



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

- Inside the Future of Shopping Malls -

Logistics Approaches for Enhancing the Collection Efficiency of Online Retail Orders from
Shopping Malls by Delivery Agents

GM0561, V23 Master's Degree Project in Logistics and Transport Management
School of Business, Economics, and Law at the University of Gothenburg

Authors:

Julia Krajka
Kaisa Nordlund

Supervisor:

Professor Michael Browne

ABSTRACT

Background: The rise of e-commerce has revolutionized the retail industry, with consumers now able to purchase goods online and receive their orders promptly at their doorstep. The COVID-19 pandemic has accelerated this trend, leading to traditional retailers reimagining their strategies and embracing omnichannel approaches to meet the growing demand for fast deliveries. E-commerce giants such as Amazon and the food industry have already established themselves as leaders in this area. As a result, retailers and shopping malls have had to evolve their logistics strategies to meet the evolving demands of online consumption. The challenges retailers face include the logistics of transporting their products to their consumers' homes in the shortest amount of time, particularly in dense urban areas where congestion is prevalent. To solve these challenges, some retailers have started shipping products from their stores in urban areas and using delivery agents who drive smaller vehicles.

Purpose: The purpose of this thesis is to (1) Identify the main problems that different stakeholders experience during the pickup process from the malls. (2) Identify and consider the feasibility of reducing the problems through a range of logistics approaches that are more effective.

Method: This thesis is an opportunist case study based on qualitative and exploratory research with an interpretive approach where five interviews were the main primary sources. The thesis collaborated with a logistics company to gain further insights into the topic. Furthermore, secondary sources were mainly gathered from the University of Gothenburg's library database for peer-reviewed articles and other academic literature. Google search was employed to discover relevant articles and journals pertaining to the topic, while ChatGPT served as a writing tool in the thesis, enhancing its overall quality.

Conclusion: In this thesis, the challenges faced by shopping malls and retailers in the digital age are explored, emphasizing the importance of innovation and stakeholder management to streamline the process of collecting online retail orders and offering instant deliveries to consumers. The potential benefits of modern technology, along with particularly parcel lockers, are identified as a means of enhancing the service experience and gaining a competitive advantage for malls. A key factor in the success of this strategy is determining the optimal location for parcel lockers within the shopping mall to facilitate easy pickup of orders by delivery agents.

To address the research questions, a multifaceted approach is employed that considers the needs of all stakeholders and aims to balance their interests to achieve mutually beneficial solutions. Effective communication channels and regular feedback mechanisms are essential to ensure stakeholder involvement in decision-making processes. Overall, this study highlights the potential of a collaborative approach and modern technology to optimize the supply chain and create a unique selling proposition that benefits all relevant actors.

Keywords: Urban Logistics, Retail, Shopping Malls, Gig Economy, Last Mile Delivery, E-commerce, Automation, Micro-hubs, Parcel Lockers, Consumption Behavior, Stakeholder Management

ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to our thesis supervisor, Professor Michael Browne at the Gothenburg School of Business, Economics, and Law, for his invaluable guidance, support, and encouragement throughout this research project. His expertise was crucial in shaping our understanding of the subject matter and helped us navigate the challenges that arose during the course of this study.

Our heartfelt appreciation goes to the team at the logistics company that we collaborated with and wrote our thesis for. Their willingness to share their insights and experiences was instrumental in the success of this project, and we are deeply grateful for their support.

We would like to express our gratitude to AI Sweden for introducing us to the logistics company, granting us access to their facilities, and providing unwavering support throughout our exploration of the field of Artificial Intelligence in relation to this thesis.

Our sincere appreciation is also extended to the five interview respondents who generously shared their time, knowledge, and experiences with us. Your insights and perspectives were essential in shaping the findings and conclusions of this study.

Furthermore, we would like to thank the seminar groups at the Gothenburg School of Business, Economics, and Law, who provided constructive feedback on our work and helped us refine our ideas. Your recommendations and suggestions were invaluable in improving the quality of this thesis.

Finally, we would like to thank our families and friends for their unwavering support, encouragement, and patience throughout this process. Your love and encouragement kept us motivated and helped us stay focused on our goals.



Julia Krajka



Kaisa Nordlund

GLOSSARY

Automation	application of technology that monitors and controls the delivery of products
Brick-and-mortar	refers to traditional businesses with physical locations that customers can visit, as opposed to online-only businesses
Delivery agents	includes gig workers and couriers, who bridge the gap between the pick-location (such as the retailer) and the end consumer
Instant delivery	deliveries that take place within the same day, and are delivered to the consumer's doorstep by delivery agents
Last Mile Delivery (LMD)	refers to the final step of transporting goods or services from a hub to their final destination, which is complex and costly, and has become a central focus in logistics as a result of e-commerce
Omnichannel	a retail strategy that aims to provide customers with a seamless and integrated shopping experience across all channels, including online, mobile, brick-and-mortar stores, and social media, to enhance customer engagement and increase sales

Table of Contents

ABSTRACT	2
ACKNOWLEDGEMENTS	3
GLOSSARY	4
LIST OF FIGURES	7
LIST OF TABLES	7
1. BACKGROUND	8
1.1 Introduction.....	8
1.2 Problem Discussion	10
1.3 Purpose Statement.....	11
1.3.1 Scope of Thesis	12
1.4 Research Questions	12
1.5 Thesis Outline	12
2. LITERATURE REVIEW	13
2.1 Context.....	13
2.1.1 Changes in Consumer Behavior as a Result of E-commerce.....	13
2.1.2 E-commerce's Impact on Retailers, Shopping Malls, and Delivery Agents	15
2.1.3 The Role of Stakeholders in Logistics.....	18
2.2 Logistics Approaches	20
2.2.1 Micro-hubs: Revolutionizing Instant Deliveries	20
2.2.2 Approaching E-commerce delivery challenges with Parcel Lockers	21
2.2.3 Overcoming Logistics Challenges with Modern Technologies	22
3. METHODOLOGY & METHODS	23
3.1 Research Approach & Design.....	23
3.2 Data Collection Methods.....	24
3.2.1 Collaborating with a Logistics Company	25
3.2.1 Secondary Sources	25
3.2.2 Primary Sources.....	26
3.3 ChatGPT	29
3.3.1 Introduction to ChatGPT	29
3.3.2 Transparency and Guidelines	29
3.4 Limitations of the Methodology.....	30
4. EMPIRICAL FINDINGS - INTERVIEWS	31
4.1 Shopping Mall Sector - Magnus Zingmark (Mall Manager)	31

4.2 Delivery Agent and Technology sector - Adrian Friday (Researcher)	32
4.3 Delivery Agent sector - Samuel Alowosile (Delivery Agent)	34
4.4 Retail Sector - Johan Hagberg (Researcher).....	35
4.5 Retail and Technology sector - Respondent 5 (Project Manager)	36
5. ANALYSIS	38
5.1 Lack of Consistency by Consumers, Lack of Infrastructure, and Lack of Communication	39
5.1.1 Lack of Consistency by Consumers	39
5.1.2 Lack of Infrastructure	40
5.1.3 Lack of Communication	40
5.2 Stakeholders' Collaboration, Micro-hubs and Parcel Lockers, and Modern Technology	41
5.2.1 Stakeholders' Collaboration	41
5.2.2 Micro-hubs and Parcel Lockers	42
5.2.3 Modern Technology	45
5.3 Competitive Advantage.....	46
6. CONCLUSION	48
7. FUTURE RESEARCH	50
8. REFERENCES	51
9. APPENDICES	58
Appendix 1 - Conventional Delivery Challenges	58
Appendix 2 - Mindmap of Interview Results	59
Appendix 3 - Interview Guide for Magnus Zingmark	60
Appendix 4 - Interview Guide for Adrian Friday	61
Appendix 5 - Interview Guide for Samuel Alowosile	62
Appendix 6 - Interview Guide for Johan Hagberg	63
Appendix 7 - Interview Guide for Respondent 5.....	64
Appendix 8 - Use of ChatGPT in the Writing Process of this Thesis	65
Appendix 9 - Examples of ChatGPT.....	66
<i>Example - Rating Text, and Providing a Recommendation for Improvement</i>	66
<i>Example - False Source</i>	67
<i>Example - Providing Search Prompt</i>	68
<i>Example - Eliminating Research Bias in Interview Questions</i>	69
<i>Example - Improving Text Based on the Thesis Authors' Input</i>	70

LIST OF FIGURES

Figure 1 - Overview of the Literature Review	13
Figure 2 - Research Design	24
Figure 3 - Layout of Analysis	38

LIST OF TABLES

Table 1 - Choice of Respondents	27
---------------------------------	----

1. BACKGROUND

In this section, the thesis is introduced by providing a brief background on the changing landscape of e-commerce and its impacts on the retail industry from a logistics point of view. The research question and purpose statement are presented followed by the scope and outline of the thesis.

1.1 Introduction

The digital age has completely transformed the retail industry, and the rise of e-commerce has been one of its most significant drivers. With just a few clicks, consumers can now purchase goods from the comfort of their own homes, revolutionizing the way they shop and receive their orders. The COVID-19 pandemic has only accelerated this trend, causing more consumers to shop online as they were forced under lockdown. In response, traditional retailers have had to reimagine their strategies and embrace omnichannel approaches to meet the ever-growing demands of consumers expecting their purchases to be delivered promptly to their doorsteps (Nealon, 2021).

Even before the pandemic, the term “Amazon Effect” was coined to describe the impact of the largest e-commerce company, Amazon, on the digital marketplace, resulting in shifts in consumer shopping patterns and expectations for traditional brick-and-mortar businesses (Mitchell, 2021). Amazon further took the opportunities that emerged from the pandemic to invest and perfect their logistics operations to provide orders within days, and even hours, to its consumers. They started to build their logistics network by constructing delivery stations and fulfillment centers to get closer to customers (Leonard, 2021). Additionally, by subscribing to Amazon Prime, consumers gain access to millions of products ranging from groceries to electronics and get to choose what type of delivery best suits them (Amazon.com, n.d.). Not only is Amazon dominating the e-commerce sphere, but they are also expanding their footprint and creating brick-and-mortar stores such as Amazon Go (Hedgepeth, 2021). Furthermore, Amazon has introduced a new service, Flex, that enables consumers to order items from retailers located in shopping malls through Amazon.com. This service has the delivery drivers pick up consumers’ orders from the shopping mall instead of Amazon's warehouse and deliver the items directly to the end destination. As a result, Amazon was able to expand their e-commerce services for consumers who prefer instant deliveries (Day, 2022).

Other e-commerce giants are also pushing the boundaries of speedy deliveries and expanding their networks. As reported by DHL (n.d.), the largest and best-known e-commerce business achieves rapid delivery times by maintaining a vast network of 230 fulfillment centers located throughout Europe. Consequently, consumers' expectations and behavior have evolved to anticipate the same or next-day deliveries as the new standard (DHL, n.d).

One sector that has done particularly well in meeting consumer demand with instant deliveries is the food industry. By collaborating with the gig economy, restaurants were able to have their meals delivered via so-called gig-workers to their consumers and remain in business, which saved many businesses during the pandemic. Using gig-workers operating on bikes or scooters made it easier to avoid congested roads and navigate through difficult-to-reach areas in cities. Once again, consumers were subjected to the possibility of creating orders online and receiving them within a short period of time at their doorstep (Krier, Dabanc, Aguilera, & Louvet, 2022).

As consumers get used to fast and affordable deliveries, traditional retailers have been forced to renew their strategies to adapt to the growing trend towards e-commerce, instant deliveries, and omnichannel services (Hedgepeth, 2021). As a result, traditional retailers have had to adjust their logistics strategies to meet the new and evolving demands of online consumption. The COVID-19 pandemic has advanced this trend even further. Business-to-consumer deliveries rose by 25% in 2020, and it is expected that 10-20% of these recent e-commerce deliveries will persist even after restrictions are lifted (Hillyer, 2021). This highlights the need for retailers to continue to develop their e-commerce capabilities and improve their delivery services to remain competitive in the post-pandemic retail landscape.

Many retailers have already started to reimagine their strategies and embrace omnichannel approaches to meet the ever-growing demands of home deliveries (Weber, 2021). Others have started to introduce “click-and-collect” services where consumers can purchase their goods at home and choose the most convenient time to pick them up from selected locations in order to get their products sooner. This option both saves time and also helps solve the retailers' Last Mile Delivery (LMD) challenges. Some retailers have also started decentralizing their supply chains by converting their physical stores to mini-warehouses and e-commerce hubs from which the delivery agents can pick up the goods (Low, 2020; Dekhne, Gupta, Joglekar, & Kohli, 2020).

1.2 Problem Discussion

The shift in e-commerce has created new challenges¹ for retailers, particularly in terms of logistics and how to transport their products to their consumers' homes in the shortest amount of time (Wolff & Heid, 2021). An additional challenge is the fact that many of these consumers are located in dense urban areas such as big cities where there is congestion causing further complications, delays, and increased emissions. To try and improve these LMD problems, some retailers have started to ship products from their stores in urban areas, many of which operate in malls (Boysen, Fedtke, & Schwerdfeger, 2021).

Retailers have been exploring various solutions to transport their products in a faster and more sustainable way. One approach that has gained traction is to rely on delivery agents who drive smaller vehicles, such as bikes, for shorter distances. This approach not only results in less damage to the environment but is also cost-effective, as it reduces the need for larger delivery trucks driving around the city and cuts down on delivery times (Boysen, et al., 2021). This in turn solves air and noise pollution issues, along with the reduction of road congestion. However, the problem remains regarding how to get the products from the store itself, especially if they are located in malls. From the delivery agents' point of view, this created a new challenge since collecting any type of product in complex areas can be very time-consuming as they need to navigate, find a place to park, and wait to receive the product, something which they do not get paid for (Huben, Lenaert, & Waeyaert, 2020). Typically, it is up to the drivers themselves to determine what order to collect as they get paid per task, and if they deem that the incentives behind the pickup are insufficient (for instance low pay), then they may pursue a different order and switch companies within the job sector (Behl, Rajagopal, Sheorey, & Mahendra, 2022).

From the malls' perspective, the shift towards e-commerce has also been problematic as their revenue depends (to an extent) on the sales made in-store of the retailers from which they receive a percentage (Snelling, 2022). Consequently, malls are adjusting their facilities to focus more on providing services to the retailers (eg. more focus on fulfillment) as well as the consumers (providing more social facilities such as entertainment, restaurants, hospitality, etc.) to ensure that they still generate foot traffic (Chotipanich, & Issarasak, 2017; Low, 2020). However, the foot traffic generated by the delivery agents has not been deemed to be particularly attractive by certain mall operators and shoppers. Shoppers in malls may encounter an increase in delivery activity, leading to increased crowding, which studies have demonstrated can detract from the overall shopping experience, particularly in a post-pandemic era (Eroglu, Machleit, & Neybert, 2022). The malls and/or retailers, on the other hand, will have to consider more aspects related to

¹ Examples of some of these challenges were identified by Srinivas, Ramachandiran, & Rajendran (2022), and are available in Appendix 1

the products such as ensuring that the hand-over process and communication between the retailer, delivery agents, and consumer are transparent. According to Paidi, Nyberg, and Håkansson (2020), the consumer must be kept informed with real-time updates of the handover process as this affects their willingness to pay.

With the rise in product shipments from stores, it is imperative for malls to collaborate with retailers and invest in optimizing their outbound logistics. This collaboration would not only benefit the retailers and the malls but also provide an attractive solution for delivery agents to pick up goods without causing excessive foot traffic. Mall operators have quite the challenge ahead to ensure their long-term survival whilst at the same time maintaining a beneficial relationship with both the retailers and the couriers. Additionally, the delivery agents need to be satisfied with the pickup location so they do not experience any delays or unnecessary extra travel through the malls.

1.3 Purpose Statement

The purpose of this thesis is to:

- Identify the main problems that different stakeholders experience during the pickup process from the malls.
- Identify and consider the feasibility of reducing the problems through a range of logistics approaches that are more effective.

This will be accomplished by conducting interviews with a variety of researchers and employees within e-commerce and instant deliveries and combining the results with the findings from existing literature. By answering the research questions, it is anticipated that this thesis will contribute to the existing literature with:

- Improved understanding of delivery agents' experiences and preferences with pickup locations in malls, which can inform the development of strategies to improve the process.
- Improved pickup processes in malls, which can increase efficiency, reduce errors, and enhance the customer experience for online shoppers.
- Improved understanding of working conditions and satisfaction for delivery agents, and how this can affect their performance.
- Increased knowledge about the challenges and opportunities for improving the pickup of online orders from retailers in malls, which can inform future research and practice in the field.

1.3.1 Scope of Thesis

To limit the scope, the thesis will solely focus on the logistics activities within the mall, from the retailer's shop to the location in which the delivery agent picks up the order. The scope of this thesis excludes the LMD of products from the point where the delivery agent collects the order at the mall and delivers it to the end consumer. Moreover, when examining the role of retailers, this thesis only includes retailers who are not in the food sector. Additionally, interviews were conducted with respondents who have experience within European markets.

