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# Discovering a new phenomenon inside a Dutch urban context: ‘Flash Delivery’


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*An association between a Master's Student and Stec Groep*



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*Photo on the front page: Author.*

# Preface

This is the end product of an interesting, insightful and educational period. As an Urban geographer, it was a pleasure to delve into an ongoing, relevant topic: 'flash delivery'. For the past one and a half years, this topic dominated the Dutch new pages and social media platforms. It seemed as if everyone wanted to express their outlook on this relatively new phenomenon. When researching flash delivery, I discovered a certain ambivalence. On the one hand, delivering groceries to your front door, within minutes, is considered as a kind of urban utopia. Exalted by a relatively young generation, flash delivery services took over Dutch cities extremely fast. On the other hand; speed comes at a price, and our cities could not cope with the far-reaching consequences. Triggered by city dwellers that got restrained in everyday, urban life, Dutch municipalities put a hold on the rapid expansion. As a consequence, this thesis attempted to disentangle the commotion and search for an appropriate solution.

This research concerns a collaboration between myself, a master's student at the Radboud University, and Stec Groep, a spatial consulting and research firm located in Arnhem. The overarching topic was initiated by Stec Groep, wherefore I want to thank them. Special thanks to my supervisors Daan Goos and Martijn Exterkate, whose expertise and critical view helped me during the construction of this research. By now, my internship at Stec Groep officially ended. They offered me a great place to work and provided support and advice where needed. For example, I was able to draw upon the extensive network of some of my colleagues. As a result, approaching potential respondents was less complicated. Subsequently, I want to thank all respondents that participated in this research. I really appreciate the time you have taken to provide me with your knowledge and expertise.

Finally, I would like to thank my supervisor Huib Ernste for his guidance, support and expertise. Throughout this research process, we had several interesting and engaging conversations in which we exchanged views on the concealed and latent societal undercurrent, flowing beneath the emergence of flash delivery.

Mick Peters
Nijmegen, August 2022

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# 1. Introduction

About one and a half years ago, the first fast grocery delivery service arrived in the Netherlands; by now, the counter indicates four (nos.nl, 2022b). These services claim to deliver groceries to your front door within minutes. This new business model, also known as Q-commerce (quick-commerce), started small but expanded rapidly across Dutch cities. The emergence of flash deliverers such as Gorillas, Getir and Flink has had a major impact on several aspects of everyday urban life. For example, the large groups of deliverers and their bikes increase pressure on the existing infrastructure. Numerous deliverers go out to transport groceries across several Dutch cities and while executing this task, they need to deal with a certain time pressure, causing dangerous situations in traffic (nos.nl, 2021). Moreover, notifications of noise disturbance and other types of nuisance related to flash delivery services are abounding (nos.nl, 2022a; NU.nl, 2022; Trouw, 2022). Since flash delivery is a new phenomenon that developed extremely fast, current zoning plans in the Netherlands lack a proper definition. Therefore, municipalities face difficulties in regulating these services, which made numerous municipalities apprehensive about uncontrolled growth (Dablanc et al., 2017). The increase in flash delivery services must be proportionate, otherwise, the liveability of urban environments might be impaired (Stil, 2022). Several Dutch municipalities are changing the rules of play right now; in the municipality of Utrecht, Tilburg and Amsterdam, flash delivery services need to start a dialogue with the municipality first and arrange for a license application, before opening up another dark store (Huibers, 2022). Moreover, some municipalities deployed a preparatory resolution (‘voorbereidingsbesluit’), which is a Dutch planning instrument that restrained flash delivery services to open up new dark stores.

To succeed in the quick delivery of groceries, flash delivery services opened so-called 'dark stores'. Dark stores are considered as decentralised distribution centres, developed to prepare and set up orders, which increase the efficiency of delivering groceries (Van Loon, McKinnon, Deketele, & Dewaele, 2014). These distribution centres are often located in residential areas or former retail shops since these locations are positioned close to the customer. Flash delivery services have a strong focus on customer retention, and thereby sell their products far below market price. Currently, these services are not profitable; they are sustained by venture capitalists and other investors. The revenue model is far from sustainable at this moment, according to the Dutch news programme NOSop3 (2022), flash delivery services make a considerable loss on every order, made by any customer. Recently, there seems to be a mismatch between the commercial interest of flash deliverers on the one hand and the interests of a vital form of spatial development on the other hand. For example, in cities such as Rotterdam, Amsterdam and the Hague, residents complain about public nuisance and inconvenience as a consequence of flash delivery services (Albers, 2021). However, due to the utterly fast-paced development of these services, the current legislation is inadequate. As mentioned before in the first paragraph, and illustrated in Albers (2021), flash delivery is considered to be a novel industry, whereof governance strategies are missing.

This research endeavours to enrich the knowledge about this mismatch through in-depth scrutiny.

Furthermore, there seems to be an undercurrent, meandering beneath society, on which the development of flash delivery services is flowing. Customers seek 'instant gratification'. Especially younger generations want everything immediately, at that specific moment, and do not want to postpone or reconsider their expenses (Aruna & Santhi, 2015). According to (Turner, 2015), this generation is surrounded by communication devices continuously, enabling them to feel instantly gratified, causing a decrease in moments where (young) people take time to relax and unwind. To escape day-to-day commotion, it is important to take a break sometimes, which is more difficult due to the never-ending flow of online communication (Turner, 2015). Flash delivery services respond to this undercurrent and take advantage of customers' impulse behaviour. Throughout the thesis, a closer look at this undercurrent will be taken.

Although the body of research on this new phenomenon is growing, academic work on this topic is still sparse. While some publications focus on the technological characteristics of fast-paced, on-demand delivery, qualitative research is not abundant. Therefore, it is interesting to study this relatively new phenomenon by using qualitative research methods. This research is structured as a case study in which flash delivery inside Dutch urban areas is considered to be the case. Firstly, the spatial impact of flash delivery services will be charted by questioning experts, specialists and other relevant actors related to this new phenomenon. Secondly, it takes a closer look at the location characteristics of dark stores. Furthermore, this research tries to find solutions that impair the previously mentioned friction that occurred during the emergence of flash delivery services.

The research in question is regarded as an association between the author, a Master's student, and Stec Group, a consultancy and research firm located in Arnhem. Stec Group is regarded as a spin-off from the Radboud University's Department of Geography, Planning and Environment, making it a logical and suitable collaboration. The research is based on and situated in a Dutch context since both the researcher and the associated organisation are located in the Netherlands. Despite this practicality, flash delivery services are highly present in Dutch urban areas, making it a legitimate case. Notwithstanding, the evolution of flash delivery services is not unique in the Netherlands; in cities all around the world these services pop up.

## *1.1 Societal relevance*

Nowadays, online grocery shopping is booming. This sector is growing every month and according to Dillahunt, Simioni, and Xu (2019), almost 50% of the Millennials already bought groceries online. This online grocery shopping, and more important the delivery of associated goods, has a major impact on an urban environment. This thesis, and the concerning question, serve a certain societal relevance since it is an ongoing, current issue, that affects many residents and other urban users.

The impact of quick-rising flash delivery services is far-reaching, and due to the short existence of this concept, research concerning this issue is not abundant. Firstly, deliverers of these services put pressure on the existing infrastructure, because they utilise it in big numbers. The increased pressure on infrastructures strikes city dwellers; for example, in Rotterdam, residents complained about sidewalks blocked by bicycles belonging to flash delivery services (nos.nl, 2022c). An addition to the societal relevance of this research, is the influence that a large number of flash deliverers have on public spaces. Since flash delivery services operate out of small dark stores, not every business activity can be executed inside their properties. Remaining business operations, such as the supplying of dark stores and the waiting of deliverers, get transferred onto the surrounding public place. According to Van Melik and Lawton (2011), the importance of public space is commonly acknowledged; thus it is essential to investigate influences that potentially have a negative influence on public space.

Furthermore, flash deliverers have caused dangerous situations in traffic since their arrival (Thelosen, 2021). Deliverers are dealing with time pressure, causing an increase in the likelihood of accidents. As illustrated in Qin, Wei, Zhang, and Ma (2021), delivery couriers often show risky and hazardous behaviour, more than 'normal' traffic users do. There are some specific characteristics that flash deliverers need to deal with that might impair traffic safety. For example, they need to multitask while participating in traffic; checking the customer's address information, navigating and sometimes communicating with consumers are activities executed while they participate in traffic (Qin et al., 2021). For the sake of traffic safety in general, as well as the safety of deliverers themselves, it is important to find the most suitable location inside an urban environment.

Moreover, so-called 'dark stores': stores devoid of real customers, often radiate an impoverished appearance, since they are equipped with opaque glass. To reach the goal of fast delivery, these facilities are frequently located in residential areas or city centres (Richardson, 2022). These decentralised stores are designed to pick up and transmit orders fast and effectively (Mortimer, Bowden, Pallant, Grimmer, & Grimmer, 2020). However, because of their location, these dark stores often cause a disturbance. To execute and deliver huge amounts of small orders, many traffic movements are required; which causes a different

flow of movement inside urban neighbourhoods (Richardson, 2022). It seems to be socially relevant to investigate the spatial change flash delivery is causing.

## *1.2 Scientific relevance*

Currently, research about the overarching theme of flash grocery delivery services is located in an early stage. This issue is relatively new; flash delivery services arrived in the Netherlands merely one and a half years ago. This research tries to form a contribution to this relatively young body of research, and thereby be scientifically relevant.

Flash delivery is a hot topic in the Netherlands. Many news sources and other types of media publish articles concerning this topic, but thorough scientific publications are absent. As stated in Dablanc et al. (2017), there is a significant amount of student work available: quite a few theses concerning flash delivery are accessible online. However, little literature on flash delivery itself is published (Dablanc et al., 2017). There are similarities in other types of fields, for example in the subject area 'e-commerce'; the buying and selling of goods in a digital world. In this discipline, much research has been conducted, also related to an urban context, which is identical to this research. For example, the following sources take up e-commerce in an urban context: Aditantri, Mahliza, and Wibisono (2021), Schöder (2016) and Pettersson, Winslott Hiselius, and Koglin (2018). However, this research specifically focuses on the instant delivery of groceries, which is considered to be different in some ways. For instance, the variable of time differentiates the various types of services. Nevertheless, online grocery delivery services operate as a specific form of e-commerce and thus share multiple similarities.

At this moment, flash delivery services seem to develop and grow faster than associated legislation. Rules of play fall behind: flash deliverers are considered retail, whereas they often operate as digital supermarkets, delivering goods out of a distribution centre (Dablanc et al., 2017). This differentiation has consequences and might cause unequal competition. Municipalities in the Netherlands experience difficulties to regulate this problem and, as mentioned in the paragraph above, there seems to be a gap in current policy- and zoning plans. To be scientifically relevant, this research tries to fill the gap by enlarging the overall knowledge of this new phenomenon. Moreover, it tries to contribute to the issue municipalities are facing since the arrival of flash delivery services, as evident from many news articles (Pijpker & Bronzwaer, 2022; Suijkerbuijk, 2022; Wurff, 2022). A substantial part of the flash delivery world is uncharted, especially in a scientific context. Therefore, this research aspires to explore this concealed territory.

