation, how this situation had been implemented and which are its main effects.

In particular, in this chapter, the main empirical findings resulting from data collection are discussed. More specifically, this chapter had been organized around the logical reasoning and explanations resulting from main insights.

Indeed, starting from the Main causes toward insourcing of logistic process, problems that Magris was facing are discussed. Then, the measures implemented to react to such problems are analyzed. Finally, the last chapter focuses on main impacts of the measures implemented.

To go more in-depth with Magris state of affairs, the lack of control was translated in Magris' performance. Indeed, the main manifestation of the lack of control due to outsourcing is clearly expressed in the following subchapters.

Magris outsourced of logistics activities to 3PL is a significant manifestation of the problem of lack of control. Indeed, for what concern Third-Party Logistics, with Magris traditional warehouses the company is not able to monitor the entire process of the orders from the very beginning.

Magris receive the order, but then the order enters in the warehouse to be processed, going into the hands of the 3PL. Then, the 3PL manages the entire process of the order: the order is prepared, then it is picked by a transporter and thus shipped toward the customer. At this point, Magris will receive information about the order only when it had been shipped and when it is delivered. With this process, therefore, Magris does not know at which phase and where the order is. Therefore, this led to a lack of overall monitoring on the entire shipping product, being it managed by a third party with no updates about the status of the order.

Moreover, the lack of monitoring is worsening by not having a digitalized tracking system, where company could be able to oversee the process of the order, without involving Magris in making most appropriate choices for its client.

To go more in depth, firstly Magris had unprofitable and not well implemented contracts with their 3PL.

Thus, according to standing contract between Magris and its partners, they always receive a stable percentage on the Magris turnover (10%). This measure is quite inefficient, not allowing to measure the efficiency of the 3PL and not incentivizing the 3PL to work properly and to make improvements on performance.

Thus, this means that the entire operation is left in the hands of 3PL, on which Magris have no choice other than to trust their work. In practice, this is translated in actual “shift of responsibility” from the core company to 3PL.

Another point is related to costs: with the traditional warehouses management of Magris, where logistics processes are managed by 3PL, Magris incurs in high costs.

First of all, connected to the contracts mentioned in the paragraph above, they are not inefficient only in terms of employee’s performance, but mostly in terms of costs. This is so because the terms of the contract established between Magris and 3PL are getting unprofitable in the long run. Indeed, the 3PL receives a fixed remuneration (a fixed percentage over Magris turnover, around 10%) regardless their actual effort.

In addition, this scenario is not efficient in particular because, according to CEO, it might lead very often to the case of double delivery for the same order.

In this case, the 3PL might not fully optimize the number of packages to transport within one truck, or which roadmap would be more efficient and cost-savings. Therefore, this will have for Magris a clear impact over costs.

Therefore, this means that Magris has no advantage in terms of costs with respect to its competitors, being a penalty in order to maintain position with market. Connected to this point, the challenge in maintaining position within the market due to non-competitive costs results in a loss of potential gains deriving from a most appropriate cost management. Indeed, by having cost advantage, and thus being competitive within market, it allows Magris to explore unexplored territories to potentially expand the market.

Finally, the last point connected to high costs Magris is facing is related to wasted costs of unexploited capabilities. More specifically, as mentioned above, the 3PL might misbehave and might not care about fully exploitation of capabilities of the resources.

Therefore, what said above strengthened the fact that, not holding the control of the logistics process and thus not being able to be responsive toward clients, Magris relationship with its clients is impoverished. Thus, this is crucial since Magris work is mainly based on its loyal clients, with whom the company has forged trust and relationship over time. Therefore, as theory suggest, communication and transparency are vital in order to enforce trust.

What is common for all 3 points mentioned above is that, due to lack of monitoring, Magris is unable for all of them to actually make measurements about performance and actually check the progress. Indeed, with lack of monitoring and internal data, Magris is not able to have a dashboard where to put all KPIs and to make measurements. Therefore, Magris urged to take some actions.

If before the logistics process was left in the hands of 3PL, now Magris decided to internalize it. Indeed, if before the 3PL managed the entire process from the order arrival to the delivery, now it gained control on the entire process of the order, leaving only the delivery operation to 3PL. Therefore, according to what Interviewee 3 said, “We started to manage the order from the inside, taking control on our core business”.