1.4 Research Questions

This thesis collaborates with a Swedish logistics company and will on their behalf explore options to help make malls more attractive pickup locations for delivery agents. The research questions guiding the thesis are as follows:

- 1. What are the current tasks and challenges related to e-commerce at shopping malls, and how do they differ across stakeholders?*
- 2. What logistics approaches can be implemented to improve the process of collecting online retail orders from the shopping mall?*

1.5 Thesis Outline

The thesis begins with a comprehensive literature review that covers the relevant topics, including changes in consumer behavior, the relevant actors in the retail industry such as retailers, shopping malls, and delivery agents, and how stakeholder management could help navigate this complex environment. The literature review also examines and explains various logistics approaches that could improve the internal logistics of malls and make them more attractive pickup locations for delivery agents such as micro-hubs, parcel lockers, and modern technology. The research methodology for this thesis is qualitative, and the data will be gathered through interviews with respondents who have extensive knowledge within the fields of shopping malls, retail, e-commerce, and the gig economy. The insights from these respondents will be analyzed to identify the most feasible approaches that can be implemented in malls to improve their logistics operations and enhance the customer experience. Furthermore, the thesis finishes with a discussion of the key findings, conclusion, and suggestions for future research in this area.

2. LITERATURE REVIEW

The following chapter presents the theoretical framework necessary to gain a deeper understanding of the entities examined in the thesis.

The literature review is structured into two parts, *Context* and *Logistics Approaches*, to facilitate the reader's comprehension of the interrelated subchapters in the existing literature. The *Context* section delves into the impact of e-commerce on consumer behavior, and subsequently, the effects on retailers, shopping malls, and delivery agents, each of which presents complex challenges. Given the thesis' complexity and the multiple stakeholders involved, the *Context* section includes stakeholder management strategies to help effectively manage stakeholders and foster collaboration among them. The *Logistics Approaches* section, on the other hand, presents theoretical information on existing or developing ideas and approaches that can be harnessed to address the research question.

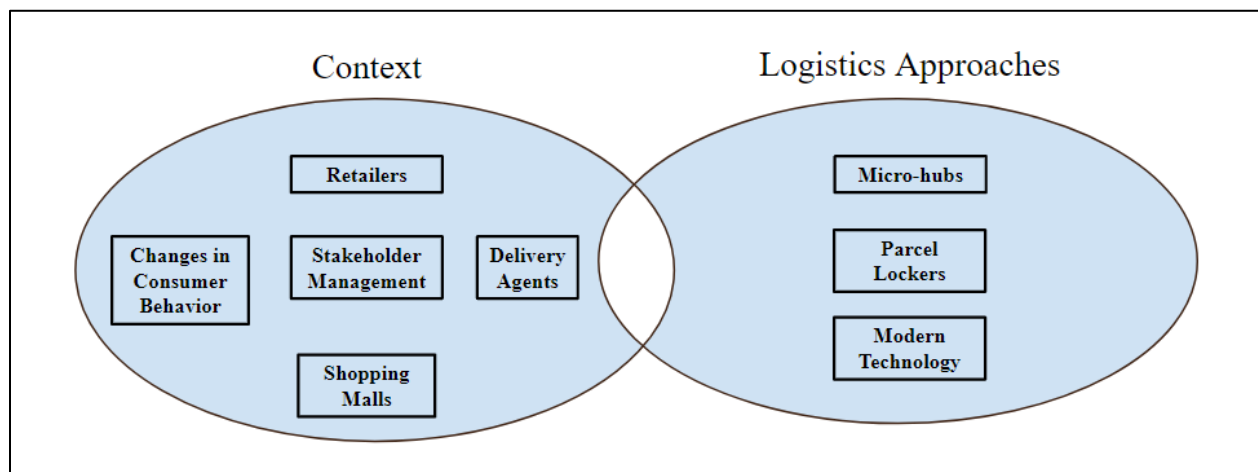


Figure 1: Overview of the Literature Review

2.1 Context

2.1.1 Changes in Consumer Behavior as a Result of E-commerce

The past decade has seen drastic development regarding consumption behavior with the rise of e-commerce and the COVID-19 pandemic accelerating these changes (Nealon, 2021). As such, omnichannel services offering various ways to shop, receive, and return items have gained additional demand from consumers. These services include Buy Online Pickup In Store (BOPIS), Buy Online Pickup In Locker (BOPIL), and

curbside pickup, which have grown in popularity among consumers giving them increased freedom of how to receive their goods (Rogers & Eckenrode, 2021).

The ease with which consumers can access a wide range of products online, coupled with the multitude of delivery options available, has resulted in consumers expecting much shorter delivery times and purchasing smaller numbers of products at a time. The wide range of products also makes it easy for consumers to switch between brands (Iwan, Kijewska, & Lemke, 2016) especially if the consumer thinks that the delivery times are too long they will decide to abandon their cart (Burns, Harris, & Kuzmanovic, 2022). The transport and logistics company DHL (n.d.) further pointed out that in Europe, 65% of online consumers will do so if they deem the delivery time was too slow or expensive. Moreover, in a report published by PostNord (2021), most consumers in Europe expect their shipment to arrive within 3-5 days.

Furthermore, consumers typically expect to have different delivery options when shopping online to suit their personal preferences. For instance, as written by Hillyer (2021) in the World Economic Forum, consumers are increasingly taking environmental and health impacts into consideration when purchasing products online. Millennials, in particular, are more ecologically aware, with 56% choosing alternative options to home deliveries due to environmental protection reasons (Hillyer, 2021). For some consumers, delivery fees may be the factor determining their home delivery options, as consumers wish to save money, whilst for others it may be the speed of the delivery that is the deciding factor (Dias, De Oliveira, & Isler, 2022). In PostNord's report (2021), the preferences in delivery options in Europe vary. In some countries, such as the UK, Belgium, Spain, Germany, and France, the most popular delivery method is through home delivery requiring a signature. On the other hand, consumers in Sweden and Norway prefer their orders delivered to their mailbox/multi-occupancy mailbox by the mail carrier whilst Finnish consumers would rather collect the product themselves from a parcel locker (PostNord, 2021). Overall, the ability to track their order as it is shipped and get real-time updates is the greatest requirement of consumers shopping online (Business Wire, 2022; DispatchTrack, 2022).

Despite the intense surges in online shopping, consumers still display a desire to shop in physical stores. The real estate technology company Placewise conducted a survey among 594 adult consumers to gauge their perceptions of malls and shopping centers. The survey revealed that 57% of respondents indicated they were "likely" or "very likely" to shop at malls within the next five years, implying continued demand for malls. Additionally, the survey found that 60% of shoppers expressed interest in the ability to purchase products online from multiple retailers within the mall and have the option for home delivery or pickup at a central location (Snelling, 2021). Nonetheless, it is important to keep in mind that e-commerce only accounts for around 20% of 2022 overall retail sales worldwide, and is expected to rise to 24% by 2026,

highlighting the importance of incorporating store-level inventory into the digital supply chain (Rogers & Eckenrode, 2021; Coppola, 2022).

2.1.2 E-commerce's Impact on Retailers, Shopping Malls, and Delivery Agents

Retailers²

The retail industry has undergone significant transformations in recent years due to the rise of e-commerce, changing consumer shopping preferences, and shrinking foot traffic (i.e., the number of consumers entering the shops) in physical stores (Rogers & Eckenrode, 2021). On top of that, COVID-19 forced retailers to shut down and rethink their layout and adopt digitalization strategies to match the new consumption needs as more consumers were starting to shop from home (which was the case even before the pandemic). As such, retailers have changed their business models and physical locations and quickly adapted digitalization strategies in order to continue to drive their online sales (Moore, 2023). Furthermore, they needed to keep up with the rapid changes in consumer behaviors (by for instance offering omnichannel services) and meet the challenges such as order fulfillment and limited supply chain capacity, which were causing a strain on their logistics (Weber, 2021).

Many retailers have started to decentralize their stores by turning them into mini-warehouses and fulfillment centers. This change in strategy allows them to keep their inventories closer to their consumption centers (i.e. dense urban areas such as malls) and ensure faster delivery times (Dekhne et al., 2020). The mini-warehouses have become a popular choice as they can easily be located in tight urban industrial areas or within traditional brick-and-mortar stores which in turn can help reduce Last Mile Delivery (LMD) times (Low, 2020).

Continuing on the topic of physical layout, retailers have changed their approach to appeal to new consumption patterns and maintain consumer loyalty. As online shopping continues to rise, some retailers are prioritizing efficient fulfillment by offering services like curbside pickup, where a retail employee delivers the customer's order outside the store, BOPIS (click-and-collect), and BOPIL (parcel locker) (Swanson, 2022). Fulfillment refers to a specific set of tasks and requires warehouse workers to handle the detailed responsibilities that were previously carried out by back-of-house retail staff. This includes tasks such as unloading, storing, picking, packaging, and labeling individual items (Shapiro, 2022). As such, ship-from-store practices are becoming more common, where store workers pick items directly from the shelves and ship them to the consumers, which also helps in situations where the retailer's warehouse is out

² Retailers in the non-food sector

of stock (Young, 2022). Additionally, retailers are turning their shops into so-called “showrooms” where consumers try the products at the location, and then order the products online and have them shipped directly to their homes (Rinelli, 2021).

As retail moves increasingly online, retailers must navigate the balance between managing stock in physical locations, such as malls, and cultivating loyal customers who expect a range of services. To survive, retailers should adopt a single, streamlined system for inventory management. This system would automatically sync data and enable remote management from anywhere, as recommended by Moore (2023). However, for retailers located in malls, having an online presence can be challenging as mall operators traditionally receive a percentage of the sales generated by the retailer. As more retailers shift their focus towards fulfillment and enjoy increased online sales, mall operators need to adapt to new services to maintain a profitable relationship with retailers (Snelling, 2022). Thus, it is in the best interest of both parties to work together to find solutions that will keep retailers in the malls.

Shopping Malls

The retail industry plays a vital part in the modern economy with shopping malls holding a crucial position in the retail ecosystem by connecting retailers and consumers with each other. Their traditional function is to oversee physical operations such as maintenance and security, which allow retailers to conduct their business effectively (Frishammar, Cenamor, Cavalli-Björkman, Hernell, & Carlsson, 2018). While consumers are still willing to shop at malls in the future, their preferences are constantly changing, which puts pressure on malls to adapt and innovate to attract and retain younger shoppers (Snelling, 2021). This implies that malls need to find new ways to stay relevant and meet the changing demands of their customers.

Nowadays, shopping malls’ primary objective is to offer a desirable mix of retailers within a managed environment that provides a convenient and satisfying shopping and leisure experience based on layout and design. They are meticulously developed, planned, owned, and managed to provide an optimal retail experience (Kushwaha, Ubeja, & Chatterjee, 2017). These characteristics mentioned by Kushwaha et al. (2017) set shopping malls apart from other retail destinations by creating a distinct and positive image in the minds of shoppers, making it difficult for competitors to replicate. Overall, shopping malls are designed to be a one-stop shop for all shopping needs, providing everything under one roof (ibid).

In addition to offering a wide range of retail stores, modern shopping malls also provide a variety of entertainment alternatives, lifestyle products, and services to enhance the shoppers' experience. These amenities can include luxury shopping, game zones, beauty salons, cinemas, and food joints. While shopping malls may not be considered a "pure" service, they can be seen as an umbrella service that

encompasses a variety of other goods and services due to the unique characteristics of the mall environment and ambiance (ibid).

Shopping malls are facing intense competition in today's retail market and must create a distinctive and appealing image to stay relevant. In addition to receiving a percentage of in-store sales, malls must also focus on assisting stores in increasing both in-store and online sales (Snelling, 2022). One way in which malls are assisting retailers is by incorporating various features within one location, such as repurposing empty stores into mini-warehouses and e-commerce hubs (Low, 2020). This way retailers can rent space from the mall and ship orders from a city location. In addition, improving and altering the layout of malls and offering other services such as curbside pickups can also help (Thomas, 2020).

Another way that malls are adapting to changing consumer behavior is by providing online shopping options. Rogers and Eckenrode (2021) gave an example of this service when the Miami-based Bal Harbour Shops launched a website allowing consumers to browse and purchase products from all of its retail tenants and later collect orders from the mall's curbside. This service can be run by the mall, but they could also partner with outside companies to manage such services (Kavilanz, 2020). Not only does this improve the shopping experience, but also facilitates LMD by offering different types of service and consolidating parcels which can lead to lower costs and higher revenues (Rinelli, 2021). However, it is important to remember that in the long term, it is way more complicated than just changing physical stores into digital ones since shopping malls need to integrate multiple distribution channels to meet consumers' specific preferences (Frishammar et al., 2018).

Delivery Agents

The growth of instant deliveries in European cities has been significant in recent years, allowing consumers to order meals from nearby restaurants and receive them within two hours (Krier et al., 2022). Delivery agents, such as gig workers or couriers, facilitate these deliveries and bridge the gap between the restaurant and the end consumer. The environmental impact of this service is noteworthy, as delivery agents predominantly rely on mopeds, bicycles, motorcycles, or cars, depending on the city (ibid). The choice of delivery vehicle depends on various factors, such as cost-effectiveness, speed, and convenience. To ensure prompt meal deliveries, delivery agents often face challenges such as high demand in a limited delivery time frame. Therefore, they are required to serve orders within a specific delivery area where they possess a greater knowledge of the routes, enabling them to navigate efficiently and ensure timely deliveries (Li, Yang, Pan, Xu, & Wei, 2022).

Despite the critical role that gig workers play in the delivery process, their status as dependent contractors often preclude them from receiving employment benefits, such as fair wages, social protection, and a safe workplace (De Ruyter & Rachmawati, 2020). Gig workers are typically paid per delivery rather than per hour, incentivizing them to complete their tasks as quickly as possible (Krier et al., 2022). Given their non-employee status, they are not entitled to benefits that are commonly offered to regular employees in many countries, despite effectively serving as surrogate employees (De Ruyter & Rachmawati, 2020).

Popan (2021) highlighted these issues by conducting a study on gig workers employed by a prominent delivery company. He elaborated on the difficulties of biking in a familiar yet physically exhausting area (such as navigating up and down hills). Another point he made was the critical issue of finding parking space for gig workers while collecting orders from restaurants located in crowded shopping malls in London. A crucial point in his study was unveiled when Popan (2021) was asked by security to “*dismount and walk [his] bike*” (p. 6) through the mall when picking up an order, resulting in significant delays.

Li, et al. (2022) focused their study on challenges that come with instant deliveries, particularly the unbalanced distribution of orders caused by diverse customer preferences in meals. Cross-regional long-distance orders increase work pressure for instant delivery systems during meal rush hours. To address this, the study proposes an order allocation strategy based on transfer stations to optimize the resource allocation of instant delivery systems. The strategy involves order combination, splitting, and delivery routing to find the optimal delivery routes for couriers with minimum total operation cost and an overtime loss.

2.1.3 The Role of Stakeholders in Logistics

To understand pick-up processes in shopping malls and identify logistical approaches, it is crucial to acknowledge the complexity of various stakeholders and determine how to manage them effectively to reach a shared goal. Although there are numerous definitions describing stakeholders, the most common was coined by Freeman (1984) who defined stakeholders as “*any group or individual who can affect or is affected by the achievement of the organization’s objectives*” (p. 276). Parmar, Freeman, Harrison, Wicks, Purnell, and de Colle (2010) suggested that a business can be viewed as a complex network of relationships among various stakeholder groups. The theory of stakeholder management emphasizes that the interests of not only the internal actors, but also external actors should be taken into account when making decisions that impact the business (Flodén & Woxenius, 2021).

Furthermore, Dameri and Ferrando (2022) explained that stakeholders were initially categorized as primary stakeholders, those who have the power to influence company decisions, and secondary stakeholders, who are affected by the organization but lack the power to influence decisions. On the other hand, Mitchell,

Agle, and Wood (1997) pointed out that a stakeholder does not necessarily have to have a current relationship with the company but could rather be in a possible future relationship. Regardless, the challenge remains of how to measure the value created for stakeholders and identify to whom this value should be disclosed (Dameri & Ferrado, 2022).

Put into the context of logistics and supply chain management, Flodén and Woxenius (2021) explained that stakeholder relationships are nowadays viewed more as a network of mutual and collaborative relationships, extending beyond corporate interests, and should be considered relational rather than transactional. In their report, Flodén and Woxenius (2021) highlighted that stakeholder theory has been applied successfully to supply chains and logistics channels, where cooperation and negotiation are crucial to building successful relationships between channel partners. These can be further strengthened through information sharing in the supply chain which in turn reduces uncertainty and increases trust and commitment between partners (ibid).

Effective stakeholder management is vital for project success as it aims to gain the support of stakeholders and align their interests with project or organizational goals. The main objective is to make activities more issue-driven rather than stakeholder-driven. In their respective articles, Tarode and Shrivastava (2022) and Wouters (2021) explained the four most common steps in managing stakeholders in complex environments:

1. Stakeholder identification: This involves identifying all the individuals and groups who have an interest in or are affected by the project or organization.
2. Stakeholder classification: Stakeholders are classified based on their level of power, interest, and influence on the project or organization.
3. Analysis: A thorough analysis of each stakeholder is conducted to understand their needs, expectations, concerns, and potential impact on the project or organization.
4. Strategy development: Based on the analysis, strategies are developed to engage and manage stakeholders effectively, ensuring their support and contribution towards the success of the project or organization.

2.2 Logistics Approaches

2.2.1 Micro-hubs: Revolutionizing Instant Deliveries

The courier, express, and parcel (CEP) sector is facing increased pressure to address the LMD issue and provide same-day or next-day delivery services to meet customer demands and regulatory requirements (Hribernik, Zero, Kummer, & Herold, 2020). One proposed solution to address this issue is through the use of micro-hubs, which are designed to reduce the number of vehicle trips in urban areas by improving load distribution within a delivery zone (Huang, Huang, & Guo, 2020; Katsela, Güneş, Fried, Goodchild, & Browne, 2022). These hubs are typically located near end-receivers and can employ various less environmentally damaging modes of transport, such as light-duty electric vehicles, electric cargo bicycles, and foot or handcarts (Novotna, Svadlenka, Jovicic, & Simic, 2022).