## *1.3 Research objective and research questions*

The following section describes the research objectives along with the related research questions. The goal of this research is regarded as twofold. The first goal is to explore the spatial impact flash delivery services have on an urban environment. It is important to put together all relevant developments in order to formulate recommendations. Secondly, this research tries to find the most suitable place for flash delivery services inside an urban environment, where the negative side effects are as low as possible and the services are still capable of proceeding with their primary business practices. A proper understanding of which location choice is considered to be the most advisable is crucial when it comes to a sustainable continuation of this branch. Taking the above-addressed introduction, societal and scientific relevance into account, the main research question read as follows:

> *'What is the impact of flash delivery services and their 'dark stores' on an urban environment and how could a proper location choice reduce the encountered friction?'*

To answer the main research question, several sub-questions are developed. All separate elements of the main question require a thorough analysis. The sub-questions and associated motivation are listed below. The methodological section discusses which research methods are used to answer each sub-question. Logically, this thesis starts with an exhaustive scrutinization of the overarching concept of flash delivery, therefore, the first sub-question read as follows:

1. *Defining, characterising and understanding the overarching concept: what is 'flash delivery'?*

The goal of this opening question is to construct a proper foundation beneath this thesis. It is crucial to formulate a comprehensive understanding of the main concept.

2. *Understanding the encountered friction: what is the spatial impact of flash delivery services on their direct environment according to Dutch municipalities?*

Originating from the problem definition, introduction, scientific and societal relevance, it is determined that flash delivery entails certain friction or disturbance. This sub-question endeavours to chart the impact of flash delivery services within cities. Understanding the overall impact might contribute to future solutions that reduce the ongoing friction.

3. *What planning instrument is a preparatory resolution ('voorbereidingsbesluit') and why is it used by several Dutch municipalities?*

This sub-question tries to grasp the underlying reasons and motivations behind the deployment of the preparatory resolution. By answering this question, general insight into this planning instrument is enlarged. Flash delivery services related activities stimulated Dutch municipalities to utilise this instrument and this sub-question endeavours to formulate why.

4. *Solving the location issue: which location characteristics are considered to be the most suitable for flash delivery services and their dark stores*

The last sub-question is situated around the location issue. As mentioned before in the research objective, finding the most suitable location for flash delivery services contributes to the sustainable management of this branch. Finding the most suitable location is crucial for a healthy continuation of this relatively new phenomenon. A proper location choice could, on the one hand, satisfy the commercial interests of flash deliverers, whereas, on the other hand, it might serve the overall interests of pleasant city life.

# 2. Theoretical Framework

In this chapter, relevant literature related to the overarching topic will be discussed. All relevant concepts will be described and explained. Chapter 2 serves as a theoretical foundation beneath this thesis. Before this theoretical framework starts, it is important to mention that the concept of flash delivery is relatively young, and thereby, an extensive set of scientific works is lacking. While consulting (online) libraries that incorporate academic material, the conclusion appeared that not many publications discuss the topic of flash delivery. Nevertheless, other concepts incorporate similarities, such as 'ordinary' grocery delivery services or e-commerce in general. Moreover, the notion of the so-called 'platform economy' connects with the research object in question.

## 2.1 Online grocery delivery

Even though the grocery and food industry is regarded as humdrum and trivial, this industry is omnipresent and indispensable, since everybody needs to eat (Delaney-Klinger, Boyer, & Frohlich, 2003). For this reason, it is of great importance to regulate and manage this industry properly. As mentioned in Boyer et al. (2003), competition is a typical characteristic belonging to the grocery industry, which is not different when it comes to the market of flash delivery services. Moreover, products delivered by the grocery industry are often perishable, depending on personal taste and highly judged by their price (Boyer et al., 2003). Therefore, the comparatively high costs for delivering these products to the customer's residence, together with the sensitivity of these products, raises the question of whether this development is commercially advantageous. Nevertheless, this development is emerging rapidly, and its impact is far-reaching. Figure 1, retrieved from Boyer et al. (2003), compares the traditional grocery channel and the channel concerning the delivery of groceries to a customer's home. Figure 1 addresses the three steps that concern the process of grocery shopping: order placement, item picking and order delivery. Traditionally, the customer must travel to the store and back home. In the delivery channel, this is done by a company. Moreover, the company undertakes the process of item picking. This leads to the fact that time and effort related to grocery shopping decreases. The article of Morganosky and Cude (2000) investigated the consumer response to online grocery shopping. One of the respondents describes online grocery shopping as one of the most ingenious ways to shop (Morganosky & Cude, 2000). However, online grocery shopping decreases the number of social interactions, shifting a communal activity from offline to online. As visualised in Figure 1, the number of actions a customer needs to take, decreases when a shift to home delivery is made. This schedule is considered to be the forerunner of flash delivery.

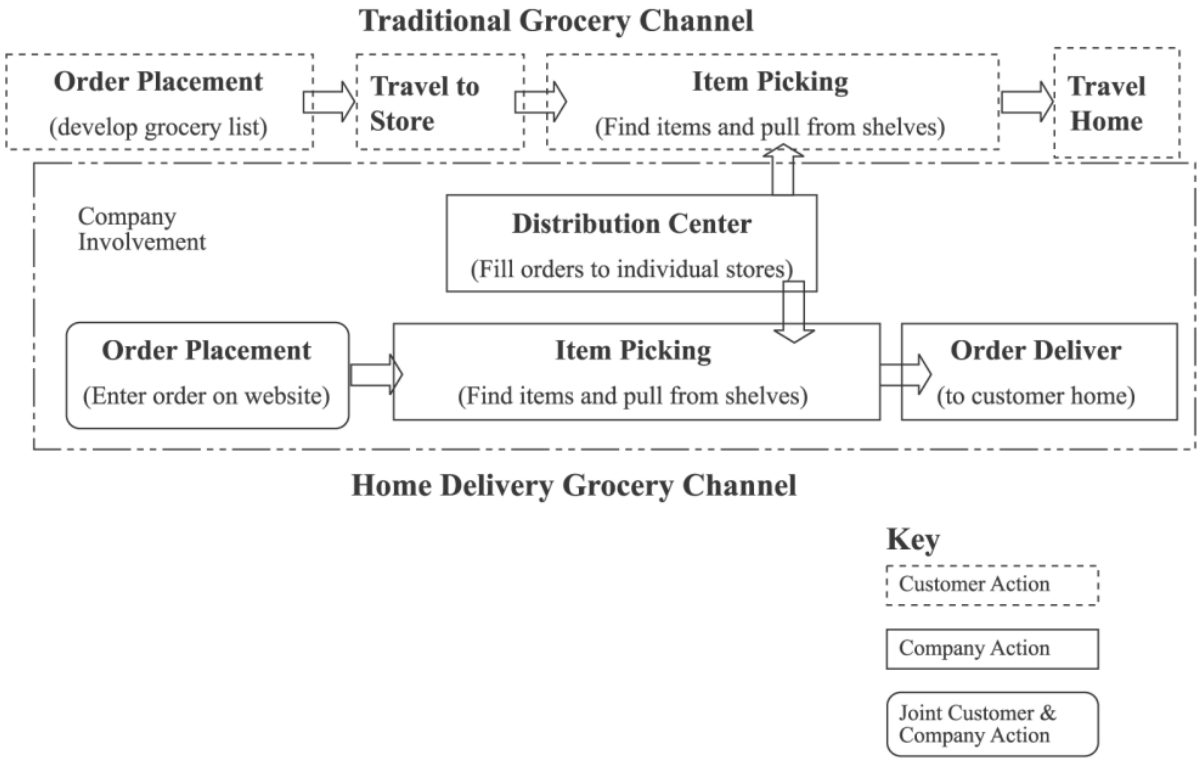


*Figure 1: Traditional vs home delivery. Source: Boyer, Hult, and Frohlich (2003).*

## 2.2 The introduction of *'flash'*

Whilst the previous paragraph discussed the grocery delivery services in general, this paragraph provides an addition to this; namely the introduction of 'flash'. The term flash represents the high-speed delivery of groceries. The term originates from the Dutch term: 'flitsbezorging' (which means: 'flash delivery'). Some other terms for flash delivery are 'q-commerce', in which 'q' stands for 'quick' and instant delivery. In the article of Dablanc et al. (2017, p. 2), the following definition of instant delivery services is given: *"Instant delivery services provide on-demand delivery within two hours – by either private individuals, independent contractors, or employees – by connecting consignors, couriers and consignees via a digital platform"*.

However, there are some differences between this definition, and the definition of flash delivery as intended in this research. This research focuses on the flash delivery of groceries, which is not mentioned in the previous definition. Moreover, the timespan is even shorter than two hours. A more appropriate definition, adapted from Huang and Yen (2021), read as follows: *"a fast form of on-demand delivery, dispatched out of dark stores, which can deliver groceries (and if desirable other goods) ordered online by customers to customers in less than an hour, or as quickly as in 10 minutes"* (Huang & Yen, 2021, p. 120). Throughout this research, this definition will be utilised.

Q-commerce might be a completely new business model, it did evolve out of multiple previous developments. According to Nierynck (2022), flash delivery is the natural evolution of e-commerce. In comparison with conventional stores and ordinary supermarkets made of brick and mortar, q-commerce differs a lot. An intermediate step between brick-and-mortar supermarkets and q-commerce, is e-commerce. Electronic commerce is described as *'the buying and selling of retail goods or services over the internet'* (Alfonso, Boar, Frost, Gambacorta, & Liu, 2021, p. 1). As stated in Huang and Yen (2021), the traditional business model of supermarkets, and e-commerce in general, differs in many variables in comparison with q-commerce. One of these differences, logically, emphasizes speed. However, as visualised in Figure 2, there are more differences.

| | **Brick-and-mortar Supermarkets** | **E-commerce** | **Q-commerce** |
|---|---|---|---|
| **Way of shopping** | In-store self-service | Online order and delivery within a few days | Online order and delivery within one hour |
| **Method of delivery** | Delivery truck | Delivery truck | Two-wheeled vehicle |
| **Presence** | Megastore | Sizeable warehouse | Dark store or micro-hub |
| **Target customers** | Three or more people households | Three or more people households | Single-person and two people household |
| **Customer preferences** | Price sensitive and discount matters | Price sensitive and discount matters | Time-sensitive and speed matters |

*Figure 2: Different generations of e-commerce. Adapted from (Huang & Yen, 2021, p. 120)*

Furthermore, as observed by Shah (2021), the delivery of goods by flash delivery services mostly happens in smaller quantities. On the other hand, the amount of orders grows. Huang and Yen (2021, p. 123) explain that two tendencies have led to this: the growing amount of small households and urbanization. In place of buying many goods for a relatively cheap price, customers choose fast delivery and convenience, even though this is pricier (Shah, 2021). That is one of the reasons why q-commerce, as described in Figure 2, is focusing on smaller households than the earlier generations. Considering that q-commerce has evolved out of e-commerce, it logically takes along some of its difficulties. One of the biggest challenges is urban distribution. According to Villa and Monzón (2021), q-commerce brings on an upsurge in dependency on urban roads and infrastructure. Q-commerce needs to cope with multiple difficulties (Villa & Monzón, 2021, p. 4):

- Small quantities
- More delivery addresses

- Higher resupply frequencies
- Lower inventory level
- Reduced optimization of vehicle loads

Altogether, these features put pressure on an urban environment. As mentioned before in both the societal and scientific relevance, this entails consequences, which will be described later on in this thesis. When it comes to the delivery of goods, speed has its costs (Černikovaitė, 2021).