With this logistic model, efficiencies are gained on shipment phase. This happens because, due to contracts terms changed and due to automized systems explained in chapter below, massive shipments are encouraged. Indeed, now transporters care about their delivery routes and filling of the track, since they are paid euro/shipment. Moreover, along with transporter advantage, now also the automized TMS signal the fastest and most convenient delivery route to take.

“Internalization for us immediately means coordination and internal communication. We cannot lose pieces of the entire puzzle if we have everything in home. We are capable to oversee every phase, to know who to contact in case of problem, and we are actually able to detect if there is a problem” that was what Interviewee 4 stated talking about Magris internalization strategy.

To conclude, the internalization of the logistics process goes hand in hand with automatization of the processes. This is so because would have been unfeasible to manage internally all massive processes previously outsourced in a company large as Magris is.

Therefore, all process that had been internalized, then had been automized by Magris, that will be detailed in the following subchapter.

Firstly, the automation was done through SAP implementation. More specifically, with the module SAP Warehouse Management System (WMS), Magris has a flexible and automated support in processing all orders and in managing stocks in its huge warehouses. Moreover, Magris can process the logistics processes more efficiently thanks to SAP implementation.

Or again, the system allows to have an efficient and optimized allocation of resources within inventories for the warehouses. In practice, with SAP implementation Magris can now observe the indicator of perfect stock alignment.

This is now measurable, aiding Magris to have an actual control over warehouse alignment and to track progresses. Moreover, this measure is analyzed, along with other measures detailed below by Magris management.

Automatization of the entire process also allows the company to make substitution on the out-of-stock product ordered automatically, without human errors.

Furthermore, Magris is now capable with its own instruments to implement a tracking system, meaning that the client is now able to check through its portal the status of its order.

Along with all mentioned until now, Magris implemented also TMS (Transportation Management System), a software that automatically organizes the delivery routes.
Or still, the monitoring system allows Magris to detect errors. Indeed, in case of double delivery for the same order, it is a signal that something went wrong. Now the company is actually capable to identify where is the error and for which reason happened.

At this point, all implementations mentioned until now enables Magris to actually have measures to track the processes. Indeed, in all phases of the order now the process is traceable: for instance, Magris can measure the total of the processed orders, in which time, how many are delivered and all intermediate steps. The monitoring of performance is done by Magris on Excel through data flows, derived from WMS.

Indeed, with the implemented process, SAP automatically determines the exact orders that can be processed. Thus, this is measured by Magris in terms of efficiency as follows: if the signaled available item is in reality out-of-stock, it is a signal that there is some misalignment between the system and the warehouse. In this way, Magris now fixes the problem immediately. In this regard, being a crucial indicator for them the percentage of ordered items and the actual delivered items (fill rate), they are now ended up with a fill rate of 97%, which is close to the total absence of error.

With the system, the company is forced to align real stock with stock in the system due to constant monitoring. Consequently, it reduces the percentage of human errors. In this way, Magris can detect errors and work to minimize and avoid them.

This measurement was done by Magris through the Inventory KPIs (as stated in Chapter 2, Table 2).

KPI	**Definition**	**Measure**	**Calculation**
Inventory	Metrics that helps company to make decisions about stocks	Stock alignment	Percentage of picking errors.

Table 3: Inventory KPI

As it is reported in Appendix D, Magris is now capable of evaluating performance through Inventory KPI. Indeed, it indicates the alignment between actual in-stock items and in-stock items signaled by SAP. The significant value of good performance would be a value of line processing as close as possible to 0. Thus, it means that the order had been processed without errors.

Moreover, the revised contracts encourage the aggregation of massive orders, due to transporter advantage in terms of remuneration and due to TMS indication of shortest and most efficient route. This is translated in actual scenario, according to Interviewee 2, with a cost advantage position for the company

To measure the costs, as reported in Table 2 (Chapter 2), Magris uses the In time full delivery Rate KPI. Its calculation is based on the actual processing.

KPI	**Definition**	**Measure**	**Calculation**

In time full delivery	Track the basic measure of timely delivery in its complete condition	Monitoring of the processed order management	% of unique shipment per order

Table 4: Costs KPI

Indeed, Appendix E reports the number of processed orders with respect to the number of shipments. Therefore, the optimal value would be one-to-one metrics, meaning that for one order, just one shipment was delivered. This measure can actually detect the costs related to the order if the order was delivered with just one shipment.