Micro-hubs also enable the receiver pickup through automated parcel lockers or in-person attendants and collaborative micro-hubs can be established where multiple CEP carriers work together to achieve common logistics and transportation objectives (Hribernik et al., 2020). The proximity of micro-hubs to end consumers allows for more sustainable transport options and can reduce traffic, congestion, and carbon emissions (Hribernik et al., 2020; Novotna et al., 2022).

In a micro-hub environment, CEP carriers can operate the LMD, and neutral parties can operate the hub and treat all carriers as customers (Hribernik et al., 2020). Collaborative micro-hubs aim to achieve win-win situations between CEP carriers, such as improved optimization, load capacity, and asset utilization. These facilities can also consolidate shipments at a central location, leading to increased efficiency and reduced costs (Novotna et al., 2022; Huang et al., 2020).

Katsela et al. (2022) noted that urban areas with limited curb space may require shared staging areas for loading/unloading and transshipments, which can occur at the curb, in public or private parking lots, or in repurposed vacant lots or buildings. The most significant challenges in establishing these facilities are finding adequate space and avoiding conflicts with nearby residents. Determining the location of a micro-hub is an important strategic decision in the planning process, and stakeholders must consider various factors such as demand, infrastructure, land-use restrictions, and community concerns (ibid).

Some micro-hubs near the city center have the characteristics of larger distribution and consolidation terminals and cater to businesses with specific delivery requirements resulting from their own choices or constraints. Micro-hub solutions can be adapted by stakeholders to address the diverse challenges faced by cities and urban areas, including negative environmental, social, and economic impacts. Not only do these

challenges affect the effectiveness of freight distribution and the quality of life of city residents, but also the eco-efficiency and sustainability of cities and countries (ibid). Thus, micro-hubs offer a promising solution for addressing the last-mile issue, reducing traffic and congestion, and implementing sustainable transportation modes to reduce the total number of vehicle trips (Hribernik et al., 2020; Huang et al., 2020; Katsela et al., 2022; Novotna et al., 2022).

2.2.2 Approaching E-commerce delivery challenges with Parcel Lockers

As aforementioned, the growth of e-commerce has resulted in a worldwide increase in parcel deliveries, causing increased noise, pollution, and traffic congestion. One way to address these issues is through the implementation of parcel lockers, which serve as temporary storage spaces and function similarly to warehouses, allowing for more efficient handling and receiving of packages (Che, Chiang, & Luo, 2022).

It was previously stated that retailers are now offering their consumers the service known as BOPIL, where the consumers pick up their orders in parcel lockers. Parcel lockers, also known as self-service technologies, are automated devices commonly used to collect and return goods purchased online (Rogers & Eckenrode, 2021; Vakulenko, Hellström, & Hjort, 2018). These lockers are typically located in certain public locations such as supermarkets or train stations and are used by multiple consumers (Che et al., 2022; Seghezzi, Siragusa, & Mangiaracina, 2022). One of its advantages is that they are an unattended delivery system, consisting of a series of reception boxes that can be accessed 24 hours a day, 7 days per week. They are particularly useful in the context of LMD and are often used in e-commerce to deliver parcels to consumers at their convenience. The consumer receives a short email or text message with a code to open a specific locker once the parcel has been delivered (Iwan et al., 2016). However, parcel lockers can also have some disadvantages. Since they are private actors, public authorities may not have the necessary oversight or control to ensure compliance with safety and security standards (ibid). Additionally, the limited storage capacity and vulnerability to crime and vandalism of parcel lockers may not be suitable for certain types of items and may pose limitations that can undermine the effectiveness of parcel lockers as a convenient and secure way to send and receive packages (Vakulenko et al., 2018).

Parcel lockers provide a significant reduction in the number of home deliveries and eliminate the need for drop deliveries when the recipient is not present. They are beneficial for both customers and online stores and can be implemented in any city (Che et al., 2022; Iwan et al., 2016). According to industrial reports, parcel lockers have received positive feedback from both consumers and businesses, as they improve the service experience and provide a competitive advantage and performance enhancement for businesses (Vakulenko et al., 2018). Strategically placing parcel lockers in appropriate locations, with the involvement

of local authorities in their development and deployment, can not only result in significant economic advantages but also contribute to environmental preservation by decreasing pollution from urban cargo transport (Iwan et al., 2016).

2.2.3 Overcoming Logistics Challenges with Modern Technologies

The e-commerce industry's rapid evolution has necessitated logistics companies and retailers to find ways to streamline operations, cut costs, and enhance efficiency. However, traditional manual routing methods have become inadequate since they depend on the knowledge and understanding of local drivers, leading to missed deliveries, delays, and low customer satisfaction. Without modern technology, firms may not fully comprehend the capacity and sizes of vehicles necessary for efficient logistics (Aswath, 2022).

To address these challenges, some logistics companies are embracing new-age technologies such as modern route planning software to optimize their fleet and delivery routes, ensuring prompt and accurate deliveries (ibid). Automation has been a crucial trend in the transportation-and-warehousing industry for several years, and it has become increasingly popular due to its ability to reduce labor dependency, enable higher throughput, and improve the efficiency and transparency of goods flow (Dekhne, Hastings, Murnane, & Neuhaus, 2019). The COVID-19 pandemic accelerated the need for automation in logistics networks, leading to increased demand for partial independence from personnel (Nitsche, 2021). Furthermore, Cichosz, Wallenburg, and Knemeyer (2020) argued that in order for logistics companies to remain competitive and agile in the face of market disruptions, they must leverage the latest advancements in automation technology.

Additionally, intelligent automation, such as Artificial Intelligence (AI), has been employed to enhance route optimization in dispatch planning, leading to improved precision, reduced fuel costs, and decreased preparation and delivery times (Suguna, Shah, Raj, & Suresh, 2022). By utilizing intelligent automation, logistics leaders can analyze and identify inefficiencies in their planning process, leading to improved shipping efficiencies and increased profitability and customer satisfaction (Everstream Team, 2020).

3. METHODOLOGY & METHODS

In this section, the research approach and design are presented outlining how the thesis' data were collected. The methodology provides a visualization of the strategy and explains the interview process. Finally, a detailed explanation of how ChatGPT was used as a writing tool is included.

3.1 Research Approach & Design

In this study, a qualitative research method was employed, aligning with an interpretive approach that acknowledges social reality as subjective and shaped by individuals' perceptions. This method holds the potential to generate highly valid results, with interviews playing a significant role in data collection (Collis & Hussey, 2014). According to Kvale and Brinkmann (2014), qualitative research proves particularly valuable for studying the contextual aspects that contribute to a comprehensive understanding of the subject matter. Interviews serve as a complementary and insightful tool for delving deeper into this contextual understanding. Moreover, interviews can take various forms, including open or closed, conducted face-to-face, via telephone or online, and structured or semi-structured (Collis & Hussey, 2014).

This thesis is classified as a case study as it aims to investigate the logistics practices associated with delivering goods from retailers' stores in malls to delivery agents. The study focuses on the specific requirements of the logistics company with which this thesis collaborated, providing valuable insights into the process. According to Collis and Hussey (2014), case studies allow researchers to explore a single phenomenon in its real-life context. The opportunist case study is one of the most appropriate types of case study for this purpose, as it enables researchers to gain access to a specific business or individual associated with the case being studied.

Moreover, every case described in academic research has a history and a future (ibid). However, understanding the context for this thesis may be challenging, given that it is exploratory research about a relatively new and rapidly developing market, with limited studies and literature available on the topic. Exploratory research is conducted when there are few or no prior studies available to provide information on a specific problem or issue under investigation (ibid).

The thesis explores two main research areas as depicted in Figure 2 - *Research Design* which have been categorized into *Context* and *Logistics Approaches*. The *Context* section serves the purpose of providing a

comprehensive understanding of the changes in consumer behavior and their subsequent impact on retailers, shopping malls, and delivery agents. Additionally, the section delves into the theory of stakeholder management, which is considered essential in effectively managing the stakeholders involved in this thesis. This provides the basis in understanding and exploring feasible logistics approaches and implement them efficiently. The *Logistics Approaches* section focuses on existing methods to cope with the rapidly evolving e-commerce landscape.

The *Area of Exploration* is where the two sections of the theory are explored through interviews to gain real-world context and insights based on the knowledge of the respondents. This is presented in the empirical findings and analysis identifying what logistical challenges exist, and what approaches are most feasible, thereby answering the research questions.

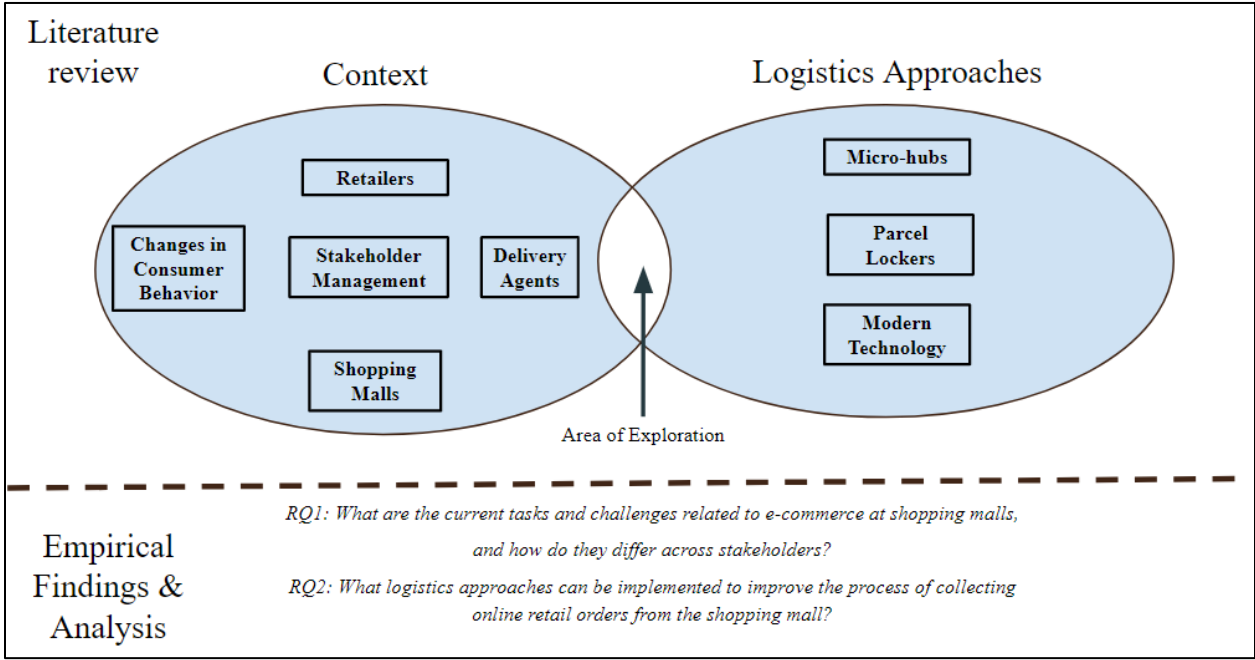


Figure 2: Research Design

3.2 Data Collection Methods

Data collection may be defined as “[...] *the process of gathering information in a meaningful and reliable manner*” (Porta, 2014). Examples include conducting interviews or performing environmental measurements (ibid). According to Collis and Hussey (2014), a crucial aspect of the data collection process is determining the appropriate strategies for collecting data, which should encompass documentary analysis, interviews, and observations.

The data collection methodology employed in this thesis involved gathering both primary and secondary data from various sources with the aim of enhancing the existing body of knowledge related to logistics within the domains of e-commerce, malls, retail, delivery agents, and modern technology. The sources utilized in the data collection process included peer-reviewed academic articles, online articles and journals, as well as interviews.

3.2.1 Collaborating with a Logistics Company

This thesis was written in collaboration with a Swedish logistics company specializing in data-driven solutions and sustainable deliveries. While the company's subsidiary is exploring the impact of e-commerce deliveries on retailers and shopping malls, the thesis is not about the company itself. Rather, independent research was conducted, and the topic was explored on their behalf, with the subsidiary providing valuable insights and guidance, offering a unique perspective on the challenges faced by retailers and malls in the current e-commerce landscape. Regular visits and meetings were held with the subsidiary's team during the spring of 2023, allowing for a thorough investigation of the operations of retailers, malls, and delivery agents in relation to the identified logistics approaches. To maintain confidentiality, the collaborating company will remain anonymous throughout the thesis and was not directly involved in generating the results.

3.2.1 Secondary Sources

In preparation for this thesis, extensive research was conducted through the use of secondary sources. Secondary sources refer to data that has been previously collected and published in articles, publications, websites, or internal records (Collis & Hussey, 2014). As a basis for the literature review chapter, secondary sources were gathered from the University of Gothenburg's library database which provided access to for instance peer-reviewed literature. Additionally, articles from news sources and other journals were found by using online search engines such as Google. To narrow down the search process, related keywords to the research were used such as "*mall logistics*", "*e-commerce*", "*last mile delivery*", "*same day delivery*" etc. In order to obtain the most current and relevant data for this study, priority was given to the most up-to-date articles, and ultimately, the most suitable articles were selected. To effectively collect and organize all the gathered articles, a table was created on Notion ³which proved to be a valuable tool in tracking all the read articles and facilitating their subsequent incorporation into the literature review.

³ Notion is a productivity software developed by Notion Labs Inc. The table included several columns, such as the article name, year, citation, reference, comments, link, search words, and platform it was collected from.

3.2.2 Primary Sources

Primary sources denote data obtained by researchers directly from the original source through means such as interviews, focus groups, questionnaires, or surveys (Collis & Hussey, 2014). To complement the existing data gathered from secondary sources, interviews were deemed the most appropriate collection method for this study. While extensive literature exists on delivery agents conducting instant deliveries within the food industry, the focus of this research pertains to the impact of e-commerce on instant deliveries for retailers and how malls can best utilize their space. Through this approach, a balanced perspective of the current situation was obtained, and feasible logistics approaches were identified.

Choice of Respondents

The appropriate number of interview respondents in qualitative research is a subject of variability and ongoing debate. In her article, Dworkin (2012) discussed the topic of determining the optimal sample size for qualitative research, addressing the question of whether a large or small sample size is more suitable. She highlighted that numerous sources suggest a range of 5 to 50 participants as adequate, while acknowledging that the specific number depends on factors such as data quality, study scope, topic nature, information obtained from each participant, etc. However, some argue that focusing on the "how many" question may be misguided. Dworkin (2012) proposed that methodological rigor is better achieved by developing relevant conceptual categories, saturating them with evidence, and providing comprehensive data explanations. As such, this thesis opted for a smaller but stronger sample of respondents, ensuring that the data gathered was relevant and useful for the study.

To obtain relevant and valid data for this thesis, judgmental sampling as outlined by Collis and Hussey (2014) was utilized to select participants for interviews. This method ensured that experienced individuals in the field were chosen to provide insights and strengthen the credibility of the study. In total, five respondents were carefully selected for interviews, as summarized in Table 1. Two of the respondents were academic researchers with extensive knowledge of the delivery agents and retail fields, while the other three had significant experience in e-commerce, shopping mall management, and the gig economy. By engaging with these individuals, a more comprehensive perspective was obtained, representing diverse viewpoints across sectors and providing valuable insights into sector-specific challenges and workings.

Name of respondent	Sector	Date of Interview	Duration	Interview Platform
Magnus Zingmark	Shopping Mall	21 March 2023	1h 12 min	Microsoft Teams
Adrian Friday	Delivery Agent; Modern Technology	21 March 2023	59 min	Microsoft Teams
Samuel Alowosile	Delivery Agent	22 March 2023	30 min	Mobile phone
Johan Hagberg	Retail	22 March 2023	54 min	Microsoft Teams
Respondent 5	Retail; Modern Technology	23 March 2023	1h 02 min	Microsoft Teams

Table 1: List of Interview Respondents

1. Magnus Zingmark is the former Head of Sustainability at Nordstan (a shopping mall in Gothenburg). He spoke about his experience working on various sustainability projects related to Nordstan aiming to improve delivery flow.
2. Adrian Friday, a professor at Lancaster University, specializes in computing and sustainability. His work focuses on using technology in a sustainable way while reducing the negative environmental impact of digital technologies. He has also been involved in many projects related to retailers and the gig economy.
3. Samuel Alowosile is a gig worker and garage host for 'Bzzt!' which is a logistics solutions company that specializes in providing efficient last-mile transportation in city centers.
4. Johan Hagberg, a professor and researcher at the School of Business, Economics, and Law at the University of Gothenburg. He specializes in marketing and his research revolves around the digitalization of retailing, consumption, and markets.
5. Respondent 5 is a project manager and preferred to remain anonymous. Their company collaborates with various companies in Sweden to ensure that e-commerce deliveries contribute to a dynamic and sustainable society.

Mr. Zingmark, Prof. Friday, and Mr. Hagberg's contact information were provided by the supervisor of this thesis. Mr. Alowosile was contacted via the logistics company, whilst Responent 5 was reached out to by own initiative online. Furthermore, it should be noted that the company which Mr. Alowosile works for may not be representative for the whole gig economy as it operates in a unique manner. Therefore, generalizations to other gig workers and companies should be made with caution. To address this, it was important to interview Prof. Friday who has conducted extensive research within the gig economy and could provide a more balanced view.

Interviews

The present thesis describes the methodology employed in collecting interviews for the thesis, which involved the use of open, semi-structured questions administered online. This provides flexibility in scheduling meetings and asking follow-up questions to enhance the interviewee's interest and development (Collis & Hussey, 2014). The decision to adopt this approach was motivated by the recommendations of Collis and Hussey (2014), who underscore the advantages of open questions in enabling interviewees to express themselves on their own terms.