Figure 3 presents the ordering and delivery cycle that belongs to q-commerce. There are six different steps to distinguish. The customer solely needs to search for a flash delivery service and 'click' on his smartphone to place an order. This perfectly fits the trend of improving the experience and convenience for customers, as explained by Shah (2021). Thereafter, when the service received the customer's order, it needs to collect the ordered items. This happens at decentralized micro-hubs or dark stores. Then the order gets delivered by a two-wheeled vehicle in the form of a bike, e-bike or e-scooter.

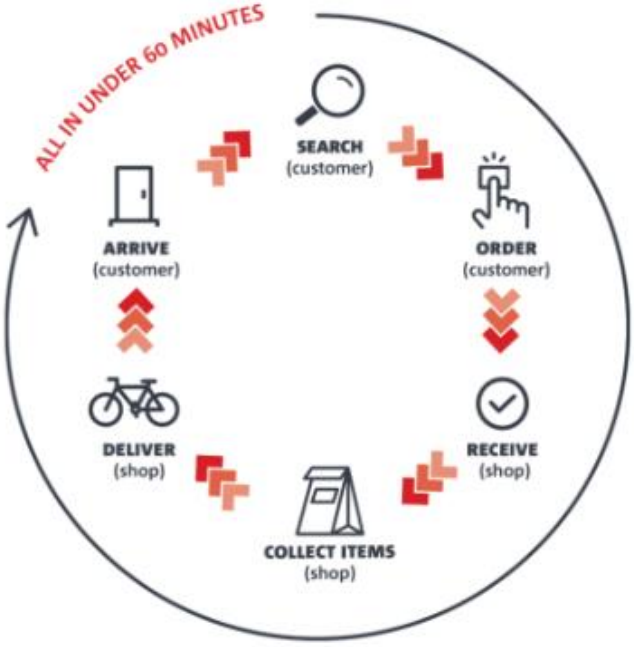


*Figure 3: Ordering and delivery cycle. Retrieved from (Nierynck, 2022)*

### *Dark stores*

It is all about being quick and regional. Since flash delivery is time-sensitive, and quickness is an important aspect of this branch, it is important to have decentralised hubs whereof these services can operate. The following definition, adapted from Mukhopadhyay (2022, p. 3), is utilised throughout this thesis: *"Small functional spaces, laid out like a supermarket or warehouse, dedicated to fulfilling only direct-to-customer online orders. These places are small in size and fully automated"*. Since these stores are not directed at receiving customers,

but at enhancing and optimizing the process of collecting orders, flash delivery services are literally 'going dark' (Shapiro, 2022). It is no longer necessary to provide for an attractive and inviting shop front since it is not meant to welcome visitors. Former retail locations are adjusted radically to develop into dark stores, this is explained by the following quote:

> *"Dark stores entail full store conversions to [a] fulfilment hub, recalibrating the physical layout and logical workflows to accommodate optimal picking routes and capacity. Turning a retail location into a dark store facilitates the fulfillment of online orders more efficiently. A converted location's layout and picking processes are reworked to optimize order-handling capacity and improve fulfillment performance"* (Tecsys, 2020)

According to Shapiro (2022), the 'darkening' of properties inside an urban environment unavoidably affects the lived experience in the surrounding environment. Making a shop dark, influences the way passers-by assimilate the streetscape. It affects the aesthetics and thereby the overall appreciation of the area. This raises the question of how a commercial practice like this affects urban design and its aesthetic appeal.

### *Last-mile delivery*

According to Movaheddin (2021), last-mile delivery can be described as delivering certain goods (or groceries) to customer households in dense areas. This logistic term revolves around the movement of products to the customer's household. As discussed by Boysen, Fedtke, and Schwerdfeger (2021), two global trends boost the demand for last-mile delivery services: urbanization and e-commerce. One of these trends, namely urbanization, is similar to the one that underlies the increase in flash delivery demand. This development is not downsizing: some researchers predicted that by 2050, up to 6.3 billion people might live in cities (Boysen et al., 2021, p. 2). Since last-mile delivery concerns the final stage of a particular supply chain, it mostly takes place inside an urban environment. Delivering goods inside an urban environment is considered to be complex.

### *Urban utopia*

As illustrated in the article of Peppel, Ringbeck, and Spinler (2022), instant delivery services that emerged recently assist a niche market in relatively large cities and city centres. So although the general assumption was that these services assisted solely a certain niche, flash delivery services are growing rapidly, which raises the question of whether one could still speak of a niche. In the existing literature, it is not clear how the future of these services looks. Berg and Henriksson (2020) discuss that online grocery shopping and e-commerce itself belong to a certain 'urban utopia'. Ordering groceries online is seen as luxurious, making everyday life easier and more convenient. Uncomfortable moments in the supermarket are avoided, a family's car can stay put and the amount of spare time will increase since one does

not have to go to the supermarket anymore (Berg & Henriksson, 2020). There seems to be a trend in society, where many customers strive for comfort and convenience. The following quote from Begley, Marohn, Mikha, and Rettaliata (2020, p. 4) illustrates this: "*Many customers are seeking the convenience of ordering everything they need, whenever they need it, from a single platform in a single order".* Flash delivery services perfectly fit this trend. According to Zhang et al. (2019), instant delivery services facilitates everyday life hugely, which is one of the reasons why they have generated much attention lately. There is much doubt whether flash delivery is a sustainable business model, considering the extension of this trend, it unequivocally is.

However, according to the France philosopher Michel Foucault, when creating a utopian place, there is an inevitable 'dystopian side-effect' hooked up to this (Ernste, 2022). Foucault introduced the term *'heterotopia'*, and although Foucault's explanation is rather mystifying, this term was frequently repeated and applied (Ernste, 2022). When this term is positioned in the debate on flash delivery services, one could argue that there is a utopian and a dystopian side connected to it. Delivering groceries to someone's doorstep in the middle of a crowded and active urban area brings on difficulties. As described in an article of Prof. Dr. Ernste (2022), according to Foucault; *'there is no utopia without dystopia'*, which seems to correspond with the concept of flash delivery.

## 2.3 Dutch planning policies

As mentioned before, the rise of flash delivery services had a major impact on urban environments. As illustrated in Dablanc et al. (2017), the fast emergence of many bicycle deliverers, their parking activities and traffic movements strike the overall traffic flow in an urban context. Judicial planning policies are affected by fast delivery services and urban planners face difficulties regulating them. It is important to qualify flash delivery services properly, so their function correspondent to the legal requirements. Right now, in the Netherlands, flash delivery services are considered retail, whereas they often act as online businesses (Lieshout, 2021). Moreover, in the Netherlands, the municipal zoning plan is used as a document that describes zoning regulations for a specific area. This instrument is explained by the following quote: *"In the Netherlands, if you plan to establish your business at a particular location, this choice of location must be in line with the municipal zoning plan (bestemmingsplan). A zoning plan includes detailed rules on how a certain plot of land or area can be used. It states, for example, where homes, shops, hotels, catering establishments and other companies may be established, as well as the maximum permissible heights and widths of buildings"* (RVO, 2021, p. 1). A zoning plan is a legal instrument that is relevant in the field of spatial planning. According to Heegsma (2006), the goal of a zoning plan is to achieve proper spatial planning and provide for a pleasant living environment. In literature revolving around planning, two primary functions are allocated to a zoning plan. Firstly, a function to manage space, which is referred to as the 'assessment function'. Secondly, the 'development function' is named: with this function, appropriate area development is endeavoured

(Heegsma, 2006). Inside a zoning plan, a large set of various zoning forms is included. According to 'Ruimtelijke Plannen', the Dutch national portal for spatial plans, there exist over 25 distinct zoning forms. For instance, forms like: agricultural, retail, greenery, recreation, cultural, service provision and so forth (Ruimtelijkeplannen.nl, 2022). Inside a zoning plan, a zoning map visualises how specific pieces of land are identified as specific zoning forms (Dembski, Buijze, & Van der Veen, 2014).

In addition, as mentioned before in the introduction, there is a judicial planning instrument in the Netherlands which is called 'voorbereidingsbesluit'. This is freely translated as a 'preparatory resolution'. According to Laar (2021), a municipal council is able to make a resolution in which it is asserted that a zoning plan is under preparation, concerning a specific area. Thereby, to ward off unwelcome developments, work activities may be terminated. A preparation resolution is just temporary valid: the duration amounts to one year (Neuvel & Jaarsma, 2015). During the limited duration of a preparation resolution, relevant aspects inside a zoning plan can be adjusted. Therefore, in order to maximize the effectiveness of a preparation resolution, it is important to speed up the process (Neuvel & Jaarsma, 2015).

## 2.4 Instant gratification generation

While searching for written work about flash delivery, one notion that stood out was the concept of 'instant gratification'. This is seen as one of the key characteristics incorporated in human behaviour that clarifies why the concept of flash delivery is popular. As described in the article of Liu, Li, and Hu (2013), instant gratification concerns the amount of gratification a person receives (at that specific moment) when they make an (impulse) investment. This assertion contributes to the explanation of why consumers order small orders via their mobile phones, while the supermarket might be 200 meters away. Technological advancements improved the accessibility to innumerable goods and services, making it so effortless for consumers to order online; everything is just a few clicks away (Bates & Friday, 2018). This development goes hand in hand with the digitalization of society. However, as noted by Bates and Friday (2018), there is a downside behind these digital services: underlying patterns and processes are not human-centred but aimed at increasing growth and profit. Bates and Friday (2018) warn that if the market mechanism behind electronic- and quick-commerce goes free, consumerism is encouraged. In a world that should be reconstructed to a sustainable state, this might not be a desirable development.

According to psychologist Courtney E. Ackerman, instant gratification refers to *"the temptation, and resulting tendency, to forego a future benefit to obtain a less rewarding but more immediate benefit."* (Ackerman, 2018). The human brain is designed to desire immediate pleasure and act according to this, even if future consequences related to this action might have negative consequences. In the article of Kotlebova (2019), it is explained that contemporary technologies (such as social media platforms) decrease a person's

capability to postpone gratification and maintain self-control. Therefore, the concept of instant gratification is predominantly allocated to generations Y and Z. These generations consist of people born after 1981 since they experienced the first stages of modern technology and the information and communications technology revolution. Instant gratification, on the one hand, sparks human behaviour that tries to evade struggle and pain, whereas, on the other hand, it encourages actions that generate instantaneous amusement, comfort or satisfaction (Kotlebova, 2019). One of the reasons a human brain has developed a tendency for instant gratification is the release of dopamine. Dopamine is a neurotransmitter, made by the human body, which plays an important role in how we feel, think and devise (Cristol, 2021). According to Mischel (2022), our brain is constructed to give precedence to momentary urges. Therefore, when you get the chance to receive something satisfying, dopamine makes you crave it. Your brain receives a short moment of joy and pleasure, before the dopamine-levels drop and the pleasant experience disappears (Mischel, 2022).

### *The Stanford marshmallow experiment*

The Stanford 'marshmallow experiment' is a renowned experiment that investigated instant gratification versus delayed gratification and associated outcomes. This influential experiment, executed by Walther Mischel, took place in 1970 and influenced how we observe and evaluate social human behaviour (Caleza, Yañez-Vico, Mendoza, & Iglesias-Linares, 2016). The main objective of this test was to create an understanding of how children control delayed gratification: *"Delayed gratification is a social ability that involves being able to resist the temptation to take the smaller but more immediate reward and to wait for a larger, more permanent reward later"* (Caleza et al., 2016, p. 201). In the experiment, several young children (between 3 and 6) got offered a choice: one small reward delivered immediately, or two small rewards after fifteen minutes. There were no other distractions and during those fifteen minutes, the researcher was absent. Figure 4 shows a kid, struggling to resist the tendency of instant gratification.