Moreover, also the clients can benefit of these measures. Indeed, now Magris enables the client through a tracking system to control the status of its shipment at each phase.

With traceability, the service level is enhanced because, in case of requests from the client side, Magris is able to directly and promptly give information. Furthermore, in case of unforeseen (ie. delay of the shipment or requests from clients), Magris is now capable to detect the problems, to intervene and to signal them to the clients.

Thus, a transparent and predetermined communication about time avoid perception of disservices from the client side.

More specifically, one of the measures Magris can actually use as Service Level, as detailed in Table 2 (Chapter 2), is calculated upon speed of processing orders.

KPI	**Definition**	**Measure**
Service level	The ratio of shipped orders on or before the requested ship date divided by the total number of orders.	Delivery time

Table 5: Service Level KPI

Magris is now capable to track service level, through on-time delivery analysis. Indeed, Appendix F reports the number of processed orders, lines orders transmitted to logistics, lines of collected orders and lines with Transport Document emission. All these data are compared

by Magris with daily total processed orders. By making such comparison, now Magris is able to monitor the speed of processing orders.

To sum up, the core advantage for Magris was to gaining control and traceability, enabling the company to track progresses and to take corrective actions. According to CEO, "In a such big company, the big problem is not knowing how to deal with a problem, not even knowing where and what is the problem."

5. Conclusions and Recommendations

The purpose of this research was to answer the problem statement "How can insourcing of logistics processes improve Magris Group S.p.A. performance?". Indeed, through the explored theoretical framework, this thesis firstly analyzed the literature supporting this problem statement.

This study highlighted a significant relation between insourcing of logistics processes and company performance. By internalized the processes, Magris was enabled to oversee over the entire company operations. Then, processes could be measurable and performance is verifiable through measurement system, mostly KPIs. Indeed, the company now is able to have a holistic overview on the entire process and thus obtained all relevant data.

Along with this, also data through automatization are easily manageable. This combination brought to the possibility of using indicators. Thus, as seen in previous chapter, Magris is now using KPIs as indicators to measure the performance in the troubling areas.

It can be concluded that, once the core business had been internalized, then the company got an organic overview of the entire process, with acquisition of data and easy management of the entire company. Therefore, also thanks to automatization, the processes can be monitored. Thus, monitoring of performance enables the company to check progresses and to strive for desired performance. In this way, objectives are clearly delineated and identifiable for everyone, enabling the company to understand how to make progresses and their advancements.

Therefore, the gained control and introduction of measurement systems enables the company to check the progresses.

The results of this study can aid other firms operating in the same market. More specifically, similar cases are the ones that have as outsourced activities the core business of the company, and then desire to insource.

In the light of observed results, the advice would be to maintain inside the company the core business in order to manage it in line with business KPIs. Moreover, in order to do that, it would be significant to maintain and increase monitoring systems that might guide the company toward expected results.

Secondly, it is crucial to constantly verify the ex-post 3PL in terms of costs and performance. This is so because 3PL might act for their interests and are misaligned with company's KPIs.

Finally, the third recommendation would be to constantly operate to pursue the street of internal coordination, communication and traceability. Indeed, as this research revealed, the most critical factor that is determinant for Magris performance and efficiency is the logistic control.

It has to be said that, inevitably, this research encountered some limitations in its elaboration.

The first limitation of this study was the timing. Therefore, since this implementation was done approximately 6 months ago, the reliability of the KPI data is quite low.

The second limitation is that this implementation happened through pandemic situation, that might be directly or indirectly influenced the actual performance of the company.

Thus, it would be more significant to analyze implemented results in the long run, when the situation is more stable and has been arranged.

Given all these limitations, research will find a fertile ground for further studies.

Firstly, as mentioned in chapter above, it would be interesting to analyze the effect of the insourcing practice after this initial stage of settlement. Thus, in the long run the situation should be stabilized. At this point, data would be more reliable and significant. Alternatively, blockchain can be used to verify, manage, and pursue the transactions to force the parties to stick with the initial settlements (De Giovanni, 2020).

In particular, it would be interesting to analyze more in-depth the theme of innovation and automatization as booster to firms' performance and efficiency. Indeed, in this research it is analyzed just as additional and consequent factor, but it would be worthwhile to analyze its function as a stand-alone factor and its consequential effect on company's performance and efficiency.

To conclude, this would address unexplored grounds that would have external validity and that would integrate and contribute to this research, providing additional value.