The principal source of qualitative data in this thesis comprised a total of five interviews. The ensuing analytical process involved multiple steps, commencing with a recording (with interviewees' permission) and transcribing the data utilizing the Microsoft Teams platform. However, this process was only carried out with four of the interviewees, as the interview with Mr. Alowosile was conducted over the phone and could not be recorded or transcribed. Next, relevant information was extracted from the interview data, and translated into a mind map (see Appendix 2) designed to facilitate the organization and structure of responses. Subsequently, a thematic analysis was conducted, focusing on the identification of recurring themes and keywords both within and across the samples.

As per the recommendations of Kvale and Brinkmann (2014), the respondents were sent the interview questions a few days prior to the interviews to brief them on the purpose and scope of the thesis and given the option to participate anonymously. For ethical reasons and transparency, the respondents were informed that the thesis was in collaboration with an anonymous logistics company. The interview guides (available in Appendix 3-7) were divided into categories that follow the scope of this thesis, with specific questions for each category. The questions were tailored depending on the interviewees' backgrounds. During the interviews, certain questions were rearranged or rephrased based on the responses provided by the interviewees. To maximize the potential of the data obtained through this technique, both thesis authors were present during all interviews, combining predetermined and spontaneous inquiries based on the

responses. Additionally, the interviews were conducted exclusively in English, a decision that was fully agreed upon by all participants. To ensure the highest level of reliability and credibility of the empirical findings presented in this study, the summary of each respondent's results was sent back to them for approval via email. This process provided an opportunity for respondents to add any additional points they deemed necessary. Their feedback was thoroughly considered, and the empirical findings were updated accordingly to ensure accuracy and completeness.

3.3 ChatGPT

3.3.1 Introduction to ChatGPT

In this thesis, the recently released AI chatbot model known as ChatGPT by OpenAI⁴ was used as a tool to enhance the quality and readability of the thesis. The use of foundation models, particularly Large Language Models (LLMs) such as BERT (Devlin, Chang, Lee, & Toutanova, 2019), GPT-3 (Lutkevich, n.d.), GPT-SW3 (AI Sweden, n.d.), and their recent derivatives such as ChatGPT, has garnered attention and sparked controversy in academic research, especially in recent months. For this reason, it is important to discuss the ethical and transparent use of how this tool was used in the work to write this thesis.

ChatGPT was selected as a tool due to its accessibility and potential to improve the efficiency and accuracy of the research and writing process, thus raising the level of this thesis. It was used mainly as a writing aid tool for the purposes of spelling and grammar correction, as well as for providing constructive suggestions for text improvement, including the optimal structure and organization of different sections. Additionally, ChatGPT was used as a tool during the interview process to help summarize and organize the transcribed material.

3.3.2 Transparency and Guidelines

The journal Nature (2023) has provided ethical guidelines for the use of ChatGPT such that the published research remains transparent and avoids abuse, for example risk of plagiarism. These guidelines state that ChatGPT should not be credited as an author on a research paper (or thesis) since AI tools cannot take responsibility for their work. Additionally, researchers using ChatGPT should document their use of the

⁴ ChatGPT is a chatbot developed by OpenAI which can process language using "Generative Pre-training Transformer" (hence the GPT) technology. Unlike other chatbots, ChatGPT was trained using reinforcement learning from human feedback (RLHF), allowing it to challenge incorrect assumptions, answer follow-up questions, and admit mistakes (Reiff, 2023).

tool in the methods or acknowledgments sections and should clearly indicate the extent to which AI was used in the research process (ibid).

As mentioned, when preparing for the interviews, an interview guide was created. To help structure the interviews and reduce potential researcher bias from loaded questions, ChatGPT was used to rephrase questions posing this risk, thereby enhancing the validity of the interview results. Once the interviews were conducted and transcribed, the material that was the most useful was run through ChatGPT to help summarize the results and enhance the efficiency of the work, allowing thesis authors to spend more time on identifying themes. The text generated by ChatGPT was carefully cross-referenced with the original transcripts and reworked by the thesis authors when needed. As mentioned, to enhance the credibility and reliability of these results, the texts were sent back to the interview respondents for approval.

More detail on ChatGPT and how it was used in the writing process of this thesis is provided in Appendix 8 along with examples in Appendix 9.

3.4 Limitations of the Methodology

Firstly, due to the exploratory nature of the research and the developing market, it was challenging to find relevant sources of information. Secondly, during the interview with Mr. Alowosile, poor phone call quality posed a significant challenge, resulting in some information being difficult to capture. Moreover, the study originally aimed to contact and interview a larger number of participants, ideally 2-5 respondents per sector, to obtain a comprehensive and nuanced perspective on the results. However, due to the low response rate, it was not possible to gather a broader range of participants from different sectors as originally intended. Despite reaching out to a more extensive pool of potential participants, a limited number of interviews were secured. To mitigate this limitation, the research strategy was revised to focus on recruiting respondents with extensive research or experience in their respective fields to gather more generalizable insights.

4. EMPIRICAL FINDINGS - INTERVIEWS

The upcoming section outlines the findings of the interviews conducted with the selected respondents. Each respondent's summary is presented in chronological order and their respective references can be found in the reference list.

4.1 Shopping Mall Sector - Magnus Zingmark (Mall Manager)

In the interview with Mr. Zingmark, the former Head of Sustainability at Nordstan, he noted that the Swedish e-commerce market recently decreased by 8%. He discussed the importance of customers picking up their internet orders in the physical store rather than receiving them at home, as it results in additional business. One of the fashion retailers had a high percentage (70%) of customers picking up their orders in-store, boosting their sales. Furthermore, Mr. Zingmark explained that some grocery stores could serve as a collection hub for Internet orders. However, this requires the store to adjust its physical layout and needs extra personnel to generate these additional sales from the customers that come to collect their online orders along with increased customer loyalty. On the other hand, Mr. Zingmark speculated that due to these extensive adjustments and resources, some retailers had abandoned the idea of the hub as they did not deem that it would add extra value.

Mr. Zingmark also discussed the challenges of picking up restaurant orders for providers such as Foodora. He explained that when customers order food from McDonald's, the orders typically would not come from Nordstan's location but from other McDonald's restaurants that are easier to collect from. According to Mr. Zingmark, the reason for this is that access to Nordstan's restaurants is too hard for the delivery agents, and it is challenging for them to find parking spots in front of the mall.

In addition, Mr. Zingmark highlighted the complexities of working with the four different owners of Nordstan, who are all competitors, and emphasized how challenging it can be to collaborate with multiple stakeholders in a fiercely competitive business environment. He noted that each owner has their own model and may not be open to sharing ideas. However, he also mentioned that some owners are open to discussion and have suggested moving businesses to other buildings to benefit customers. Mr. Zingmark suggested that property owners have the greatest opportunity to push for sustainable logistics as a condition for using consolidation hubs, and that financial responsibility should be shared with the city. Similar to how property owners and the city share responsibility for cleaning, maintenance, and security in shopping centers, sustainable logistics should also be included in their responsibilities.

Mr. Zingmark also discussed the growth of parcel lockers in Nordstan and how there were almost too many of them in the mall. He mentioned his visit to Stockholm and his confusion about the business model of companies investing in trucks and boxes for delivery services which nowadays have changed since Instabox and Budbee have merged. However, he highlighted the success of Leveriet in the Sickla mall, which served as a hub for the whole shopping center. Mr. Zingmark suggested that the owners of Nordstan could rent out their free space for one parcel locker instead of having multiple. He mentioned that the owners did not understand the business model at the time, but later there were seven different parcel lockers in the mall.

One of Mr. Zingmark's projects was implementing a service center in Nordstan to manage deliveries to the shopping mall. The service center was a key factor in the success of Nordstan's delivery efforts for several reasons. Firstly, the center provided a base to work with, allowing Nordstan to monitor and understand delivery patterns. With up to 50 parcels per day, Mr. Zingmark could analyze the data and find patterns in delivery times and quantities, which helped Nordstan better prepare for deliveries and ensure they were received efficiently. Secondly, the center provided personal contact for smaller offices that may not have been able to handle their deliveries efficiently. Mr. Zingmark noted that smaller offices could contact the service center to collect their parcels and come back the next day, reducing the amount of time and effort they had to spend on receiving and handling deliveries. Thirdly, the service center provided a way to identify and track deliveries. Mr. Zingmark mentioned that one of the common problems with deliveries to Nordstan was that the receivers did not know who the deliveries were from or which company they belonged to. However, with the service center, they were able to identify deliveries and track them more efficiently.

4.2 Delivery Agent and Technology sector - Adrian Friday (Researcher)

In the interview with Prof. Adrian Friday, a professor at Lancaster University, several challenges faced by gig economy workers were discussed. One of the biggest difficulties is the lack of infrastructure to support their daily tasks. Delivery agents, for instance, struggle to find a safe and secure place to keep their bikes while they wait for orders. Furthermore, the malls and restaurants where they pick up orders are often not designed with their needs in mind, and there may not be a designated area for them to wait and stay out of the way of other customers.

Another challenge that gig workers face is that the digital platform used by customers does not always accurately reflect their experiences. This can lead to customers unknowingly supporting businesses that

mistreat gig workers. The digital platform can also be unpredictable, making it difficult for workers to plan their finances and schedule their work. To address these challenges, Prof. Friday suggested that the platform could provide more support for workers, such as designated waiting areas and secure bike racks. The platform could also provide more stability and predictability for workers, allowing them to plan their work and finances more effectively. Moreover, facilities such as a hub with laundry facilities and a safe place to store bikes could improve the gig worker experience.

Prof. Friday also discussed issues that arise when working on a digital platform. The platform's unpredictability can create problems, including the accuracy of GPS location data, which may not work well in all areas. Customers may also provide false information about their location, leading to lost time and productivity for workers. To address these issues, workers often take pictures of their deliveries to provide evidence of their work. However, Prof. Friday suggested that the platform's design could be improved for the benefit of gig workers.

Regarding deliveries from malls, workers may face issues navigating the mall and finding specific stores or retailers. Prof. Friday suggested that there may be opportunities to provide additional help to gig workers, such as better mapping or navigation tools, to improve their overall experience. Additionally, Prof. Friday noted that the physical infrastructure of malls and cities is not designed for gig workers. This can create difficulties for them, such as the need to memorize maps to navigate malls. Having a forum for engagement could help identify barriers and improve the gig worker experience.

During the interview with Prof. Friday, the topic of parcel lockers was discussed. Prof. Friday shared his view that the gig economy often involves outsourcing costs and avoiding employee benefits. He recommended that malls require retailers to pay for parcel lockers as part of their agreement for operating within the mall. Additionally, if the mall needs to handle the logistics of the parcel locker, a business model should be established where the mall ultimately covers the cost. Prof. Friday also pointed out that businesses using parcel lockers are saving money on delivery costs but could be spending it elsewhere. The proposed solution was for retailers to pay for the parcel lockers, similarly to how gig workers are paid through contracting companies rather than the mall directly.

Moreover, Prof. Friday implied that improving the design of gig work platforms and providing better tools and resources for gig workers can help address these challenges and improve the overall gig work experience. Adapting store-level infrastructure, such as special collection checkouts, could also alleviate some of the challenges faced by gig workers.

4.3 Delivery Agent sector - Samuel Alowosile (Delivery Agent)

Mr. Alowosile's employer, Bzzt!, uses electric 3-wheel tire e-bikes called kiks to transport items from companies such as restaurants and florists to customers at their offices or homes. Mr. Alowosile is a delivery driver and also a garage host that gets paid hourly. As part of his day-to-day tasks, he checks the e-bikes for battery charge and mechanical issues, ensures the uniforms for drivers are prepared, and checks that the office facilities are clean and welcoming for drivers to prepare for work or rest.

Mr. Alowosile explained that Bzzt!'s main orders come from a restaurant that offers salads for office customers and that he is familiar with its location, making pickups easy to collect. He also pointed out that deliveries to offices are straightforward since he can leave the full order at the receptionist, who knows where the orders should go. However, pickups from florists mostly located at subway stations are more difficult to coordinate. The location of the subway is provided, but not the florist's address and parking is difficult due to the busy and crowded area. Moreover, finding parking spots in crowded areas is also a challenge for Mr. Alowosile. To help new drivers get used to pickup locations, Mr. Alowosile mentioned that experienced drivers show them around and share their knowledge. Florists help delivery agents with their job since they organize orders based on postal codes, which helps Mr. Alowosile know which order should be put first into the delivery box, as it will go to a further location.

One of the challenges Mr. Alowosile described is that the app used by the company often crashes when he tries to pick up an order. This leads to longer collection times and wastes time between deliveries. He believes the app should provide delivery timings when collecting orders, allowing him to plan his routes more efficiently and prioritize express or office orders. Another challenge Mr. Alowosile discussed is that he cannot accept a new order that pops up while he is en route to collect an existing order. Often, these new orders are located near the first pickup location and within a similar city area. Being able to see all the orders and combine deliveries would make his job more efficient, and he could plan his routes better. He found it frustrating to see a new order from a location he has just come from, resulting in him driving the same distance twice, which is inefficient. Mr. Alowosile concluded that there is a need for an overview and better coordination of orders. Furthermore, when asked about the idea of having a hub located in the subway station that would gather all the orders from florists, Mr. Alowosile was very interested in the concept. He believes it would make his job easier and more efficient.

4.4 Retail Sector - Johan Hagberg (Researcher)

During the interview with Mr. Hagberg, a professor at the University of Gothenburg, the discussion focused on the challenges and opportunities of digitalization and retail, particularly in relation to the last mile logistics aspect. Mr. Hagberg pointed out that the integration of online and offline channels has been a significant challenge for many retailers, and as consumers increasingly use different channels during the purchase and pickup process, it has become more difficult to separate channels. This has created challenges with stock integration, reward systems, and returns. Click-and-collect services have become increasingly popular, and stores need to find ways to handle these orders in-store. However, customers from different European cities have different preferences when it comes to the collection point. Payment systems and order transactions also pose challenges for physical stores looking to integrate online channels.

Mr. Hagberg also discussed the trend of decreasing visits to physical stores, especially in shopping malls and mid-size stores, which has been further exacerbated by the pandemic. However, grocery retail is an exception, with the frequency of visits remaining relatively unchanged. In light of the complexities and multifaceted nature of the shift towards e-commerce, he suggested that individuals may prefer to make more frequent purchases from multiple stores, especially in the case of groceries. Nonetheless, predicting the future of physical stores remains a challenge.

The interview had in-depth discussions about the challenges of click-and-collect services and different options for retailers to improve their product distribution, focusing on click-and-collect and box deliveries. Mr. Hagberg emphasized that retailers want to attract customers to the stores, and the placement of click-and-collect stations or parcel lockers is strategically thought out to enhance the likelihood of additional purchases. While click-and-collect is typically within the store, Mr. Hagberg suggested that it could be beneficial to have a separate area for click-and-collect orders, but this may not always be feasible in smaller stores with low parcel volumes.

Mr. Hagberg stated that shopping mall retailers are generally collaborative, but coordinating with different organizations and chains can be challenging due to differing objectives, policies, and software integration. This can create challenges in coordinating between different stores and may require a shift in priorities. However, it is not impossible to implement such solutions, and collaboration between retailers is essential to create an efficient and customer-friendly environment in shopping malls.

Mr. Hagberg also pointed out the importance of creating competitive advantage, and the interview discussed the willingness of malls to offer value-adding services to retailers, such as a porter to pick up the online order from the retailer to a central hub, generating competitive advantage. Mr. Hagberg noted that it may

be more feasible to implement these services with retailers that already offer click-and-collect, and the decision-making process for implementing these services varies depending on the organization. However, if all retailers in a shopping mall offer the same service, it may not be a competitive advantage.

4.5 Retail and Technology sector - Respondent 5 (Project Manager)

In their interview, Respondent 5, discussed their work related to e-commerce and city logistics projects in Sweden. The projects that the company undertakes are applied and test things on a small scale, such as general city planning in regard to e-commerce in malls, private housing, and retailers. Respondent 5 has worked on projects related to parcel locker policies and the role of property owners for sustainable e-commerce deliveries.

The interview primarily focused on parcel delivery and collection in Sweden, particularly the shift towards home deliveries and parcel lockers. Respondent 5 noted that the parcel locker companies want the lockers to be flexible and accessible wherever and whenever which causes problems in finding suitable locations for the lockers. Many cities are hesitant to allow this due to fears of negative impacts such as those caused by micro-mobility devices such as scooters. There are logistical challenges that need to be addressed to make parcel delivery and collection more efficient and convenient for consumers.

Respondent 5 discussed the benefits of parcel lockers and the challenges in finding suitable locations, especially in communal spaces. In Sweden, cities have tried pilot programs with parcel locker companies, but there have been issues with data sharing that have hindered decision-making. There are also concerns with the security of home deliveries and the responsibility of property owners in protecting their surroundings. One solution which is being considered is the use of hubs owned by property owners, which could streamline deliveries and reduce foot traffic.

The interview also covered the importance of implementing parcel lockers, with Respondent 5 noting that it is often the cities that are worried and trying to figure out how to handle the situation. Many parcel locker owners and developers are trying to take market share, and they are predicting consumer behavior and creating quick access to their systems. However, consumers are not very loyal, making it difficult to predict their preferences.

The discussion emphasized the need for increased accessibility and expansion in the parcel locker network, including expanding beyond big cities and making parcel lockers more accessible in rural areas. The potential for using gig workers to collect parcels from retailers and deliver them to parcel lockers for

customer or delivery agent pickup was also discussed, along with the need for retailers to have a complete understanding of their inventory across both physical and online channels.