*Figure 4: Kid struggling during the 'marshmallow experiment'. Retrieved from: (Reiss, 2020)*

It turned out that most of the children chose could not resist the tendency and ate the first marshmallow. The experiment with children showed that our brain is wired to pursue instant gratification. In Caleza et al. (2016) it is explained that the ability to delay gratification is connected with specific positive features. For example, a person who holds an excellent ability to delay gratification often possesses relatable skills such as self-control, discipline and strength of will. 50 years after the marshmallow experiment, research on the phenomenon of instant gratification evolved; scientists are now able to utilise advanced technologies that display brain activity through neuroimaging (Caleza et al., 2016). Flash delivery services seem to capitalize on the desire of customers to order the things they want, whenever they want, responding to the notion of instant gratification. The marketing strategies of flash delivery services are aimed at this notion and draw upon the impatience of current generations.

## 2.5 Location Theory

In general, location theory revolves around economic activity and geographic locations. Logically, these theories consist of geographic and economic components, explained by the following definition: *"the general theory of location and space-economy is conceived as embracing the total spatial array of economic activities, with attention paid to the geographic distribution of inputs and outputs and the geographic variations in prices and costs"* (Fujita, 2010, pp. 1-2). Despite some earlier efforts, location theory unquestionably started getting attention since the publication of the well-known, historic work of Johann Heinrich von Thünen, called 'Der Isolierte Staat' (Fujita, 2010). Von Thünen describes that the price of products is not solely determined by land price, but also by transport costs. Although its limitations, this work is considered to be relevant in the field of location theories. Thereafter, location theory evolved and more comprehensive theories were constructed. According to the book of Blair and Premus (1993), location theory advanced and more spatial and economic variables were incorporated. As a consequence of adding factors such as '*market size, production cost differentials, regional amenities and technological capabilities',* location theory models became more and more complex (Blair & Premus, 1993, p. 3).

Harold Hotelling, a well-known American mathematician, developed a renowned location theory that is considered to be influential in economic geography (Darnell, 1990). His influence is considered to be of great importance; his academic work and publications are the entry point of much present-day research. One of his prominent theories, 'Hotelling's law', describes an economic principle that competitive markets trend toward homogeneous products, whereas oligopolistic and monopolistic markets trend toward heterogeneous products (Lambertini, 1997). In his frequently cited publication 'stability in competition', Hotelling (1990) describes why businesses agglomerate. Entrepreneurs that operate out of the same line of business, react to the location strategy their competitor is pursuing. This is explained through a metaphor: Figure 5 represents an imaginary beach that represents a small, competitive market of two ice-cream vendors (duopoly). As visualised in Phase 1, this

is a straight shoreline in which customers are distributed equally. These competing vendors both want to obtain the highest number of customers on that beach. In this case, the ice-cream vendors only differ in the location: there is no difference in for example quality, brand marketing or customer acquisition. When there is no difference between two businesses, a customer simply picks the nearer one. According to Hotelling (1990), a business is going to relocate to increase revenue. One business will move towards its rival to take over a part of its market share (Phase 3). As a logical result, the other business will react and take back its former market share (Phase 4). Both ice cream vendors are now clustered in the centre of the beach, which is regarded as a key characteristic of Hotelling's theory. This differentiation by location can be projected to all identical situations and there are similarities in the flash delivery market.

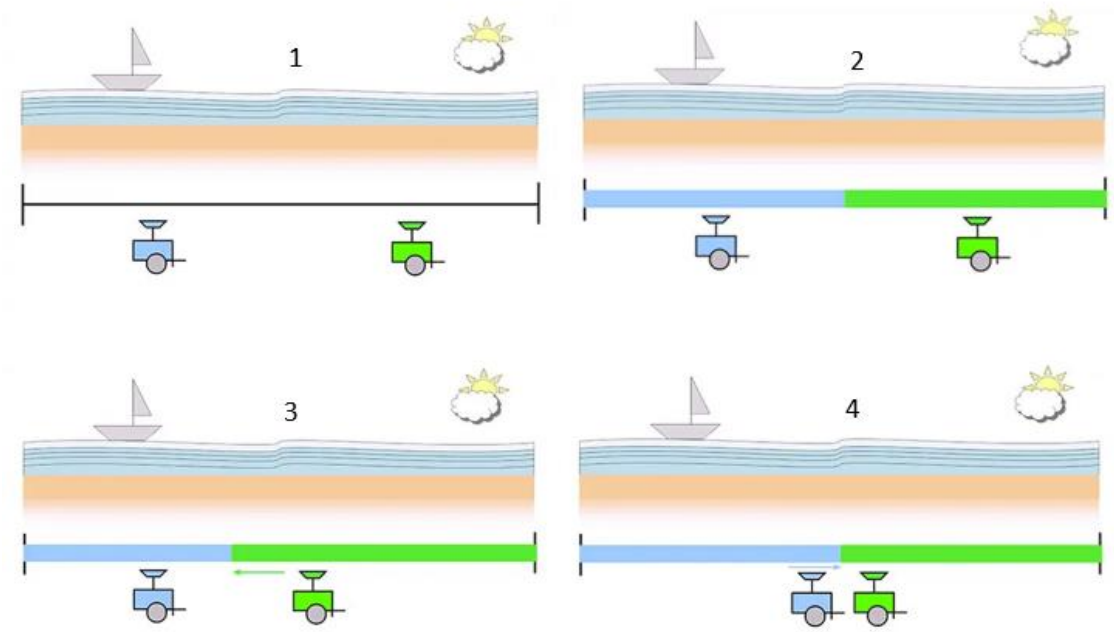


*Figure 5: Visualisation of Hotelling's location model. Adapted from: ((Roughly)Daily, 2017)*

Location choice is crucial for the performance of a store. As noted in Ghosh and Craig (1983), it is important to take all related variables that belong to the surrounding system into consideration. For example, the timing of store openings, the reaction of near competitors or developments in customers' behaviour should be taken into account when it comes to formulating a location strategy (Ghosh & Craig, 1983). However, in contrast to making a proper location choice, the variables above are relatively easy to adjust. Usually, when a company or firm enters into a new property, several significant expenses need to be made which are not easy to rescind. Therefore, it is recommendable to carefully consider a location choice and develop a thorough strategy. In an article on locational decision-making, location choice is considered crucial, illustrated by the slogan: *"location, location, location"* (Pioch & Byrom, 2004, p. 222).

When businesses develop a location choice strategy, usually the aim is to minimize costs and risks and maximize opportunity. In the article of Inman (2022), the following definition of location strategy is given: *"A location strategy is a plan for obtaining the optimal location for a company by identifying company needs and objectives, and searching for locations with offerings that are compatible with these needs and objectives"*. A business must integrate this into its long-term strategy to sustain itself. Establishing a proper location strategy often requires a thorough assessment of multiple variables. In Figure 6, several factors that are relevant for constructing a location strategy are discussed. However, these factors do not apply equally to all businesses. Some factors are considered to be more valuable than others when the type of business varies.

| Factor: | In practice: |
|---|---|
| **Logistics** | Assessment of transportation possibilities, infrastructure characteristics and warehousing options. |
| **Labour** | Analysation of available workforce in the area of future location. |
| **Facilities** | Assessment of surrounding facilities and facilities that are needed to fulfil present and future requirements. |
| **Community and location** | Evaluation of whether the prospective community and location of a business are reconcilable and suitable. |
| **Political risk** | This is relevant for companies that want to settle in a different country. In some countries, the political situation is not stable, which may influence the location strategy. |
| **Environmental regulation** | Evaluation of environmental regulations of a specific location. Since environmental situations differ a lot. |
| **Incentive situation** | Assessment of incentives that belong to a specific place. An increase in taxes might influence the desired location strategy. |

*Figure 6: Factors related to location strategy. Adapted from (Inman, 2022).*

Furthermore, Krarup, Pisinger, and Plastria (2002) explain that, in modern society, some facilities generate negative side effects, whereas, on the other hand, they might facilitate a service for society. An example could be a sports facility: practising sports is considered to be an important activity that is healthy and valuable for people. On the other hand, exercising sports might produce disturbing and irritating effects, such as noise, congestion or vandalism (Krarup et al., 2002). Thus, some modern facilities in society might entail a certain

ambivalence. Traditional location theories predominantly left behind this dichotomy, but this field of research is getting more attention after 1970 (Krarup et al., 2002).

### 2.6 Platform economy

Platform economy refers to a state in which economic and social activities are facilitated by platforms such as Amazon, Google and Uber (Kenney & Zysman, 2016). In the last decade, online platforms became relevant players in society, and flash delivery services are considered to be the newest players in this economy. This development *"opens the way for radical changes in how we work, socialize, create value in the economy, and compete for the resulting profits"* (Kenney & Zysman, 2016, p. 61). The platform economy builds upon the information and communication technology revolution, which started around 1990 (Lehdonvirta, Kässi, Hjorth, Barnard, & Graham, 2019). Right now, the entire online ecosystem, is created by investors, entrepreneurs and data scientists that make use of algorithms and cloud computing (Kenney & Zysman, 2016). As illustrated in the article of Kenney and Zysman (2016), digital platforms that construct the associated economy, are complex mixtures of operations, networks, and soft- and hardware. Q-commerce hugely relies on information and communication technologies. It is important to mention the rise of the platform economy since flash delivery services are considered to be part of this. These businesses are built upon profound technological systems, whereby the collection of data is crucial.

#### *Concluding observation*

This paragraph briefly explains why the above-mentioned theories and concepts were selected. To begin with, the first two sections of this chapter serve as an introduction to the overarching topic. To understand how flash delivery services work and how the phenomenon has been evaluated over time, a proper description was given. Moreover, throughout this research, several Dutch planning mechanisms are discussed which may need clarification beforehand. Furthermore, the theory of instant gratification seems to be relevant and useful when it comes to unravelling the rationale behind the usage of flash delivery. Finally, in order to figure out which location is the most suitable for flash delivery services, some location theories and related literature are elaborated on.

## *2.6 Conceptual model*

The conceptual model that is visualised in Figure 7, shows all relevant concepts that are utilised during this research. Moreover, this model helps to understand the relationship between various stakeholders and concepts. Figure 7 is regarded as a simplified representation of this research.