Respondent 5 suggested that retailers should be responsible for paying for the service of collecting orders and delivering them to the hub or parcel locker. Property owners could also develop different types of offerings, such as pop-up spaces, to attract good brands and diversify their offerings. The cost of the service would depend on the volume and value it brings to the consumers and the retailer's market share. Smaller items such as chargers or makeup that require quick delivery could benefit from this service. Additionally, the mall could involve non-shop personnel, such as cleaners, to assist in the collection and delivery of orders. Furthermore, the interview touched on the experimentation of different brands with delivery services and finding creative ways to cater to their customers' needs, such as the Swedish retailer Gina Tricot offering home deliveries of party clothes. Offering variable services depending on the product and time of day could be a great way to keep things interesting and offer customers more value.

According to Respondent 5, there is a growing trend in the retail industry towards physical interaction with consumers that emphasizes quickness and accessibility. This shift is being driven in part by the realization that price is no longer the only competitive factor. Additionally, Respondent 5 pointed out that many cities in Europe are working to become car-free and reduce car dependency, with the goal of making all services accessible within a 15-minute walking or cycling distance. The concept of the 15-minute city encompasses all services, including healthcare, education, experiences, and shopping, and has already been adopted in Paris, with other European cities considering similar measures. This development is expected to lead to an increase in deliveries to meet the demand for quick and accessible services.

5. ANALYSIS

In this section, all gathered information from the literature review with interviews' results will be discussed. The analysis provides the basis that ultimately is used to answer the research questions.

This thesis has identified seven key themes, grouped into three main parts (as shown in Figure 3 below) that address the research questions, based on the literature review and empirical findings presented above. In the following sections, these themes will be discussed in relation to the research questions and provide a concluding analysis on how they can be leveraged for achieving competitive advantage. The research findings and stakeholder interviews emphasize the crucial role of generating competitive advantage in the dynamic e-commerce industry, where staying ahead of rivals like Amazon is vital. To gain an edge, stakeholders must utilize the logistics approaches explored in this thesis to optimize the collection of online retail orders from shopping malls. Neglecting this aspect could render the entire exploration of logistics approaches meaningless. Therefore, the concluding section “Competitive Advantage” aims to summarize the discussions and emphasize the significance of understanding and leveraging one's resources to compete and thrive in the evolving business environment.

The layout of the analysis is depicted in the figure below.

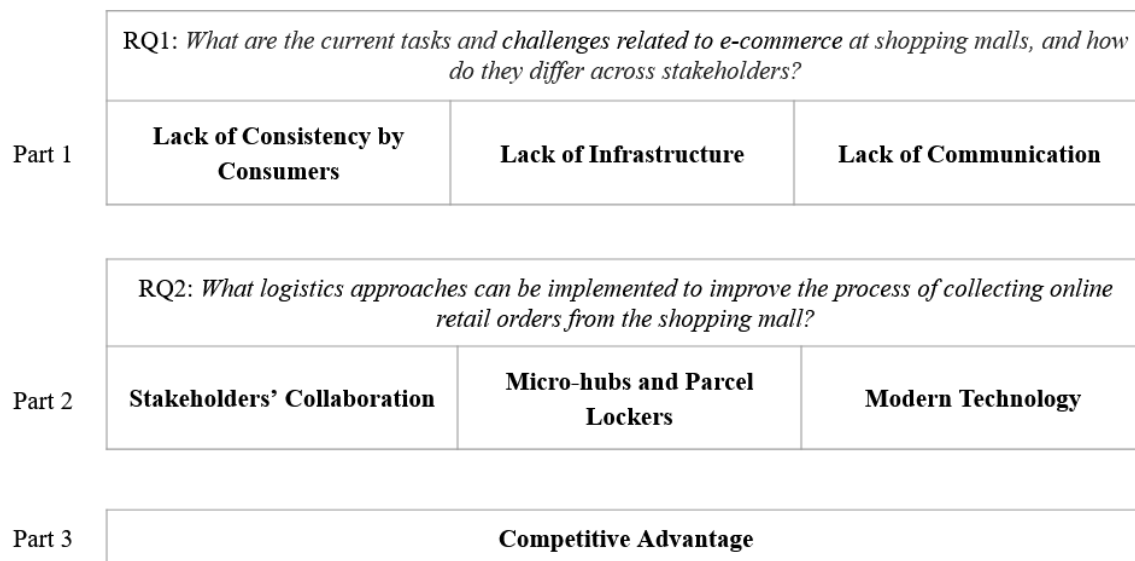


Figure 3: Layout of the Analysis

5.1 Lack of Consistency by Consumers, Lack of Infrastructure, and Lack of Communication

5.1.1 Lack of Consistency by Consumers

According to Swanson (2022), customers create a range of challenges for retailers and malls. While retailers have introduced new approaches to adapt to customers' patterns and maintain loyalty, Iwan et al. (2016) and Burns et al. (2022) have noted that customers easily switch between brands, especially when delivery times are longer than expected. Respondent 5 confirmed this and added that customers are not only disloyal to the retailer brand but also to the delivery brand, making it difficult for companies to stay aware of their current and future decisions.

The next challenge that comes with customers is the preferences regarding what platform they prefer to shop on - online or offline. Many articles have pointed to the growth of e-commerce and that it will continue to do so in the upcoming years (Rogers & Eckenrode, 2021; Coppola, 2022) which was also mirrored by Mr. Hagberg. However, Snelling (2021) described a survey where results showed that customers are likely to continue visiting shopping malls. This article confirms what Mr. Zingmark said about seeing a trend where customers are coming back to the malls and that the Swedish e-commerce market lately has decreased by 8%. Nonetheless, both interviewees stated how important it is for the stores to allow customers to pick up orders from their physical locations as this encourages them to make spontaneous purchases that increase sales.

Customers also have varying delivery preferences, with younger generations considering the environmental impact of home deliveries and opting for different delivery methods (Hillyer, 2021). PostNord (2021) noted a difference in delivery preferences between European countries, with some preferring home delivery and others for instance choosing to collect from parcel lockers. Mr. Hagberg confirmed that customers use different channels and methods when purchasing or choosing the collection method. Respondent 5 also validated that customers' preferences differ between European cities when it comes to collecting methods.

Finally, customers create the challenge of false address information and inconsistent delivery locations. Prof. Friday explained that delivery agents struggle with completing the delivery if the customer is not within the designated delivery zone. If a customer is outside the delivery zone, they will put an address on the edge of the zone to manipulate deliveries, causing issues for delivery agents who waste time and effort on extra distance without getting paid for it.

5.1.2 Lack of Infrastructure

The digitalization of retail has led to a shift in business models for some retailers, with a focus on growing their online sales (Moore, 2023; Weber, 2021). However, while the move towards omnichannel is promising, there are still challenges in infrastructure. Snelling (2021) noted that the constantly changing consumer behavior puts pressure on malls to innovate and adapt to new needs in order to remain relevant and attract customers. To stay competitive, malls need to create a unique image (Snelling, 2022), but this pursuit of innovation presents challenges for malls' infrastructure, as noted in interviews conducted for this thesis. Prof. Friday stressed that delivery agents face difficulties in finding safe (i.e., reducing risk of vehicle or cargo theft) and appropriate parking spots for their bikes when collecting orders, which aligns with Popan's (2021) findings of the need for improvement in pick-up areas. Mr. Alowosile also highlighted the difficulty of collecting orders in crowded areas such as by subway stations. These challenges emphasize the need for improvement in infrastructure to ensure a smoother and more efficient process.

Moreover, the working conditions for delivery agents are also affected by infrastructure. Prof. Friday's research highlighted how gig workers lack adequate facilities such as a place to dry off after rainy weather or store their bikes. On the other hand, Mr. Alowosile's experience at Bzzt! illustrates how some companies prioritize their employees' well-being by providing them with a clean and comfortable space to take a break, eat, and recharge their vehicle batteries. These differences in working conditions demonstrate how gig companies can treat their employees differently, with a significant impact on workers' job satisfaction and overall well-being.

5.1.3 Lack of Communication

According to the literature and interviews, a significant issue in the current pickup process from malls is the lack of communication among the parties involved. Young (2022) and Moore (2023) noted that the practice of shipping from stores is on the rise. In order for this practice to work, Mr. Hagberg and Respondent 5 emphasized that effective communication is crucial to avoid the risk of retailers selling products online that have already been sold in their physical stores.

Snelling (2022) further hinted that there appears to be a lack of communication between malls and retailers. In response to online changes, retailers are adapting by adjusting their physical locations, and malls are likewise evolving to keep up with the trend. However, due to the absence of information exchange, malls are constantly reacting to the retailers' needs rather than proactively addressing them. Mr. Zingmark echoed this sentiment in his interview, stating that with so many mall owners at Nordstan, the implementation of a new service (such as parcel lockers) became chaotic due to lack of communication among retailers. His

example of a service center could help to improve not only the goods flow but also the information flow in malls, as it would enable retailers and mall owners to understand delivery patterns and consolidate deliveries accordingly.

In the interviews with Prof. Friday and Mr. Alowosile, it became clear that gig workers are left out of the equation. Although they communicate well internally with their colleagues to improve efficiency, delivery agents lack communication with retailers and malls. The platform in which they work does not effectively consolidate areas for pickups and deliveries, resulting in unnecessary trips back and forth. There is also no platform for gig workers to voice these concerns to the retailers or malls.

5.2 Stakeholders' Collaboration, Micro-hubs and Parcel Lockers, and Modern Technology

5.2.1 Stakeholders' Collaboration

As discussed earlier, stakeholder management theory emphasizes the importance of considering the interests of both internal and external actors in making decisions that affect the business (Parmar et al., 2010; Flodén & Woxenius, 2021). In the context of this thesis, the internal actors refer to those operating within the malls, including retailers, restaurants, service-center operators, and mall operators themselves. The external actors comprise the delivery agents and other logistics companies seeking to establish a partnership with the mall to address the logistics operations. Moreover, when considering stakeholders, Mitchell et al. (1997) emphasized that it is essential to keep in mind that a stakeholder may not be a current relationship but could be a potential future one. This means that a company that a mall operator is considering partnering with (such as the collaborating company of this thesis) to implement a new service would be considered a stakeholder.

Based on the conducted research and interviews, it is evident that the landscape of this thesis is complex, with various consumer needs depending on the market and numerous stakeholders to consider. Rather than adopting a reactionary approach and seeing the relationship as transactional, mall operators should aim for collaborative and relational stakeholder relationships. This would be achieved through cooperation and negotiation between channel partners in logistics and supply chain management (Flodén & Woxenius, 2021). Here, the four steps in stakeholder management could be useful in improving collaboration (Tarode & Shrivastava, 2022; Wouters, 2021) and balancing the needs of all relevant actors for decisions that benefit the organization as a whole. Adopting this approach addresses the issue raised by Mr. Hagberg and

Respondent 5, where one business model may not be suitable in a general context and needs adjustment to fit the right market.

In the context of the second research question, the four steps in stakeholder management theory can be applied effectively. Firstly, identifying the stakeholders involved in this context is crucial and involves recognizing both internal (i.e., the mall operators, retailers), and external (i.e., the delivery agents and potential new relationships) actors. Secondly, the stakeholders can be classified based on their level of power, interest, and influence, which can enable the organization to prioritize its efforts and allocate resources accordingly. For instance, retailers with higher power and interest levels might need more attention and resources to implement effective logistics approaches.

Thirdly, analyzing the needs, expectations, and concerns of each stakeholder is necessary to address specific issues and achieve mutually beneficial outcomes. For example, retailers may have concerns regarding the costs and implementation of new logistics approaches and how they may affect their consumers' shopping behavior. As Mr. Zingmark explained, some retailers abandoned the idea of a collection hub in their stores as it required too much effort and resources on their side. Meanwhile, delivery agents may be more concerned about the ease of access to the micro-hubs and parcel lockers. Therefore, tailoring the approach to address the concerns of each stakeholder group can lead to successful implementation by getting an understanding of the larger picture and sharing resources to achieve a common goal.

Finally, developing effective strategies to engage and manage stakeholders entails a comprehensive plan that considers the interests of all stakeholders and aims to achieve a collaborative and relational approach, rather than a reactive one. For instance, effective communication channels and regular feedback mechanisms can help ensure that stakeholders are kept informed and involved in decision-making processes.

5.2.2 Micro-hubs and Parcel Lockers

Micro-hubs have emerged as a potential solution to the challenges of collecting orders from shopping malls, as highlighted by Dekhne et al. (2020), Low (2020), Huang et al. (2020), Katsela et al. (2022), and Novotna et al. (2022). As pointed out by Prof. Friday, gig workers often face challenges navigating malls and finding the right retailers. Micro-hubs located near the end-receiver, consolidating orders, and increasing efficiency can help solve this problem. For instance, the service centers that Mr. Zingmark described had similar characteristics of micro-hubs and were successful in his experiences. Thus, considering micro-hubs in malls have the potential to improve the organization and operations of orders sent from the retailers in malls.

During the interview, Mr. Alowosile shared that collecting orders from subway stations (which in a way are small underground malls) is challenging as the delivery platform only shows the subway location but not the florist's address. The lack of organization adds stress to his already demanding job. To address this issue, a micro-hub situated near the subway could serve as a centralized location for all orders, eliminating the need for Mr. Alowosile to waste time searching for the retailer. On the other hand, Mr. Alowosile described his preference for delivering orders to offices as it saves him time and is a less stressful delivery destination. According to him, leaving the order with the receptionist to deliver to the intended recipient, given their knowledge of the office layout. In a way, the office receptionist is not too different from the service center which Mr. Zingmark described, as the receptionist gets to collect and distribute the orders and has an overview of them. The proposed delivery method could also be applied to the order collection process. Specifically, it would be advantageous for delivery agents to have access to a centralized micro-hub, rather than traversing the shopping mall on foot, for the purpose of collecting orders. By consolidating all orders at a single location, this process could significantly enhance the efficiency of order collection for delivery agents.

Based on the characteristics described by Che et al. (2022) and Seghezzi et al. (2022), parcel lockers are a promising option for implementing micro-hubs. These privately-owned machines are typically located in central public areas that can be accessed by multiple consumers (Iwan et al., 2016). However, Respondent 5 highlighted the importance of strategically locating parcel lockers for them to be the most efficient. Although implementing parcel lockers in malls raises questions about who should offer the service and who should bear the cost, Respondent 5 proposed that shopping malls could offer the micro-hub option as an additional service that retailers could pay for. This aligns with Prof. Friday's perspective that retailers should be responsible for this new service. In their study, Kushwaha et al. (2017) viewed shopping malls as providers of umbrella services, offering a diverse range of goods and services. By providing this added value, shopping malls have the potential to boost the sales of retailers who operate within their premises.

Implementing parcel lockers in shopping malls is a mutually beneficial solution that can be provided for both retailers and delivery agents, allowing for a convenient and efficient delivery option that saves time and money. As Kavilanz (2020) suggested, the service can be operated by the mall itself or by outside companies, leading to an improved shopping experience and enabling LMD through various services and parcel consolidation. This can result in significant cost savings and increased revenues, as Rinelli (2021) highlighted. However, it is important to recognize that the implementation of a new service, such as the introduction of parcel lockers in shopping malls, would involve certain expenses for one or more stakeholders. The cost associated with procuring, installing, and maintaining the lockers, as well as training personnel to manage the system, may present significant financial challenges during the initial stages of

implementation. The investment required to establish this service may also entail logistical hurdles, such as identifying the optimal locations for the lockers and ensuring their accessibility to delivery agents. Nevertheless, it is crucial to consider the potential long-term benefits of such a service, which may include increased efficiency, customer satisfaction, and revenue generation. Therefore, while acknowledging the costs and challenges associated with implementation, it is important to approach the introduction of this service with a long-term perspective and a focus on achieving sustainable success.

According to Respondent 5, parking lots in shopping malls are ideal locations for micro-hubs due to the ample free space available for loading and unloading without leaving transportation unattended. Implementing parcel lockers as micro-hubs in these locations can provide numerous benefits such as efficiency and reduced foot traffic by delivery agents. By strategically locating parcel lockers in the parking lots of shopping malls, stakeholders can leverage available resources and expertise, creating a foundation for successful implementation and operation of micro-hubs. However, it is important to consider the capacity limitations of parcel lockers, as highlighted by Vakulenko et al. (2018). Most storage units within the parcel lockers have limited space making it challenging for larger items to fit inside. Moreover, in order to maximize the efficient use of existing resources, it would be ideal to assign the responsibility of transporting orders from the retailers to the micro-hubs to personnel who possess an in-depth familiarity with the layout of the mall. Professions such as janitors or security personnel are particularly well-suited for this role. By leveraging their expertise, considerable advantages and enhanced efficiency can be achieved in the transportation of orders to the designated location of the micro-hub.

Finally, Respondent 5 stressed how European cities are planning to have all types of services within a 15-minute walking or cycling distance. This trend is expected to lead to an increase in the volume of orders from shopping malls, which presents a challenge for delivery agents. Micro-hubs in shopping malls' parking lots offer a solution to this challenge by optimizing the efficiency of the delivery process. However, it is important to consider how this trend could potentially impact the demand for instant deliveries, as customers may prefer to visit stores closer to their homes rather than waiting for a delivery. Despite this potential challenge, micro-hubs, particularly parcel lockers, could remain an efficient and cost-effective solution for managing the delivery of orders from shopping malls. Therefore, it is crucial to carefully consider the potential benefits and challenges of implementing micro-hubs in light of this emerging trend towards increased accessibility.