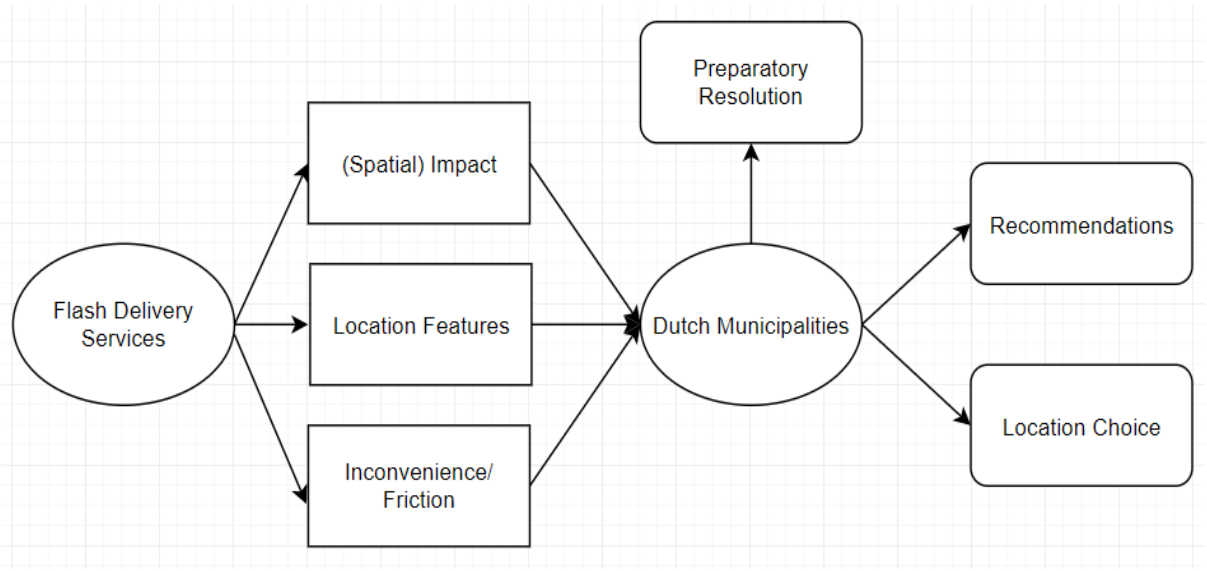


*Figure 7: Conceptual model. Source: Author.*

# 3. Methodology, methods and techniques

In this chapter, the most important research methods and techniques will be explained. First of all, a concise outline of the research strategy is given. Secondly, the data collection methods are explained and justified. Subsequently, the respondent selection is displayed and described. The last part of this chapter illustrates how the obtained data is analysed thoroughly.

## *3.1 Research strategy*

Logically, this research strategy emerged from the research objectives discussed in previous chapters. In nature, this is considered to be qualitative research, and, more specifically, case study research. As mentioned in the book of Verschuren, Doorewaard, and Mellion (2010) 'Designing a Research Project', it is important to decide which research strategy is the most suitable for fulfilling the research objective. In this case, it happens to be the research strategy known as a 'case study'. According to Verschuren (2003, p. 121), the object of a case study is *"one single case, temporally, physically or socially limited in size, complex in nature, unique and thus not comparable with other cases".* Furthermore, as noted in Yin (1999, p. 1211), there is one crucial element: *"The all-encompassing feature of a case study is its intense focus on a single phenomenon within its real-life context".* Inside this research, the intense focus on a single phenomenon, lies on flash delivery inside Dutch urban areas. This new phenomenon is considered to be complex since its impact is considerable and far-reaching. In addition, a multitude of components got affected by this phenomenon, reaching from a customer's doorstep to urban infrastructures, which increased the complexity. Flash delivery is regarded as temporally limited since the emergence of this phenomenon took place just one and a half years ago.

Furthermore, the reasoning for a case study design is explained by the following quote: "*You opt for a case study, partly because you prefer qualitative research and partly because you would like to carry out an in-depth study"* (Verschuren et al., 2010, p. 23*).* The preference for qualitative research originated from the fact that there is so little qualitative research on this topic. When developing a subject for a master thesis, discovering a new phenomenon feels interesting and worthwhile. In addition, as stated in the article of Ponelis (2015), case study research focuses on explaining a concept in its complete context, which is similar to this research: one of the first aspirations was to discover the concept of flash delivery as complete and thorough as possible.

However, this research method contains a downside: due to the in-depth research methods belonging to this strategy, it is difficult to generalise findings. Nevertheless, case study research is still considered to be valuable when it comes to a thorough understanding of a contemporary case (Yin, 2011). Flash delivery is a contemporary case, and moreover, the goal

of this research is aimed at the collection of in-depth and profound knowledge about this case. According to Swedberg (2020), exploratory research, at its core, aims at discovering a relatively new concept that is considered to be interesting and intriguing. Moreover, this research is considered to be exploratory in nature. Existing literature has shown that the concept of flash delivery is mostly uncharted in the academic world, which is naturally related to exploratory research. There are some negative and positive features attached to exploratory research. As noted by Swedberg (2020), when executing exploratory research, the researcher endeavours to say something new. If research stops being explorative in some way, acquiring new knowledge will stagnate. However, a negative aspect of exploratory research is that it is impossible to know in an early stage whether this type of research yields valuable or novel findings (Swedberg, 2020).

## *3.2 Research methods*

In this paragraph, the selected research methods will be discussed and explained. Firstly, the conduction of interviews as a research method will be explained. Next in order: observation as a research method. At last, the literature review and data analysis will be addressed.

A concept frequently used in case study research is triangulation. Triangulation is described as the use of multiple forms of data collection methods and data sources to enhance the results of research (Clifford, Cope, Gillespie, & French, 2016). By implementing triangulation, a researcher is capable of presenting a comprehensive and holistic overview of the concerning research object (Verschuren et al., 2010). In this research, three types of data collection methods were utilised. Altogether, these methods complete the process of triangulation. This process is visualised in Figure 8.

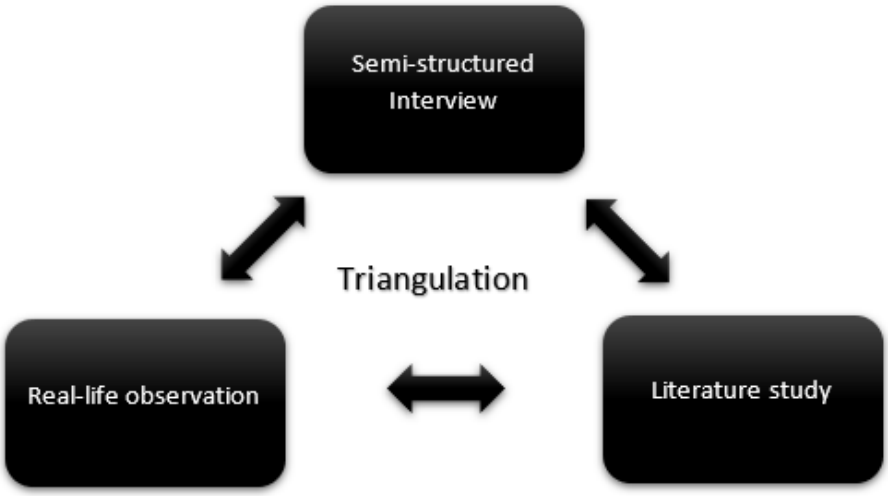


*Figure 8: Process of triangulation visualised. Source: Author.*

There are four types of triangulation: method-, investigator-, theory-, and data source triangulation (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014). In this case, it is best described as 'method triangulation': the usage of various data collection methods concerning the same topic (Carter et al., 2014). This kind of triangulation is often used in qualitative research. Besides developing a holistic perspective on the research topic, the process of triangulation is often utilised to increase the validity of a study (Thurmond, 2001).

To see how every sub-question is answered individually, Figure 9 is constructed. Figure 9 illustrates which specific methods were used for answering the sub-questions.

| Sub-question | Method(s) |
|---|---|
| *'Defining, characterising and understanding the overarching concept: what is 'flash delivery'?* | - Semi-structured interview<br>- Observation<br>- Literature study |
| *'Understanding the encountered friction: what is the spatial impact of flash delivery services on their direct environment according to Dutch municipalities?'* | - Observation<br>- Semi-structured interviews<br>- Literature study |
| *'What planning instrument is a preparatory resolution ('voorbereidingsbesluit') and why is it used by several Dutch municipalities?'* | - Semi-structured interviews<br>- Literature study |
| *'Solving the location issue: which location characteristics are considered to be the most suitable for flash delivery services and their dark stores'* | - Semi-structured interviews<br>- Literature study<br>- Observation |

*Figure 9: Sub-questions and methods to answer them.*

### 3.2.1 Semi-structured interviews

As illustrated in Yin (2011), one of the most important methods in case study research is the conduction of interviews. Interviews in case study research often look like orderly managed conversations, with a changeable character, instead of a strict structured interview (Yin, 2011). There are several forms and designs when it comes to interviews as a research method, reaching from face-to-face interviews to online interviews, and from structured to open interviews. According to the book 'Key Methods in Geography' by Clifford et al. (2016), face-to-face interviews often result in worthwhile dialogues with a large percentage of responses. To gather in-depth knowledge, this seems to be a convenient interview form since it revolves around a qualitative research question. In addition, Verschuren et al. (2010) explain that there are three main types of interviews: unstructured, semi-structured and structured. For this research, the semi-structured interview form seems to be the most appropriate. This type

leaves space for valuable discontinuities and unexpected additions of the interviewees. When developing an interview guide, the concept of 'thematic analysis' was used. This implies that the interview guide is not structured by specific phrases, but by several themes (Guest, MacQueen, & Namey, 2011). These themes were all linked to the sub-questions.

However, there are some disadvantages stuck to conducting semi-structured interviews. For example, this research method is time-consuming, as illustrated by the following quote: *"The process of preparing for the interviews, setting up the interviews, conducting the interviews, and analyzing the interviews is not nearly as quick and easy as you might think"* (Newcomer, Hatry, & Wholey, 2015, p. 493). Moreover, conducting this type of interview demands a lot from a researcher. For instance, an interviewer should be sharp and agile and possess a thorough knowledge of the concerning issue. Instead of writing down answers, recording an interview is more convenient. This allows the researcher to transcribe and analyze the interview afterwards. Of course, the interviewer should always ask for permission to record. In this research, a mobile phone or computer has been used the record the interviews (every interviewee granted permission). Figure 10 shows all respondents.

| **Respondent:** | **Function:** |
|---|---|
| R1: Dr. Jos Gadet | Chief Planner Municipality of Amsterdam Economy and Space |
| R2: Martijn Hos | Director Public & Stakeholder affairs at Thuiswinkel.org |
| R3: Ben van Gelder | Policy Advisor/Account Manager Municipality of Nijmegen |
| R4: Jan-Willem Roest | CEO at Paazl, E-commerce and Customer Experience expert |
| R5: Petra Lubbers | Managing Director and Partner Tom-orrow, E-commerce and Business Strategy expert |
| R6: Gijs Wanders | Senior Policy Advisor Economy and Space Municipality of Utrecht |
| R7: Paul van Delft | Policy Officer at the Municipality of Tilburg |

*Figure 10: List of respondents*

### 3.2.2 Observation

Because this case study research focuses on a contemporary, real-life phenomenon, it is possible to do an observation. In the book of Yin (2011), it is described that observations can yield information as a supplement to the findings obtained from interviews. When an observation is considered to be valuable, the researcher could think about making photographs or other visual data forms of important characteristics related to the case. Against this background, it is important to notice that one should always ask for permission

(Yin, 2011). Moreover, there are various types of observation methods. According to Fetters and Rubinstein (2019), research observations range from structured to unstructured. Structured observation is a type of data collection method that involves the systematic recording of specific behaviour in order to measure and analyse afterwards. This type of observation usually has a specific focus. Unstructured observations often use the researcher's ability to describe a certain phenomenon. In this case, *"words emerge through the researcher's experience in the field"* (Fetters & Rubinstein, 2019, p. 556). The unstructured observation was used throughout this research. Beforehand, it was uncertain which 'behaviour' the research topic in question was going to demonstrate. Therefore, the unstructured observation methods seemed more appropriate. To capture the experience during unstructured observations, field notes are recorded. The book of Sanjek (2019) *Fieldnotes: The makings of Anthropology* perfectly illustrates the value of field notes. Field notes are considered as descriptive notes that offer information on a particular phenomenon that is being studied (Sanjek, 2019). These notes help to understand the phenomenon and enable a researcher to store experiences. However, since field notes are documented by a person, these not might get exposed to the limitations of the human brain. This entails the limitations of memory and the possibility of observer biases (Sanjek, 2019). To prevent memory loss, the field notes were constructed during the observation on a mobile phone.

Photography is considered to be a valuable research method despite its constraints. According to Van Melik and Ernste (2019), society is becoming more and more 'visually oriented'. The rise of technological abilities paved the way for everyone who wants to be a photographer since all modern mobile phones are equipped with decent cameras (Van Melik & Ernste, 2019). Moreover, according to Hall (2009, p. 456), photography *"can help direct your observations of the landscape, allowing you to focus on, capture and compare details, many of which may at first appear mundane or unimportant".* Photography might enhance creativity and trigger enthusiasm. This research method contributed to capturing the spatial impact flash delivery services have on an urban environment. However, there are some constraints when photography is used as a research method. For example, as explained by Van Melik and Ernste (2019), photography can be subjective, biased and conceivably unethical. Therefore it is important to be well aware of these constraints and critically evaluate the implementation of this research method. In this research, observation of flash delivery services took place in a city centre. Personal experience revealed that flash deliverers are not hard to find in certain urban environments. Before the observation, the location of certain dark stores was determined.

### 3.2.3 Literature study

The following part of this methodology addresses the literature study; this study is handled in the chapter called 'Theoretical Framework'. In this framework, the most relevant components of the literature study were discussed. According to Clifford et al. (2016), a

proper literature study is of great importance: *"Identifying the most relevant, up-to-date and reliable references is a critical stage in the preparatory of essays, reports and dissertations, but it is a stage which is often undertaken unsystematically and in a hurry"* (Clifford et al., 2016, p. 17). One way to find different works or studies is the 'snowball' method: using the references of one study, to find other relevant studies (Verschuren et al., 2010). By using the snowball method, a researcher is more likely to discover and collect various forms of resources. This method is used while constructing the literature study. Moreover, Google Scholar is used to find academic literature and scientific publications.

### 3.2.4 Data analysis

All data collection methods above yield a relatively rich amount of data. The analysation of long interview transcripts is time-consuming and the structuration of a large number of words is complex. Therefore, certain software programmes are developed. According to Clifford et al. (2016), a programme such as 'Atlas.ti' helps a researcher to manage and code large texts. This software programme was used to analyse the acquired data. This programme is regarded as the most appropriate since it is used during the Bachelor's Programme in Geography, Planning and Environment. Throughout several courses, this programme was explained and utilised. In this research, all interviews were recorded. Subsequently, all interviews were transcribed, which resulted in a large amount of textual data. Afterwards, these interviews were ordered according to specific codes. These codes were constructed concerning the four sub-questions.

# 4. Results

In this chapter, the most important research findings will be elaborated on. This chapter is constructed around the four sub-questions that are determined in chapter one. During this chapter, important results from the interviews will be discussed. In order to display the information that has been given by specific respondents, all received a number reaching from 1 to 7 (see Figure 10). Throughout this section, the combination of the letter 'R' together with a specific number, stands for the specific 'respondent' (visualised in Figure 10). Although sub-question one is partly answered in the theoretical framework, the following section tries to supplement this explanation by portraying the textual data retrieved from the interviews.

## *4.1 Defining, characterising and understanding the overarching concept: what is 'flash delivery'?*

As mentioned in the introduction, flash delivery services arrived about one and a half years ago in the Netherlands, back in December 2020 (nos.nl, 2022b). As illustrated by the chief planner of the department of economy and space at the municipality of Amsterdam, this occurred rapidly: *"the emergence of flash delivery happened extremely fast. In fact, within one year, out of something completely unknown"* (R1, personal communication). According to R6, a crucial aspect of the quick emergence of flash delivery is that it concerned a new phenomenon that was not incorporated into current policy and zoning plans. Since proper policy was absent, several municipalities faced difficulties to regulate this novel concept. Therefore, multiple municipalities in the Netherlands deployed a 'voorbereidingsbesluit', which is considered to be a municipal planning instrument that serves as a pause button. Hereby, the municipal council declares that a zoning plan (concentrated on a specific area) is under preparation. In the meantime, licences concerning this zoning plan cannot be granted, which gives the municipality time and space to reconsider and adjust current policy arrangements. This policy instrument is specifically designed for municipalities and their ability to intervene early on to avoid undesirable developments. The findings related to this instrument will be discussed in chapter 4.3.

In the theoretical framework, the following definition of flash delivery was given: "*a fast form of on-demand delivery, dispatched out of dark stores, which can deliver groceries (and if desirable other goods) ordered online by customers to customers in less than an hour, or as quickly as in 10 minutes"* (adapted from Huang and Yen (2021)). Furthermore, a key characteristic of flash delivery, is that in nature, this phenomenon is utmost data-driven and technologically advanced. E-commerce expert Martijn Hos (R2) explains that behind flash delivery platforms, a huge environment of information and communication technologies is situated (R2, personal communication). For example, algorithms determine and predict which products are the most suitable for a specific customer. Afterwards, when an order is placed, a courier uses a mobile application that, via global positioning systems, displays the quickest route to the customer.

When it concerns flash delivery, the most frequently ordered items belong to the category of 'forgotten groceries'. R4, a regular user himself, also mentions this: *"For me, it is convenience. For example, when I forgot something. Or when I am in the mood for something but I don't want to go out"* (R4, personal communication). Figure 11 shows what other types of products are ordered via flash delivery mostly. In addition, placing an order via a flash delivery application is super convenient and simple: people only need a mobile phone and within a few clicks an order is placed. R3 describes that even customers living close to the supermarket make use of flash delivery; this is pure convenience. In the interview, R3 portrayed the following situation: *"The most ordered items are snacks, beer and the forgotten garlic that was necessary for tonight's dinner, you know, that kinds of things, things that you forgot: oh crap, well, then I will just order it now, they will be there in 10 minutes. If I have to go myself, it costs me even more time."* (R3, personal communication). This description explains what one's reasoning or motive could be for using flash delivery.

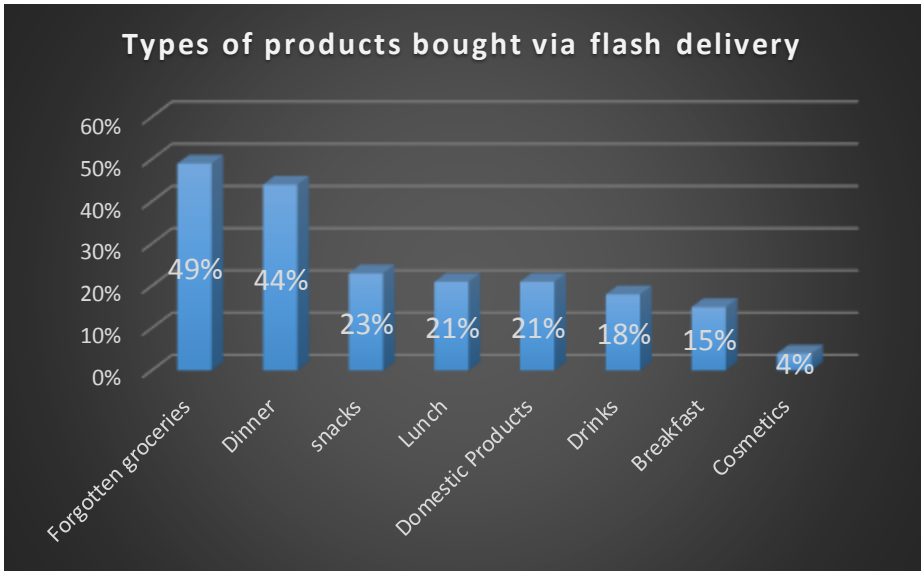


*Figure 11: Types of products bought via flash delivery. Adapted from (Petit & Hoogers, 2021).*

### *Instant Gratification Generation*

Multiple respondents (R1, 2, 4, 5 and 7) mentioned that the usage of flash delivery services is generationally bound. This implies that the usage of flash delivery services varies between different generations. As visualised in Figure 12, in December 2021, merely 2% of the people older than 55 had used flash delivery services (at least once), whereas 27% of the people from 18 to 34 years old had used it. E-commerce expert R2 mentions that flash delivery services serve the generation of people between 18 and 34 years old since they seek 'instant gratification': *"Okay, I want this, preferably as soon as possible, but actually right now, why does it need to take so long?"* (R2, personal communication). As mentioned before in the theoretical chapter, instant gratification can be seen as a characteristic of relatively young generations. One explanation for this variation between generations might arise from how 'structured' one's life is. According to R2, older people often live more organised and structured and therefore are less inclined to use flash delivery, which is considered to be more

impulsive (R2, personal communication). R5 explains that especially millennials (and generations thereafter) are indulged when it comes to instant gratification. These generations are accustomed to getting what they want, whenever they want, and this became the new standard. In the e-commerce sector, this resulted in augmented expectations when it comes to speed of delivery.

Jan-Willem confirms the assumption that the usage of flash delivery is generationally bound: *"Well, I noticed that it is primarily used by a younger generation, an instant generation of people that have little patience: I want it now!"* (R4, personal communication). In general, younger people tend to be more impulsive and less patient. Flash delivery services take advantage of this characteristic. Furthermore, younger generations are used to being instantly gratified. For example, within the last decade, several platforms related to music and media got developed that are constructed to serve a consumer immediately. If someone wants to listen to music directly, Spotify is there to fulfil your desires. A child wants to watch a movie instantaneous: Netflix will assist this craving. According to respondent 4, flash delivery is considered to be an extension of this development, but then in the supermarket industry.

However, whereas the previous paragraphs only discuss younger generations as users of flash delivery, R3 and R5 mention that this phenomenon might pass over to an older generation. In general, older people are less digitalised than the youth, which might explain why they use flash delivery less often. On the other hand, the elderly on the whole need to deal with health issues more frequently than younger people. For example, flash delivery services might be a solution for someone facing mobility problems. R3 illustrates that not solely elderly, but also vulnerable persons might be a target audience for flash delivery as well: *"Well, I can imagine that besides elderly, let's say vulnerable persons in society make use of these services as well. In this manner, they do not have to go to the supermarket. (…) for example mobility problems, health issues or anxiety for larges groups"* (R3, personal communication).

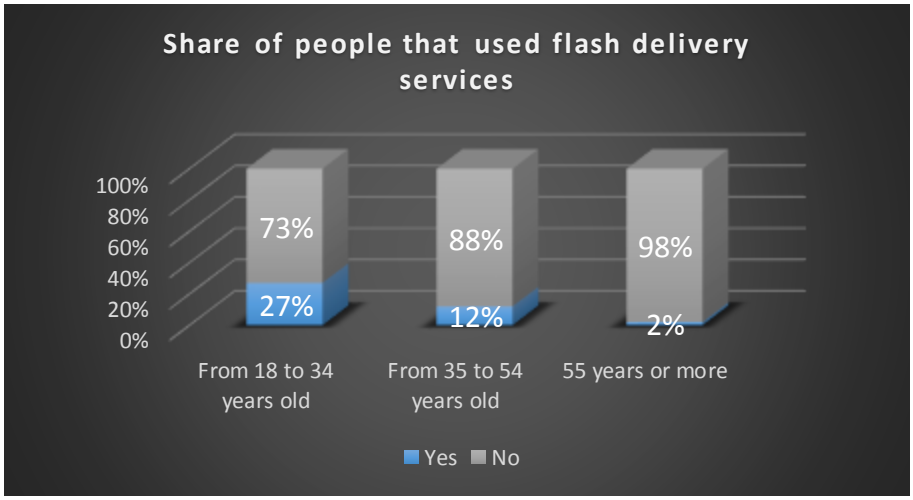


*Figure 12: Share of people that used flash delivery services.* Adapted from: (Petit & Hoogers, 2021).