5.2.3 Modern Technology

As discussed, modern technologies can significantly enhance the efficiency and visibility of supply chains in malls. However, stakeholders face challenges due to the lack of adequate platforms that can provide a comprehensive view of order shipments. To address this challenge, Moore (2023) suggested that retailers adopt a single, streamlined system for inventory management that automatically synchronizes data and enables remote management. Meanwhile, delivery agents require a better overview to optimize resource allocation and find the optimal delivery routes for couriers with minimum total operational cost and overtime loss. Li et al. (2022) proposed an order allocation strategy based on transfer stations to meet this need. The application of stakeholder theory, as explained by Flodén and Woxenius (2021), could facilitate cooperation and negotiation between channel partners in supply chains and logistics channels. Moreover, sharing information through a digital platform reduces uncertainty while increasing trust and commitment between partners and can help solve some of the challenges experienced by the stakeholders.

The integration of intelligent automation tools such as AI can prove to be highly beneficial for logistics leaders and the stakeholders identified in this thesis. With the help of modern route planning software, the optimization of fleet and delivery routes can result in precise and timely deliveries, thus elevating customer satisfaction and profitability (Everstream Team, 2020). Furthermore, the application of modern technology can assist malls and retailers in identifying optimal locations for parcel lockers and micro-hubs. Strategically positioning these facilities can yield economic and logistical advantages by reducing the time wasted on finding the parcel's location and enabling order consolidation based on postal codes. This approach ultimately enhances the efficiency of final deliveries (Aswath, 2022). Intelligent technology and AI hold great potential for improving logistics operations by identifying inefficiencies in the planning process. However, it is important to acknowledge that the use of AI is still in its early stages and subject to debate regarding its capabilities and the extent to which machines can "learn" and adapt to different challenges. Additionally, the accuracy and quality of the data fed into AI programs are crucial factors that can impact the effectiveness of AI in the real world.

When it comes to the platform in which the orders and routes take place, Mr. Alowosile discussed challenges related to the platform, citing frequent crashes that occur when attempting to pick up an order. These crashes have resulted in longer collection times and wasted time between deliveries. Mr. Alowosile believes the platform should provide delivery times when collecting orders, allowing him to plan his routes more efficiently and prioritize express or office orders. Prof. Friday also discussed challenges that arise when working on a digital platform, including GPS location data inaccuracies and unpredictable platforms that make it difficult for drivers to plan their work.

Ultimately, modern technologies offer significant potential for improving the efficiency and oversight of supply chains in malls, benefiting stakeholders at all levels. Through the application of stakeholder theory and the strategic use of cutting-edge technology, mall operators and retailers can optimize inventory management and enhance the customer experience. Meanwhile, delivery agents can also benefit from a more efficient and fulfilling delivery experience if their digital platform can be improved to help them plan and locate their orders more easily.

5.3 Competitive Advantage

Kushwaha et al. (2017) posited that shopping malls have successfully cultivated a positive image by focusing on enhancing the consumer experience. However, to stay competitive, mall managers must also take into account other stakeholders, such as delivery agents. Adopting a proactive approach and collaborating can help malls and retailers optimize their supply chain and create a unique selling proposition in response to changing market dynamics. Reports from industry researchers suggest that implementing parcel lockers can enhance the service experience and achieve a competitive advantage (Vakulenko et al., 2018), while the integration of modern technology can increase agility in the face of frequent market disruptions (Cichosz et al., 2020).

Innovative services can provide malls with a distinct competitive edge, according to Snelling (2021). While the addition of new amenities such as cinemas, beauty salons, or food joints can help attract customers, offering new services to retailers can prove to be even more beneficial. One example is the creation of a website that lists all retailers, as seen in a mall in Miami (Rogers & Eckenrode, 2021). Respondent 5 believes that the introduction of a new service can spur economic growth for the mall and its tenants. To establish a competitive advantage, the service must be both unique and efficient. Offering the service as a premium one can make it more distinctive and special for customers, as noted by Respondent 5. However, failing to offer it as a premium service may result in customers expecting faster delivery times, which could pose a challenge for retailers in meeting the demands of both online and in-person customers. Mr. Hagberg also underscored the significance of uniqueness in creating a competitive advantage. His point of emphasis is that a service loses its exclusivity and uniqueness when it is adopted by every mall, thus becoming a standard practice. Hence, offering the service as a premium one can make it stand out for particular customers.

Moreover, retailers can leverage existing resources, such as physical stores and employees, to cut costs and improve efficiency in achieving the advantage. For example, DHL (n.d.) highlighted that e-commerce companies can achieve swift delivery times by maintaining a vast network of fulfillment centers. However,

not all retailers can afford to open multiple fulfillment centers. Therefore, utilizing physical stores in malls to ship orders can prove to be a viable alternative in creating a competitive advantage. Additionally, Respondent 5 suggested utilizing existing employees, such as janitors or security personnel, as porters, as they are already familiar with the mall's layout and can navigate it more efficiently.

6. CONCLUSION

The following summarizes the key results from the thesis related to the research questions.

In this thesis, the first research question aimed to identify specific tasks and challenges faced by shopping malls, considering the various stakeholders involved. These challenges include the lack of consistency among consumers, such as inconsistent shopping behaviors, which impact loyalty and brand engagement. Additionally, the absence of necessary infrastructure within malls, such as dedicated areas for delivery agents or efficient order management systems, poses operational difficulties in collecting online retail orders. Moreover, insufficient communication between stakeholders further hampers the overall efficiency of mall operations, affecting decision-making and collaboration.

Based on these identified challenges, the second research question focused on exploring logistics approaches that could be implemented to improve the process of collecting online retail orders from shopping malls. The importance of effective stakeholder management has been highlighted, emphasizing the need for better coordination and communication among all stakeholders involved. Furthermore, the potential benefits of offering unique service offerings such as parcel lockers and implementing modern technology have been identified, aiming to enhance operational efficiency and customer satisfaction.

To effectively navigate the aforementioned challenges, shopping malls must adopt a multifaceted approach that considers the specific needs of all stakeholders and fosters collaboration. This can be achieved by embracing innovation and leveraging modern technology to optimize their supply chains and streamline the collection of online retail orders. Additionally, by employing the four steps of stakeholder management theory—identification, classification, analysis, and strategy development—shopping malls can balance the interests of relevant actors and make decisions that benefit the organization as a whole. Establishing effective communication channels and feedback mechanisms becomes pivotal to keep stakeholders informed and involved in decision-making processes. Ultimately, successful stakeholder management not only ensures long-term success for shopping malls but also cultivates a comprehensive understanding of the evolving supply chain, especially in the context of instant deliveries.

Micro-hubs, particularly parcel lockers in easily accessible areas of shopping malls, offer a mutually beneficial solution for retailers and delivery agents. This results in enhanced delivery efficiencies, increased revenues, and improved shopping experiences for consumers who utilize the new service. By doing so, malls and retailers can gain a competitive advantage by introducing a delivery service that offers instant

deliveries to customers. However, it is crucial to offer this as a premium service, not only to establish competitive advantage, but also to prevent overwhelming delivery agents and parcel lockers, which could lead to congestion and defeat the purpose of instant deliveries. Based on the research, parcel lockers provide features such as streamlined order retrieval and efficient organization, contributing to faster and more effective deliveries. To optimize operations, it is imperative to strategically locate these parcel lockers in easily accessible areas within shopping malls. By implementing these strategies, micro-hubs can revolutionize the delivery process, benefiting retailers, delivery agents, and consumers alike.

One of the most suitable locations for micro-hubs, which aim to optimize the delivery process, could be in the parking lots of the malls or in locations determined with the help of AI. These areas offer advantages in terms of accessibility and convenience. The micro-hubs would serve as central collection points where all online orders are delivered by experienced mall employees, such as janitors or security personnel, who possess in-depth knowledge of the mall's layout. Their expertise contributes to the optimization and streamlining of deliveries, resulting in faster and more efficient service, along with increased consumer satisfaction. By implementing these strategies, micro-hubs can significantly improve the overall delivery process, benefiting both delivery agents and retailers.

The rise of e-commerce, the disruptive impact of COVID-19, and the ongoing digitalization have profoundly transformed consumer shopping behavior, underscoring the crucial role of instant deliveries, and Last Mile Delivery enhancements. By integrating stakeholders into the decision-making process and leveraging collaborative technology, shopping malls can create a unique selling proposition that benefits all parties involved. In today's competitive retail landscape, innovation, stakeholder management, and modern technology are essential for addressing logistical challenges and maintaining a competitive edge.

7. FUTURE RESEARCH

This section presents suggestions for future research such as quantitative studies, larger sample sizes, exploring similar e-commerce trends in rural areas, usage of automation, or utilizing parking lots as the optimum pickup location for delivery agents.

The present thesis has opened several areas for further research. Firstly, more quantitative and practical studies on a larger sample size can be conducted to investigate the themes and concepts discussed in this thesis more concretely. This would involve using surveys, experiments, and statistical analyses to quantify the effects of e-commerce on shopping malls and traditional retail stores, as well as exploring the factors that influence consumer preferences for online versus offline shopping.

Secondly, future research could explore the potential opportunities and challenges of e-commerce in rural areas. While much of the current research focuses on urban areas, rural regions have unique characteristics that present both challenges and opportunities for retailers. As more retailers adopt omnichannel services, considering consumers in the countryside may enable them to reach a wider customer base more efficiently. Therefore, examining e-commerce in rural areas could provide valuable insights for retailers and help them to expand their reach.

Thirdly, there is an opportunity to explore the use of automation, such as robotics, as a delivery agent in malls to get the product from the retailer to the delivery hub. This could potentially reduce the time and cost involved in the delivery process, while also improving efficiency and reducing the risk of errors.

Finally, practical tests could be conducted with malls to evaluate whether the parking lot is the right location for parcel locker's location. The test would help to determine the feasibility and effectiveness of using parcel lockers as a delivery option in shopping malls.

8. REFERENCES

- AI Sweden. (n.d.). *GPT-SW3*. AI Sweden. Available at: <https://www.ai.se/en/node/81535/gpt-sw3> [Accessed on: 16 February 2023].
- Alowosile, S. (2023) Virtual interview. Interview by Krajka, J. & Nordlund, K. [Mobile phone] 22 March 2023.
- Amazon.com. (n.d.). *Prime Delivery*. Amazon.com. Available at: <https://www.amazon.com/b?node=15247183011> [Accessed on: 07 March 2023].
- Aswath, K. (2022). *Why is automated route planning better than manual*. The Times of India. Available at: <https://timesofindia.indiatimes.com/blogs/voices/why-is-automated-route-planning-better-than-manual/> [Accessed on: 01 April 2023].
- Behl, A., Rajagopal, K., Sheorey, P., & Mahendra, A. (2022). Barriers to entry of gig workers in the gig platforms: Exploring the dark side of the gig economy. *ASLIB Journal of Information Management*, 74(5), 818-839.
- Boysen, N., Fedtke, S. & Schwerdfeger, S. (2021). Last-mile delivery concepts: a survey from an operational research perspective. *OR Spectrum*, 43(1), pp. 1–58.
- Burns, T., Harris, T., & Kuzmanovic, A. (2022). *The five zeroes transforming retail*. McKinsey. Available at: <https://www.mckinsey.com/industries/retail/our-insights/the-five-zeros-reshaping-stores> [Accessed on: 23 January 2023]
- Business Wire (2022). *Verte Research Reveals Consumers Are Obsessed With Order Tracking, Visibility*. Business Wire. Available at: <https://www.businesswire.com/news/home/20220420005141/en/Verte-Research-Reveals-Consumers-Are-Obsessed-With-Order-Tracking-Visibility> [Accessed on: 22 February 2023].
- Che, Z., Chiang, T., & Luo, Y. (2022). Multiobjective Optimization for Planning the Service Areas of Smart Parcel Locker Facilities in Logistics Last Mile Delivery. *Mathematics (Basel)*, 10(3), 422
- Chotipanich, S. & Issarasak, S. (2017). A study of facility management operation strategy in shopping malls: Insights from 4 top-class shopping malls in Bangkok. *Property management*, 35(3), pp. 236–253.
- Cichosz, M., Wallenburg, C., & Knemeyer, A. (2020). Digital transformation at logistics service providers: Barriers, success factors and leading practices. *The International Journal of Logistics Management*, 31(2), 209-238.
- Collis, J. & Hussey, R. (2014). *Business research a practical guide for undergraduate and postgraduate students*. 4th ed. Palgrave.

- Coppola, D. (2022). *Global e-commerce share of retail sales 2026*. Statista. Available at: <https://www.statista.com/statistics/534123/e-commerce-share-of-retail-sales-worldwide/> [Accessed on: 30 January 2023].
- Dameri, R.P. & Ferrando, P.M. (2022). Value creation disclosure: the international integrated reporting framework revisited in the light of stakeholder theory. *Meditari accountancy research*, 30(3), pp. 739–761.
- Day, M. (2022). *Amazon Is Using Gig Economy Drivers to Deliver From Malls*. Bloomberg.com. Available at: <https://www.bloomberg.com/news/articles/2022-05-20/amazon-is-using-gig-economy-drivers-to-deliver-from-malls?leadSource=verify%20wall> [Accessed on: 09 March 2023].
- Dekhne, A., Gupta, S., Joglekar, A., & Kohli, S. (2020). *How retail can adapt supply chains to win in the next normal*. McKinsey. Available at: <https://www.mckinsey.com/capabilities/operations/our-insights/how-retail-can-adapt-supply-chains-to-win-in-the-next-normal> [Accessed on: 26 January 2023].
- Dekhne, A., Hastings, G., Murnane, J., & Neuhaus, F. (2019). *Logistics automation: Big opportunity, bigger uncertainty*. McKinsey. Available at: www.mckinsey.com website: <https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/automation-in-logistics-big-opportunity-bigger-uncertainty> [Accessed on: 17 February 2023].
- Devlin, J., Chang, M.W., Lee, K., & Toutanova, K. (2019). BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding. *ArXiv.org*, 2019.
- De Ruyter, A. & Rachmawati, R. (2020). Understanding the Working Conditions of Gig Workers and Decent Work: Evidence from Indonesia’s online Ojek Riders. *sozialpolitik.ch*, Vol.2020 (2).
- DHL (n.d.). *Meeting consumer expectations of e-commerce*. DHL. Available at: <https://www.dhl.com/hu-en/microsites/supply-chain/fulfillment-network/knowledge-hub/e-commerce-consumer-expectations.html> [Accessed on: 28 February 2023].
- Dias, E., De Oliveira, L., & Isler, C. (2022). Assessing the effects of delivery attributes on e-shopping consumer behaviour. *Sustainability (Basel, Switzerland)*, 14(1), 13.
- DispatchTrack (2022). *Why 90% of Consumers Want to Track Their Delivery Orders*. DispatchTrack. Available at: <https://www.dispatchtrack.com/blog/consumers-track-deliver-orders> [Accessed on: 22 February 2023].
- Dworkin, S. (2012). Sample Size Policy for Qualitative Studies Using In-Depth Interviews. *Archives of Sexual Behavior*, 41(6), 1319-1320.