### *'Dark stores'*

The delivery of packages, goods and other types of products is not something new. Companies and individuals trade goods and services via the internet for quite a long time. However, there is an important difference between e-commerce in general and flash delivery. Flash delivery services operate out of so-called dark stores. As stated by e-commerce expert Jan-Willem Roest, flash delivery services look different at the location of their stock and how to deal with it. Traditionally, the delivery of goods and products always took place out of a single, often remotely located warehouse or distribution centre, whereas flash delivery services operate out of decentralised, relatively small dark stores that are located close to the consumer (R4, personal communication).

Several respondents expressed their opinion about these decentralised, small distribution centres. Chief planner and urban geographer Jos Gadet, portrayed his first encounter with a dark store as follows: *"A colleague of mine showed me several sites where flash delivery services are located. I got confronted with some downsides of this concept immediately. The windows of the store were taped and there were a lot of bicycles. Especially in Amsterdam, a populous and dense seventeenth-century city, a service like this causes disturbance easily: there are many people and there is not much space*" (R1, personal communication). Dark stores earned their name as a consequence of the taped windows. According to R5, taped windows radiate an unpleasant sensation. The exterior of a dark store impairs the overall quality of a street scene. Dark stores do not possess a very positive reputation according to R5: *"These stores are very noticeable because everything is dark. It is a shame. Also when it comes to the liveability of a city. A city centre becomes less attractive. It is just not a pretty sight"* (R5, personal communication). However, several flash delivery services did improve the appearance of dark stores by cheering up the exterior.

Irrespective of the aesthetic features of a dark store, residents experience consequences too. On the grounds of conversations with local residents, the municipality of Utrecht noticed that dark stores inside their city centre yield frustration because of noise and disturbance (R6, personal communication). This point will be elaborated on in chapter 4.2.

### *The pandemic as a catalyst*

Another notable finding resulting from the interviews, is the influence of the COVID-19 pandemic. Especially the fact that the entire country was forced into a lockdown, boosted the development of flash delivery services. This is illustrated by the following part of a conversation with e-commerce expert Petra Lubbers:

> Interviewer: *"Did the COVD-19 pandemic affect the development of flash delivery services?"*
> R5: *"Yes, absolutely. Of course. People were forced to stay at home. They were not allowed to go to the supermarket or did not like to wear a face mask; so they simply*

*used flash delivery. In addition, flash delivery services provided major discounts: it was almost for free."*
Interviewer: *"Do you think that the rapid expansion of flash delivery would have been possible without the pandemic?"*
R5: *"No, not that quickly."*

Other experts (R2 and R4) confirm this statement. The lockdown has caused a deficiency in people's ability to do their everyday grocery shopping. Flash delivery services perfectly filled this gap by providing their specific service; delivering groceries to a customer's doorstep. R3 explains that during the COVID-19 pandemic, exceptional circumstances occurred. Therefore, new business models emerged that might not have been successful beforehand. When someone is not allowed to go to the supermarket, you need other ways to secure basic needs (R3, personal communication). Overall, the lockdown provided for an increase in delivery in general and it accelerated the development of flash delivery services.

### *Marketing strategies*

The following section concerns the far-reaching marketing efforts of flash delivery services. The personal experiences of some respondents made clear that marketing actions related to flash delivery are ubiquitous in the cities in which they are located. Firstly, their apparel is extraordinary, as explained by R2 (personal communication, 2022): *"They are very striking, they wear flashy, fluorescent jackets"*. Moreover, the fact that flash delivery couriers are noticeable, influences the perception of people. E-commerce expert R2 discusses a research conducted by his organisation that, in essence, states that people overestimate the number of couriers because of their striking appearance. In that way, public perception of a phenomenon like this does not always correspond with reality.

R4 and R5 explain that to conquer the market, awareness among potential customers is crucial. Therefore, to increase their visibility and publicity, flash delivery services invest an enormous amount of money in their marketing department. Their marketing strategy aims at relatively large cities since most of the people live there. According to Manuputty (2021), this paid off: flash delivery services accomplished to reach an awareness level of 80% among residents in the three biggest Dutch cities (Amsterdam, Rotterdam and The Hague) by November 2021. The out-of-home campaigns of Flash delivery services generated a completely renewed look on the streets. E-commerce expert R5 portrays her opinion about flash delivery-related marketing strategies: *"Their strategy is of course fantastic. They provide for so many marketing impressions: trams that are completely covered in the bright colours of Flink, a shopfront with an enormous advertisement, but in general, all out-of-homes campaigns, you just can't ignore it"* (R5, personal communication). Figure 13 displays a tram that is covered in the bright colours of the flash delivery service 'Flink'. Furthermore, flash delivery services deploy major discounts on their products. R4 explains that he utilised flash delivery services around 20 times, but he did not pay the full price for an order once. With

the help of discounts, these services endeavour to acquire new and maintain old customers (R4, personal communication)


*Figure 13: Tram covered in pink by Flink, Amsterdam. Retrieved from van Lier (2022).*

The fact that flash delivery services, within one year after their arrival, have had a major influence on street scenes in Dutch is respectable. However, this is only possible by employing the seemingly unlimited budget behind these services. R4 and R5 describe that venture capitalists invest large amounts of money to sustain this sector. At this moment, flash delivery is not a sustainable business model. According to NOS Nieuws, every order handled by flash delivery services yields a loss. Since this sector is not profitable currently, the question arises of why these services persist. R5 explains that investments that are made in this sector were not aimed at making a profit: at first, flash delivery services try to become the biggest and most significant in as many regions as possible (R5, personal communication). Moreover, to make a business in this sector profitable, flash delivery services need as many customers as possible. On the other hand, the fewer competitors there are, the better positioned a flash delivery service will be to dominate its market. E-commerce expert R4 explains that, once this market position is reached, flash delivery service-related business strategies are likely to change. Whereas at first, the main strategy was aimed at conquering the market and growth, services presumably shift their focus to profitability (R5, personal communication).

When we look at the future of flash delivery, experts explain that it is hard to tell if the branch persists. As explained in the previous paragraph, venture capitalists invest a large amount of money to sustain flash delivery services. Customers do not pay a fair price. R4 explains that in the end, the market space is too small for all currently active flash delivery services. The expectancy is, according to e-commerce experts R4 and R5, that only one or two flash delivery services will sustain. Furthermore, there is a challenge hanging above this market which has not been discussed yet. Out of the interview with R4, it turned out that the e-commerce sector in general might end up in a 'war on the riders'. Ensuring that a flash delivery service enlists enough couriers is going to be a tough challenge since delivery businesses are abundant currently. The demand for couriers has increased significantly during the pandemic,

so it is complicated for businesses to employ new riders. Therefore, as explained by R5, the war on the riders is considered to be a bottleneck for businesses. Currently, the growth of some e-commerce businesses is even limited due to the shortage of suitable riders.

## *4.2 Understanding the encountered friction: what is the spatial impact of flash delivery services on their direct environment according to Dutch municipalities?*

> *Impact: 'a powerful effect that something, especially something new, has on someone or something'* (Cambridge Academic Content Dictionary, 2022).

Although measuring impact brings on some limitations (it is impossible to chart impact entirely), this chapter endeavours to create an overview of the overall influence of flash delivery services and associated dark stores on their direct environment. This sub-question is constructed around the information gathered from four interviews with several Dutch municipalities. Moreover, the findings from the observation account for a significant part of this section.

### *Public nuisance*

One finding that emerged from every interview, is that flash delivery services generate (or have generated) public nuisance inside the four concerning municipalities (Amsterdam, Nijmegen, Utrecht and Tilburg). This section briefly discusses how each municipality, to a degree, experienced public nuisance. The following quote illustrates how the municipality of Nijmegen experienced the arrival of flash delivery services:

> *"So suddenly they arrived and they were up and running. Of course, that is possible, to start a shop you don't really need anything. But pretty quickly we were overwhelmed by the number of complaints. Complaints concerning noise, couriers hanging around at unconventional times, the continuance of numerous bike movements"* (R3, personal communication).

R3, policy advisor and account manager for the municipality of Nijmegen, explains that he and his colleagues were unpleasantly surprised when numerous complaints showed up after the appearance of flash delivery services in Nijmegen. According to R3, Nijmegen is accessible for every business model. However, flash delivery services operated at an interface. On the one hand, this is considered to be a service for customers living in Nijmegen, which is not wrong in essence. On the other hand, several occurrences related to flash delivery services are perceived as undesirable. Every week, the municipality of Nijmegen gets approached by inhabitants who indicate that they suffer from flash delivery services related activities (R3, personal communication).

In like manner, according to R1, the municipality of Amsterdam got confronted with issues related to public nuisance: "*Noise disturbance, disturbance in public space; this means that one can't make its way through, and especially noise disturbance during evenings. During the day, one notices less, because a lot is happening inside the city. But a lot of their activities take place in the evening, 10/11 o'clock, couriers waiting for their delivery, a lot of chatter, a lot of*

*noise disturbance, especially in residential streets*" (R1, personal communication). In addition, the municipality of Amsterdam received many complaints as well. R1 does not mention a precise amount but points out that it concerned large numbers.

Conversely, According to R7, the emergence of flash delivery service in Tilburg unfolded relatively calm initially. Until one flash delivery services settled in the city centre. The establishment of this flash delivery service caused a lot of problems and turmoil (R7, personal communication). Since then, the municipality of Tilburg received a lot of complaints related to public nuisance too. R7 gives the following description of a form of public nuisance related to flash delivery services: *"One problem is that couriers are hanging around outside, causing nuisance, turning on the radio, and look, if there is no waiting area for employees and no bicycle parking, then everything gets passed on to surrounding public space"* (R7, personal communication).

As a result of the interview with R6, it turned out that the municipality of Utrecht received 120 complaints. According to R6, there are *'undoubtedly'* more complaints since this solely concerns the official registered ones. The nature of these complaints is diverse. For example, the parking of bicycles and scooters on pavements is mentioned. The vast majority of the complaints came from residents living close to a dark store. Moreover, the driving behaviour of flash delivery service couriers is named. R6 explains that, according to several received complaints, couriers caused dangerous situations in traffic (R6, personal communication). This point will be discussed later on.

### *Influencing the streetscape*

E-commerce expert R4 explains that when a novel business model desires to grow and wants to increase popularity, visibility is crucial. Visibility refers to the ability of a brand or its products to be seen and recognized by consumers. Flash delivery services translated this into their strategy and reserved a huge budget for marketing campaigns. This is illustrated by the following quote: *"When you want to conquer the market, you need visibility. It's all about marketing, and then you designate large cities wherein you execute this. There is no other way to do this, and yes, this costs a lot of money"* (R4, personal communication). This quote implies that to increase visibility, flash delivery services designate relatively large cities to execute their business models. This observation is partly confirmed by taking a look at the delivery areas of flash delivery services. For example, flash delivery service Gorillas delivers in nine out of the ten largest Dutch cities (Gorillas, 2022). According to R5, the


*Observation photo 1: eye-catching outfits.*
*Source: Author.*

strategy of flash delivery services to use marketing to increase visibility, is succeeded. As someone who spent a lot of time inside these cities, she states that *"You just can't ignore it"* (R5, personal communication). In addition, as mentioned before in chapter 4.1, the couriers wear striking outfits. During the unstructured observation, it was noted that flash deliverers stand out, as visualised in Observation Photo 1. In doing so, flash delivery services influenced the streetscape significantly. This observation solely indicates the noticeability of flash delivery couriers, without expressing a value judgement. Of course, taste is subjective and it is up to the individual whether or not they like a certain type of outfit.