- Eroglu, S., Machleit, K., & Neybert, E. (2022). Crowding in the time of COVID: Effects on rapport and shopping satisfaction. *Journal of Retailing and Consumer Services*, 64, 102760.
- Everstream Team (2020). *How intelligent automation is changing logistics*. Everstream Analytics. Available at: <https://www.everstream.ai/articles/how-intelligent-automation-is-changing-logistics/> [Accessed on: 20 February 2023].
- Flodén, J. & Woxenius, J. (2021). A stakeholder analysis of actors and networks for land transport of dangerous goods. *Research in transportation business & management*, 41, p. 100629.
- Freeman, R. E. (1984). *Strategic management: a stakeholder approach*. Cambridge: Cambridge University Press.
- Friday, A. (2023) Virtual interview. Interview by Krajka, J. & Nordlund, K. [Microsoft Teams] 21 March 2023.
- Frishammar, J., Cenamor, J., Cavalli-Björkman, H., Hernell, E., & Carlsson, J. (2018). Digital strategies for two-sided markets: A case study of shopping malls. *Decision Support Systems*, 108, pp. 34–44.
- Hagberg, J. (2023) Virtual interview. Interview by Krajka, J. & Nordlund, K. [Microsoft Teams] 22 March 2023.
- Hedgepeth, O. (2021). *The Amazon Effect and the Future of Retail Businesses*. APU Edge. Available at: <https://apuedge.com/the-amazon-effect-and-the-future-of-retail-businesses/> [Accessed on: 24 February 2023].
- Hillyer, M. (2021). *COVID-19 has reshaped last-mile logistics, with e-commerce deliveries rising 25% in 2020*. World Economic Forum. Available at: <https://www.weforum.org/press/2021/04/covid-19-has-reshaped-last-mile-logistics-with-e-commerce-deliveries-rising-25-in-2020/> [Accessed on: 02 February 2023].
- Holden Thorp, H. (2023). ChatGPT is fun, but not an author. *Science*, 379(6630), 313–313..
- Hribernik, M., Zero, K., Kummer, S., & Herold, D. (2020). City logistics: Towards a blockchain decision framework for collaborative parcel deliveries in micro-hubs. *Transportation research interdisciplinary perspectives*, 8, p. 100274.
- Huben, H., Lenaerts, K., & Waeyaert, W. (2020). *The platform economy and precarious work*. European Parliament. Available at: <http://www.europarl.europa.eu/supporting-analyses> [Accessed on: 23 January 2023].
- Huang, Z., Huang, W., & Guo, F. (2020). Integrated sustainable planning of micro-hub network with mixed routing strategy. *Computers & Industrial Engineering*, 149, p.106872.
- Iwan, S., Kijewska, K., & Lemke, J. (2016). Analysis of parcel lockers' efficiency as the last mile delivery solution—the results of the research in Poland. *Transportation Research Procedia*, 12, pp.644-655

- Kavilanz, P. (2020). *Curbside pickup is great for everyone, but a headache for malls*. CNN Business. Available at: <https://edition.cnn.com/2020/06/29/business/curbside-pickup-malls-pandemic/index.html> [Accessed on: 23 January 2023].
- Katsela, K., Güneş, Ş., Fried, T., Goodchild, A., & Browne, M. (2022). Defining Urban Freight Microhubs: A Case Study Analysis. *Sustainability (Basel, Switzerland)*, 14(1), p. 532.
- Krier, C., Dablanç, L., Aguilera, A., & Louvet, N. (2022). Sharing within the gig economy: The use of shared e-bikes by on-demand platform-based instant meal delivery workers in Paris. *Case studies on transport policy*, 10(4), pp. 2280–2289.
- Kushwaha, T., Ubeja, S., & Chatterjee, A.S. (2017). Factors Influencing Selection of Shopping Malls: An Exploratory Study of Consumer Perception. *Vision (New Delhi, India)*, 21(3), pp. 274–283.
- Kvale, S. & Brinkmann, S. (2014). Den kvalitative forskningsintervju. 3rd ed. *Studentlitteratur*.
- Leonard, M. (2021). 5 charts show Amazon's growing logistics network as it puts inventory closer to consumers. *Supply Chain Dive*. Available at: <https://www.supplychaindive.com/news/amazon-ecommerce-warehouse-fulfillment-capital-investment/603731/> [Accessed on: 03 February 2023].
- Li, J., Yang, S., Pan, W., Xu, Z., & Wei, B. (2022). Meal delivery routing optimization with order allocation strategy based on transfer stations for instant logistics services. *IET intelligent transport systems*, 16(8), pp. 1108–1126.
- Low, J. J. (2020). *Why retailers are turning their stores into fulfillment centers*. TechHQ. Available at: <https://techhq.com/2020/07/why-retailers-are-turning-their-stores-into-fulfillment-centers/> [Accessed on: 23 Jan 2023]
- Lutkevich, B. (n.d.). *What is GPT-3? Everything You Need to Know*. TechTarget. Available at: <https://www.techtarget.com/searchenterpriseai/definition/GPT-3> [Accessed on: 24 February 2023].
- Mitchell, C. (2021). *Amazon Effect: Definition, Statistics, Impact on Consumers*. Investopedia. Available at: <https://www.investopedia.com/terms/a/amazon-effect.asp> [Accessed on: 24 February 2023].
- Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *The Academy of Management Review*, 22(4), 853-886.
- Moore, K. (2023). *Future of Malls: How Retailers Can Adapt in 2023*. Shopify. Available at: <https://www.shopify.com/retail/future-of-malls> [Accessed on: 22 February 2023].

Mucharraz y Cano, Y., Venuti, F., & Herrera Martinez, R. (2023). *ChatGPT and AI Text Generators: Should Academia Adapt or Resist?* Harvard Business Publishing Education. Available at: <https://hbsp.harvard.edu/inspiring-minds/chatgpt-and-ai-text-generators-should-academia-adapt-or-resist> [Accessed on: 15 March 2023]

Nature (2023). Tools such as ChatGPT threaten transparent science; here are our ground rules for their use. *Nature (London)*, 613(7945), 612.

Nealon, K. (2021). *How Covid-19 Changed Retail — Probably Forever*. Forbes. Available at: <https://www.forbes.com/sites/forbesbusinesscouncil/2021/07/22/how-covid-19-changed-retail---probably-forever/?sh=461b80cd145c> [Accessed on: 30 January 2023].

Nitsche, B. (2021). Exploring the Potentials of Automation in Logistics and Supply Chain Management: Paving the Way for Autonomous Supply Chains. *Logistics*, 5(3), 51.

Novotna, M., Svadlenka, L., Jovicic, S., & Simic, V. (2022). Micro-hub location selection for sustainable last-mile delivery. *PloS one*, 17(7), p. e0270926.

OpenAI. (2022). *ChatGPT: Optimizing Language Models for Dialogue*. OpenAI. Available at: <https://openai.com/blog/chatgpt> [Accessed on: 16 April 2023]

Paidi, V., Nyberg, R., & Håkansson, J. (2020). Dynamic Scheduling and Communication System to Manage Last Mile Handovers. *Easylife*, 4(2), 13.

Parmar, B. L., Freeman, R. E., Harrison, J. S., Wicks, A. C., Purnell, L., & de Colle, S. (2010). Stakeholder theory: The state of the art. *The Academy of Management Annals*, 4(1), 403–445.

Popan, C. (2021). Embodied Precariat and Digital Control in the ‘Gig Economy’: The Mobile Labor of Food Delivery Workers. *The Journal of urban technology, ahead-of-print(ahead-of-print)*, pp. 1–20.

Porta, M. (2014). *Data Collection*. In *A Dictionary of Epidemiology*. Oxford Reference. Available at: <https://www.oxfordreference.com/display/10.1093/acref/9780199976720.001.0001/acref-9780199976720-e-2112;jsessionid=08548D40ACF087E64DDC3573E702818E> [Accessed on: 07 March 2023].

PostNord (2021). *E-commerce in Europe 2021*. PostNord. Available at: <https://www.postnord.se/siteassets/pdf/rapporter/e-commerce-in-europe-2021.pdf> [Accessed on: 28 February 2023].

Reiff, N. (2023). *What is ChatGPT and How Does It Make Money?* Investopedia. Available at: <https://www.investopedia.com/what-is-chatgpt-7094342> [Accessed on: 16 April 2023]

Respondent 5 (2023) Virtual interview. Interview by Krajka, J. & Nordlund, K. [Microsoft Teams] 23 March 2023.

- Rinelli, A. (2021). *New Leases On Life: Malls Converting To Fulfillment Centers, Other Non-Retail Uses*. Forbes. Available at: <https://www.forbes.com/sites/zengernews/2021/08/14/new-leases-on-life-malls-converting-to-fulfillment-centers-other-non-retail-uses/?sh=381971fe42fa> [Accessed on: 23 January 2023].
- Rogers, S. & Eckenrode, J. (2021). *The future of shopping malls*. Deloitte. Available at: <https://www2.deloitte.com/xe/en/insights/industry/financial-services/future-of-shopping-malls.html> [Accessed on: 23 January 2023].
- Seghezzi, A., Siragusa, C., & Mangiaracina, R. (2022). Parcel lockers vs. home delivery: a model to compare last-mile delivery cost in urban and rural areas. *International journal of physical distribution & logistics management*, 52(3), pp. 213–237.
- Shapiro, A. (2022). Platform urbanism in a pandemic: Dark stores, ghost kitchens, and the logistical-urban frontier. *Journal of consumer culture*, p. 146954052110699.
- Snelling, B. (2021). *2021 Trends And Future Outlook For Malls*. Forbes. Available at: <https://www.forbes.com/sites/brinsnelling/2021/12/20/2021-trends-and-future-outlook-for-malls/?sh=c96551e60cba> [Accessed on: 23 January 2023].
- Snelling, B. (2022). *Why Retailers Are Converting Stores Into Fulfillment Centers*. Forbes. Available at <https://www.forbes.com/sites/brinsnelling/2022/04/04/why-retailers-are-converting-stores-into-fulfillment-centers/?sh=62288ab7309a> [Accessed on: 23 January 2023].
- Srinivas, S., Ramachandiran, S., & Rajendran, S. (2022). Autonomous robot-driven deliveries: A review of recent developments and future directions. *Transportation Research. Part E, Logistics and Transportation Review*, 165, 102834.
- Suguna, M., Shah, B., Raj, S., & Suresh, M. (2022). A study on the influential factors of the last mile delivery projects during Covid-19 era. *Operations Management Research*, 15(1-2), 399-412.
- Swanson, D. (2022). *The Intersection Of Cloud And The Retail (R)evolution*. Forbes. Available at: <https://www.forbes.com/sites/forbestechcouncil/2022/07/22/the-intersection-of-cloud-and-the-retail-revolution/?sh=41f48e2a4c8e> [Accessen on: 30 January 2023].
- Tarode, S. & Shrivastava, S. (2022). A framework for stakeholder management ecosystem. *American journal of business*, 37(2), pp. 76–88.
- Thomas, L. (2020). *Curbside pickup for retailers is here to stay. This shopping center owner is making it permanent*. CNBC. Available at: <https://www.cnbc.com/2020/04/30/kimco-realty-to-add-curbside-pickup-as-its-malls-reopen-after-coronavirus.html> [Accessed on: 23 January 2023].

Vakulenko, Y., Hellström, D., & Hjort, K. (2018). What's in the parcel locker? Exploring customer value in e-commerce last mile delivery. *Journal of business research*, 88, pp. 421–427

Van Dis, E., Bollen, J., Zuidema, W., Van Rooij, R., & Bockting, C. (2023). ChatGPT: Five priorities for research. *Nature (London)*, 614(7947), 224.

Weber, A.N. (2021). Responding to supply chain disruptions caused by the covid-19 pandemic: A black swan event for omnichannel retailers. *Journal of transport and supply chain management*, 15, pp. e1–e16

Wolff, C. & Heid, B. (2021). *Pandemic, Parcels and Public Vaccination Envisioning the Next Normal for the Last-Mile Ecosystem*. World economic forum. Available at: [https://www3.weforum.org/docs/WEF Pandemic Parcels and Public Vaccination report 2021.pdf](https://www3.weforum.org/docs/WEF_Pandemic_Parcels_and_Public_Vaccination_report_2021.pdf) [Accessed on: 03 February 2023].

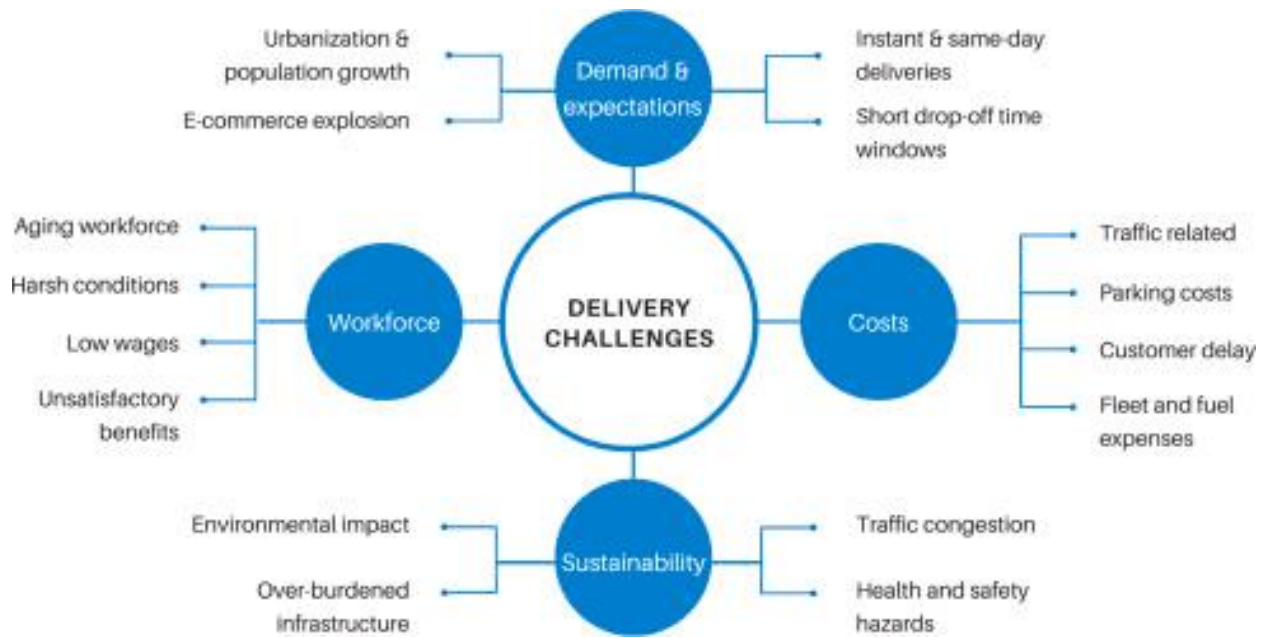
Wouters, L. (2021). *4 Steps for Effective Stakeholder Engagement*. Efiko Academy. Available at: <https://efiko.academy/4-steps-for-effective-stakeholder-engagement/?v=d3dcf429c679> [Accessed on: 31 March 2023].

Young, L. (2022). *More Stores Do Double Duty as Distribution Centers for Online Orders*. Wall Street Journal. Available at: <https://www.wsj.com/articles/more-stores-do-double-duty-as-distribution-centers-for-online-orders-11670519596> [Accessed on: 23 January 2023].

Zingmark, M. (2023) Virtual interview. Interview by Krajka, J. & Nordlund, K. [Microsoft Teams] 21 March 2023.

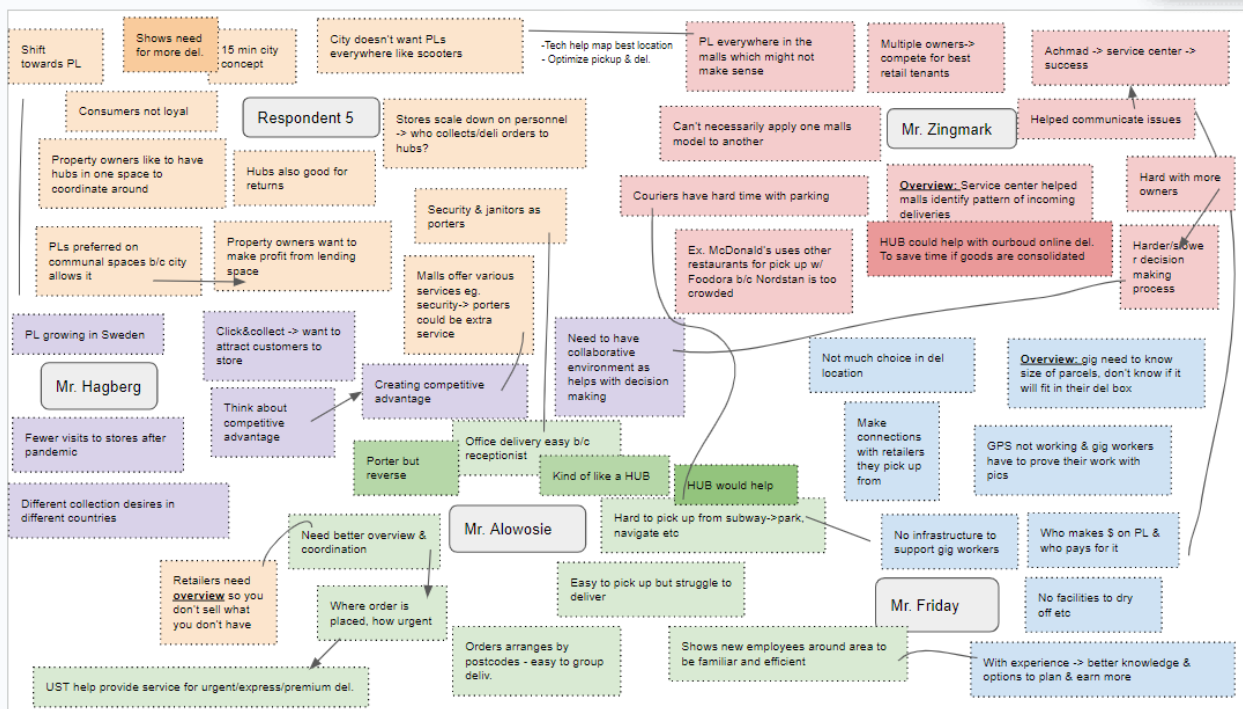
9. APPENDICES

Appendix 1 - Conventional Delivery Challenges



(Srinivas, Ramachandiran, & Rajendran, 2022, p.2)

Appendix 2 - Mindmap of Interview Results



Appendix 3 - Interview Guide for Magnus Zingmark

General Questions:

- Can you briefly describe your role in Nordstan?
- Have you noticed any changes in customer traffic in recent times?
 - If so, what do you think is the cause of this change?

General about structure/strategy of Nordstan:

- Can you describe the current process for handling deliveries to Nordstan?
- Can you describe the current process for handling pick-ups at Nordstan?
- Can you discuss any specific initiatives or programs that Nordstan has implemented or is currently considering implementing to make pick-ups more attractive for couriers and stores?
 - (Follow up) Are there any new technologies or tools that are being considered for improving the pick-up process for couriers and malls?

Pickup/Delivery Hubs:

- Can you share your thoughts on incorporating some sort of “hub” into Nordstan’s infrastructure (ex, parcel locker, storage room etc.)?
 - In what ways do you think such a hub could enhance the logistics for tenants and delivery agents in the mall?
 - Where would you consider placing these hubs in your mall if they were to be implemented?
 - Are there any specific concerns or challenges you anticipate with implementing a hub in your mall?
- We are thinking of ways to collect orders from retailers to a central hub within malls. In your opinion, what would be the best way to collect these goods, and what party/parties (ie mall, retail, other) should implement and pay for this service?

Couriers:

- Do you have an estimate of how many orders are picked up by couriers, for example food/restaurants?
- In your opinion, what are the main challenges that couriers and stores face when it comes to picking up orders at the mall?
- How do you see the role of technology in making pick-ups more convenient and efficient for couriers and stores?
 - How can technology be used to improve the pick-up experience for couriers and stores?

Retailers:

- In your opinion, how important is it to have collaboration with retailers?
- Can you explain how the sales made by retailers impact the rent or income for you?

Appendix 4 - Interview Guide for Adrian Friday

General questions:

- Can you tell us about your role at FlipGig? What are your daily tasks, challenges, or current projects you are researching?
- Can you describe your company's connection with shopping malls and retailers?
- How does your company coordinate with the retailers and malls regarding pickups?
- How much do you interact with each other and what is your work relationship like?

Shopping malls:

- Can you share your perspective on the current state of logistics and delivery systems in shopping malls? What are the main challenges and opportunities that you see in this domain from a technology and innovation standpoint?
- What are the most common challenges you have observed that gig workers face when collecting orders from shopping malls/dense urban areas?
- Are certain types of pickups (e.g., type of product or location) more incentivized/encouraged?

Technology & automation

- In your opinion, what are the key technologies and approaches that can be leveraged to improve the efficiency of the pickup process for online retailer orders in shopping malls?
- Could you describe any innovative or experimental solutions that have been implemented in shopping malls or other environments to improve logistics and delivery systems? What were the outcomes of these experiments, and what insights were gained?
- How can data analytics and insights be used to optimize the pickup process in shopping malls? What kind of data would be useful to collect, and how can this data be analyzed to identify opportunities for improvement?
- How can automation and robotics be used to improve the efficiency of the pickup process? What are the key challenges and considerations that need to be addressed when implementing these solutions in shopping malls?
- What are the potential privacy and security concerns that need to be addressed when implementing new technologies and approaches for the pickup process in shopping malls? How can these concerns be addressed while still maintaining an efficient and effective delivery system?
- What are your recommendations for shopping malls or other organizations that are looking to improve their logistics and delivery systems for online retailer orders? What factors should they consider, and what approaches should they prioritize?

Appendix 5 - Interview Guide for Samuel Alowosile

- Can you tell us about your role in the company? What are your daily tasks, challenges, etc....
 - If challenges, what improvements do you think should be implemented?
- How do you train and onboard new couriers to ensure they are comfortable with the pickup process?
- Can you describe your company's connection with shopping malls and retailers?
 - How does your company coordinate with the retailers and malls regarding pickups?
 - How much do you interact with each other and what is your work relationship like?
- What are the main items you typically deliver?
 - Does the size vary? Or is it typically standard sizes/smaller deliveries?

- Can you walk us through your process for coordinating deliveries from mall retailers to customers?
- What are the challenges you face when collecting orders from shopping malls?
- Are certain pickups more incentivized/encouraged? (for K & J - collecting orders from shopping mall might be declined by gigger)
- Can you tell us about any plans you have to improve pickups for the giggers from malls in the future?
- What would make the process of pick-up deliveries from malls more attractive but also more accessible for you?

Appendix 6 - Interview Guide for Johan Hagberg

General process:

- Could you briefly tell us about your current research projects about the retail industry?
- From your research, what are some key changes in consumer behavior, business models, and market dynamics resulting from digitalization?
 - Based on your answer, which changes should be addressed first? And how could that be implemented/solved?
- From our understanding, you have researched digital transformation within retail. Can you tell us a bit about the transformation processes for retailers, what have been the most common challenges, and how were they typically overcome?
 - Can you give some examples of transformation processes within retail that failed? If yes, can you explain why it failed - what aspects were not considered?
- Can you share your perspective on the current state of logistics and delivery systems in shopping malls? What are the main challenges and opportunities that you see in this domain from a technology and innovation standpoint?
 - What are the most common challenges you have observed that couriers/gig workers face when collecting orders from shopping malls/dense urban areas?

Current implementations:

- What do you think of the current situation related to pick-ups from malls?
- Are there any innovative or experimental solutions that you have come across in your research that have the potential to improve pick-ups in shopping malls?

Future suggestions:

- In your opinion, what are the key technologies and approaches that can be leveraged to improve the efficiency of the pickup process for online retailer orders in shopping malls?
- In your opinion, do you think automation is possible within malls or for pickups?
 - If yes, how can be leveraged to improve the efficiency of the pickup process for online retailer orders in shopping malls?

Last questions:

- What are your recommendations for shopping malls or other organizations that are looking to improve their logistics and pick-ups for online retailer orders? What factors should they consider, and what approaches should they prioritize?

Appendix 7 - Interview Guide for Respondent 5

- Please tell us about your company
- How does your company support the e-commerce industry?
- What types of projects do you usually work on?
- Do you currently have any projects related to malls/retailers/couriers?
 - If yes, could you tell us more about them?
 - Is there also a focus on improving their logistics operations? Could you tell us about this?
- What do you think of the current situation related to pick-ups from malls?
 - What are some existing challenges related to e-commerce?
 - What can be improved? Replaced? - based on your experience.
- Are there any other existing collaborations/projects with your company that you think would be worthwhile looking at?
 - If so, would you mind providing us a contact we could reach out to?
- In your opinion, do you think automation is possible within malls or for pickups?

Appendix 8 - Use of ChatGPT in the Writing Process of this Thesis

Since its launch in November 2022, ChatGPT has taken the world by storm. ChatGPT is an advanced language model created by OpenAI that can simulate human-like conversations. It is based on the GPT-3.5 architecture⁵ and uses deep learning algorithms to understand and generate language with a high level of proficiency. It has a wide range of applications, from answering questions to creative writing, and is a valuable tool in areas such as customer service and language translation (OpenAI, 2022).

The advent of ChatGPT has instigated a worldwide discourse regarding its applicability in academia, among other fields, leading to contentious debates amongst government agencies, business enterprises, and educational institutions (see Mucharraz y Cano, Venuti, & Herrera Martinez, 2023 and Holden Thorp, 2023). As noted by Van Dis, Bollen, Zuidema, Van Rooij, and Bockting (2023), it is crucial for the research community and publishers to prioritize the usage of “*Large Language Models (LLMs) with integrity, transparency and honesty*”. The authors also emphasized the importance of clear and accurate disclosure of the use of AI technologies, such as ChatGPT, in the preparation and analysis of research manuscripts. Furthermore, author-contribution statements and acknowledgments should clearly indicate the extent to which AI was used in the research process (Van Dis et al., 2023).

The main content of this thesis, i.e., the underlying theories, structure, and ideas were generated by the thesis’ authors. The thesis authors conducted the literature search on their own and collected relevant sources from web searches and university databases that were deemed to be useful for the thesis. At times, text was written based on their own knowledge and ideas but needed supporting articles. Here, ChatGPT was used as help to find sources to support the ideas and was able to provide sources and links to peer-reviewed articles or news articles. However, it was of extreme importance to fact-check and read these sources before using them. Upon searching for the sources suggested by ChatGPT on the Internet or on university databases, a major limitation, and challenge that was identified of this tool is that many of the sources did not exist (for example, the link led to websites stating that the “page could not be found”) and could therefore not be used. Additionally, it should be noted that ChatGPT’s knowledge consists of data up to the year 2021, which means that more current articles were not included in its results and had to be researched through other ways.

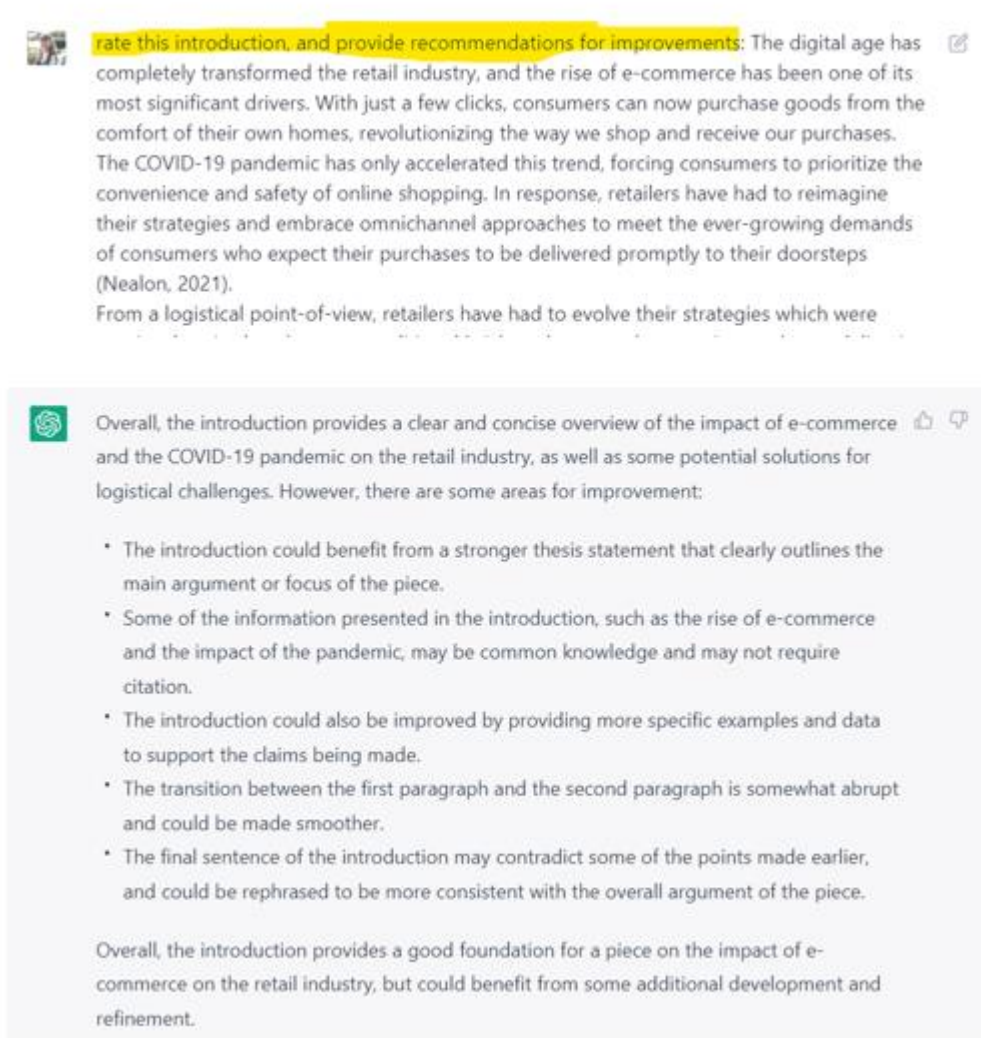
To mitigate these risks, as identified by Van Dis et. al (2023), the generated sources were used as inspiration for the literature review by using the titles and keywords to guide the search online or in databases. Adopting this approach minimized the risk of falling victim to the pitfalls of failing to verify the text or being misled by false or biased information.

ChatGPT was used to restructure and improve the chapters, and at times rewrite some sections to increase the academic writing level. However, it was crucial that the text that was produced by ChatGPT was purely based on the authors’ input and then thoroughly scrutinized and compared against the original sources to guarantee its accuracy and to appropriately credit the authors through proper citation.

⁵ GPT-3.5 is a variant of the GPT-3 architecture, which is a neural network-based language model that uses unsupervised learning to generate human-like text.

Appendix 9 - Examples of ChatGPT

Example - Rating Text, and Providing a Recommendation for Improvement



The image shows a screenshot of a ChatGPT interface. The user's prompt is highlighted in yellow and asks to rate an introduction and provide recommendations for improvement. The AI's response is shown in a light blue box and includes a summary of the text, a list of five specific recommendations for improvement, and a concluding overall assessment.

rate this introduction, and provide recommendations for improvements: The digital age has completely transformed the retail industry, and the rise of e-commerce has been one of its most significant drivers. With just a few clicks, consumers can now purchase goods from the comfort of their own homes, revolutionizing the way we shop and receive our purchases. The COVID-19 pandemic has only accelerated this trend, forcing consumers to prioritize the convenience and safety of online shopping. In response, retailers have had to reimagine their strategies and embrace omnichannel approaches to meet the ever-growing demands of consumers who expect their purchases to be delivered promptly to their doorsteps (Nealon, 2021).
From a logistical point-of-view, retailers have had to evolve their strategies which were

Overall, the introduction provides a clear and concise overview of the impact of e-commerce and the COVID-19 pandemic on the retail industry, as well as some potential solutions for logistical challenges. However, there are some areas for improvement:

- The introduction could benefit from a stronger thesis statement that clearly outlines the main argument or focus of the piece.
- Some of the information presented in the introduction, such as the rise of e-commerce and the impact of the pandemic, may be common knowledge and may not require citation.
- The introduction could also be improved by providing more specific examples and data to support the claims being made.
- The transition between the first paragraph and the second paragraph is somewhat abrupt and could be made smoother.
- The final sentence of the introduction may contradict some of the points made earlier, and could be rephrased to be more consistent with the overall argument of the piece.

Overall, the introduction provides a good foundation for a piece on the impact of e-commerce on the retail industry, but could benefit from some additional development and refinement.

Example - False Source



find a source to support this statement: The digital age has completely transformed the retail industry, and the rise of e-commerce has been one of its most significant drivers. With just a few clicks, consumers can now purchase goods from the comfort of their own homes, revolutionizing the way we shop and receive our purchases. The COVID-19 pandemic has only accelerated this trend, forcing consumers to prioritize the convenience and safety of online shopping. In response, retailers have had to reimagine their strategies and embrace omnichannel approaches to meet the ever-growing demands of consumers who expect their purchases to be delivered promptly to their doorsteps



Here is one source that supports the statement:

Title: "The Impact of E-Commerce on the Retail Industry"

Author: Harvard Business Review

Link: <https://hbr.org/2020/03/the-impact-of-e-commerce-on-the-retail-industry>

This article discusses how the rise of e-commerce has transformed the retail industry and how retailers have had to adapt to meet the demands of consumers who prefer online shopping. The article also mentions how the COVID-19 pandemic has accelerated the trend towards online shopping and how retailers have had to embrace omnichannel approaches to meet the changing needs of consumers.



hbr.org/2020/03/the-impact-of-e-commerce-on-the-retail-industry

Harvard
Business
Review

Diversity Latest Magazine Ascend Topics Podcasts Video Store The Big Idea Data &



404 Error
Hmmm... We can't seem
to find that page.



Example - Providing Search Prompt



can you help me with search prompts to help me find sources to support this statement: As automation continues to advance and improve, it brings increased efficiency and reduced costs to the logistics industry, allowing companies to better respond to changing customer demands and navigate uncertain circumstances



Certainly! Here are some search prompts that could help you find sources to support your statement:



1. "Impact of automation on logistics industry"
2. "Advantages of automation in logistics"
3. "Cost savings of automation in logistics"
4. "Efficiency gains from automation in logistics"
5. "Customer demand and automation in logistics"
6. "Logistics industry response to automation"
7. "Uncertainty and automation in logistics"
8. "Benefits of automation in supply chain management"
9. "Automation technologies in logistics"
10. "Automation trends in logistics"

Using these prompts, you could search for relevant articles, reports, and studies that provide data and insights on the impact of automation on the logistics industry, including its ability to increase efficiency, reduce costs, and enable companies to better respond to changing customer demands and uncertain circumstances.

Example - Eliminating Research Bias in Interview Questions



can you identify any risk of research bias in the following interview questions, and if so, can you restate the questions below in a way to minimize the risk of research bias?

Consolidation centers: How would you envision integrating a consolidation center and/or smart parcel locker into the existing infrastructure of your mall?

- When thinking about the consolidation centers/parcel lockers, where would you consider locating them?
- Are there any specific concerns or challenges you anticipate with implementing a consolidation center and/or smart parcel locker in your mall?
- Would you be willing to work with a third-party provider to implement and operate a consolidation center and/or smart parcel locker in your mall?



Yes, there is a risk of researcher bias in the original interview questions. The questions are framed in a way that assumes the existence of a consolidation center and/or smart parcel locker and their integration into the existing infrastructure of the mall, which may influence the responses of the participants. The following questions are rephrased to minimize the risk of research bias:



- Can you share your thoughts on incorporating consolidation centers and/or smart parcel lockers into your mall's infrastructure?
- Where would you consider placing consolidation centers and/or smart parcel lockers in your mall if they were to be implemented?
- Are there any potential challenges or obstacles that come to mind with respect to implementing consolidation centers and/or smart parcel lockers in your mall?
- If the opportunity arises, would you consider partnering with a third-party provider to set up and manage consolidation centers and/or smart parcel lockers in your mall?

Example - Improving Text Based on the Thesis Authors' Input



Improve this paragraph, make sure the citations remain: The rise of e-commerce, shrinking foot traffic (i.e., the number of consumers entering the shops), and changing consumer shopping preferences have been challenging for shopping centers and retailers for decades (Rogers & Eckenrode, 2021). On top of that, COVID-19 forced retailers to shut down and rethink their layout and adopt digitalization strategies to match the new consumption needs as more consumers were starting to shop from home (which was the case even before the pandemic). As such, retailers have changed their business models and physical locations to continue to drive their online sales (Moore, 2023), keep up with the rapid changes in consumer behaviors (by for instance offering omnichannel services) and meet the challenges which were causing a strain on their logistics (Weber, 2021).



Over the past few decades, shopping centers and retailers have faced numerous challenges, including the rise of e-commerce, declining foot traffic, and evolving consumer preferences (Rogers & Eckenrode, 2021). However, the COVID-19 pandemic has intensified these challenges, leading to the closure of physical stores and the adoption of digitalization strategies to accommodate the increasing number of consumers shopping from home (Moore, 2023). In response, retailers have modified their business models, relocated their physical stores, and embraced omnichannel services to keep up with the changing consumer behaviors (Weber, 2021). Such efforts have been crucial in enabling retailers to maintain their online sales and cope with the logistical pressures imposed by the pandemic.