The next finding concerns the effect of flash delivery services on liveability. R3 states that, in some cases, the liveability of a city is affected by flash delivery services. One explanation for this is the negative appearance of dark stores. This decreases the overall quality of a streetscape in a specific area. For example, R3 illustrates that it is inappropriate when a dark store is located in a well-kept neighbourhood: *"This is, so to say, undesirable, you are located in a neat neighbourhood, and then there is a flash delivery service, well, so to say a remarkable bar, in which you need to look inside through dark curtains, and where people are rushing in and out; this looks crazy"* (R3, personal communication). The main argument here is twofold. Firstly, the number of traffic movements carried out by hurried couriers is not suitable in residential areas. Secondly, the dark and opaque appearance of dark stores does not contribute to a pleasant atmosphere. Observation Photo 2 displays a dark store.

*Observation photo 2: Dark store, Nijmegen. Source: Author.*

Furthermore, it not solely concerns the attractiveness or the aesthetic features of a streetscape. As mentioned by R7, the effect on the streetscape also contains a functional aspect. For example, in a shopping street, customers must be able to wander around various shops. This is explained by the following quote: *"Yes, but also functional. Look, the layout of a shopping street has to be functional, you want as many attractive and open front doors as possible, you want that a customer inside a shopping area is able to walk from door to door. And when these services are located there, and this is the same for estate agents who close the slats as well, you don't want that kind of activities in the core of your shopping area"* (R7, personal communication). However, as mentioned in the previous quote, this not solely concerns flash delivery services. R7 emphasises that other functions which are considered to be inappropriate in a shopping street should be criticised as well.

### *Influencing traffic*

As explained in the theoretical chapter, movements related to flash delivery services influence city traffic. Although this influence is relative, it is still a point of interest, as indicated during the interview with R6: *"It is clear that traffic is a prominent focal point. I don't know how many accidents, or nearly accidents, there has been. But, it is clear that they influence traffic"* (R6, personal communication). There is a combination of factors that increase the likelihood of dangerous traffic situations. While delivering groceries, couriers need to deal with certain time pressure, whereas they also need to focus on navigating to the customer's location. During the observation, an event along these lines took place. This is documented by a fieldnote, displayed in Fieldnote 1. This fieldnote was written immediately after the observation on a mobile phone. Although this might not be considered a significant occurrence, it does support the notion of Qin et al. (2021), in which it is stated that couriers sometimes show risky behaviour in traffic. Additionally, as reported by R3, increased time pressure can lead people to make traffic violations. The interviews revealed that municipalities receive numerous reports on couriers violating traffic regulations. Driving through a red light and over the sidewalk are examples retrieved from the interviews (personal communication).

Observation city centre Nijmegen
Fieldnote 01-11-2022

*While riding on a bicycle path in the city centre of Nijmegen, a courier is using his device. He seems distracted and notices very late that the traffic light has turned red. Then, when the light turns green, he is still looking at his device. As a result, fellow road users need to wait behind the courier. Courier impedes the flow of traffic. Nothing bad happened.*

*Fieldnote 1: City of Nijmegen. Source: Author.*

As stated in chapter 2.2 by Villa and Monzón (2021), flash delivery services increase pressure on urban infrastructures as a result of many (small) deliveries. However, the extent to which flash delivery services influence traffic is only relative. As explained by R4, people tend to overestimate the number of remarkable objects. On top of that, flash delivery services are frequently highlighted on the news pages and social media platforms. Therefore, the percentage of flash delivery couriers might be exaggerated by urban users. It is important to be aware of this bias. The overall pressure on traffic, as a result of flash delivery related activities, is still relative. Nevertheless, flash delivery influences urban movement and traffic users must abide by the traffic rules, which are designed to keep everyone safe and help ensure efficient movement.

## *4.3 What planning instrument is a preparatory resolution ('voorbereidingsbesluit') and why is it used by several Dutch municipalities?*

In response to the commotion revolving around the emergence of flash delivery services in Dutch cities, several municipalities deployed a 'voorbereidingsbesluit'. This planning instrument is loosely translated as a 'preparatory resolution'. A preparatory resolution is considered to be quite a drastic remedy and in this section, it is explained why municipalities deployed this instrument.

### 4.3.1 What planning instrument is a preparatory resolution?

In the article of Neuvel and Jaarsma (2015), the following description of a preparatory resolution is given: "*When the entitled authority decides to revise a zoning plan, the entitled authority can announce that it is going to deploy a preparatory resolution too. By deploying a preparatory resolution, the entitled authority can ensure that, on behalf of the zoning plan area, no permits can be granted temporarily, even if the request for a permit fits the current zoning plan. De resolution persists until the preparatory resolution expires"* (Neuvel & Jaarsma, 2015, p. 41). Furthermore, the article explains that this instrument is only temporarily valid. Normally this is only for one year. This is confirmed during the interview with R6, who states that a preparatory resolution implies that a municipality is able to freeze all incoming permits for one year. Thereby, a preparatory resolution enables a municipality to put a hold on an unwanted situation (R6, personal communication).

According to R6, senior policy advisor at the department of economy and space at the municipality of Utrecht, the argumentation behind a preparatory resolution entails that the municipality is developing a new framework inside the regarding zoning plan. Since flash delivery is a new phenomenon, a proper definition was absent: this requested adjustments. As illustrated by R7, it is important to mention that when a preparatory resolution is used, the regarding activities do not stop: *"It is not a stop, it is a pause*" (R7, personal communication). Consequently, existing flash delivery services and dark stores were able to continue their activities, whereas new establishments got prohibited.

According to R3 and R6, the deployment of a preparatory resolution is a time-consuming process. R3 explains that, because of this protracted process, flash delivery services were able to settle themselves down in almost every large city in the Netherlands, before municipalities were able to regulate this growth (R3, personal communication). In the Netherlands, official procedures are executed thoroughly. As a consequence, these processes often take a lot of time: *"Yes, we have a set of instruments, but the official mill rotates carefully, but slowly"* (R3, personal communication). For example, as described by R6, the municipality of Utrecht deployed a preparatory resolution in February 2022. Thereafter, the municipality set up a draft zoning plan that incorporated the adjusted framework which took the activities of flash delivery services into account. Thereupon, flash delivery services (and everybody else that

wanted to) got the opportunity to hand over their outlook. In this case, all concerning flash delivery services handed in their outlook regarding the adjustments made inside the novel zoning plan. Their outlook is presented to the commission, which in turn needs to examine and assess the presented outlook. If everything is evaluated as sufficient, the municipality can determine the draft zoning plan. However, involved parties still have the opportunity to appeal. If this is the case, the whole process needs to be repeated. The concerning zoning plan might need reparation or improvement. Another possibility is that it has to be completely revised. Therefore, in the best-case scenario, a modification inside a zoning plan is realised within one and a half years.

### 4.3.2 Why did several Dutch municipalities deploy this instrument?

As discussed in the introductory chapter, several Dutch municipalities deployed the preparatory resolution. Throughout this research, four distinct municipalities have been interviewed. Three out of four municipalities deployed this planning instrument and in this section, the reasoning behind their decisions is discussed. In the first place, Utrecht decided to deploy a preparatory resolution in February 2022. The following conversation with R6 explains why the municipality of Utrecht initiated the preparatory resolution (R6, personal communication):

> Interviewer: *"And if we go back to February when the preparatory resolution was initiated, what was the reason for this?"*
> R6: *"The number of complaints: around 120 complaints were submitted. From the start until now. That concerns officially registered complaints at the municipality. Undoubtedly, there are more complaints, uhm, it was apparent that the situation was problematic so, obviously, an intervention was needed. Regulation was necessary and desirable."*
> Interviewer: *"Yes, and were these primarily complaints of local residents? Or did you see complaints coming from elsewhere in the city"*
> R6: *"These complaints were very diverse. The majority was, of course, from residents located close to the flash delivery services. Because they experience noise disturbance, disturbance of the loading and unloading, the number of bicycles and scooters that pass by. But additionally, the parking of bicycles and scooters on pavements was problematic as well. Yes, that provided for a diverse portrait. Moreover, general complaints of people that were hit by couriers, or, yeah, people that saw flash delivery couriers drive through a red light. Those complaints took place further away from the locations."*

Taking this section out of the interview into account, R6 notices that the municipality of Utrecht felt compelled to intervene after receiving a large number of complaints.

This argument applies to the municipality of Tilburg as well. R7 explains that the executive council steered on the deployment of a preparatory resolution after the negative publicity around flash delivery services inside the city centre. Neighbours and other residents approached the executive council and pointed out that they experienced undesirable activities. Therefore, in order to slow down the growth of flash delivery services, this planning instrument was utilized. In the meantime, a similar process was taking place as in Utrecht. This entails the adjustment of a comprehensive definition of 'retail' inside current zoning plans (R7, personal communication).

Conversely, as discussed with R3, the municipality of Nijmegen decided not to deploy a preparatory resolution. As an authority, the municipality of Nijmegen was surprised by the quick emergence of flash delivery services. More importantly, R3 explains that Nijmegen is in the middle of an enforcement process. Throughout this process, the activities of flash delivery services are monitored. If there are any contraventions, these services will be fined. Nevertheless, R3 clarifies that it is uncertain whether the municipality of Nijmegen still will deploy a preparator resolution. The main reason for this corresponds with the reasoning of R6 and R7, which is illustrated by the following quote: *"every week, residents approach us, like uhm, we suffer hereof, do something about it"* (R3, personal communication). In this case, too, it appears that complaining residents are a relevant rationale behind the deployment of a preparatory resolution.

## *4.4 Solving the location issue: which location characteristics are considered to be the most suitable for flash delivery services and their dark stores*

That a proper location choice is important, appeared out of the theoretical chapter. However, when it comes to the location of flash delivery services, one could distinguish between the most suitable location for these businesses themselves or for the municipality they are located in. This section deals with both questions. Firstly, the location choice of flash delivery services is addressed. Secondly, the perspective of the concerning municipalities is discussed.

### *Business strategy perspective*

To start with, the most important location feature from the perspective of flash delivery services, is proximity to the customer. In order to fulfil the promise of quick delivery, it is crucial to locate delivery hubs (or dark stores) close to potential customers. R2 confirms this: *"They are located in districts, and when we take a look at Nijmegen, your example of a catchment area, nearby the city centre, these hubs are extremely important to achieve the goal of fast delivery"* (R2, personal communication). R6 shares this assumption and explains that, from a business strategy perspective, flash delivery services *'preferably locate themselves in central places, close to their market'* (R6, personal communication). Considering the location of flash delivery services inside the city of Nijmegen, these statements are confirmed. As visualised in Figure 14, two out of three flash delivery services are located inside the city centre. Only the establishment of Gorillas is located outside the city centre, but according to Google Maps (2022), the distance is just 850 meters.

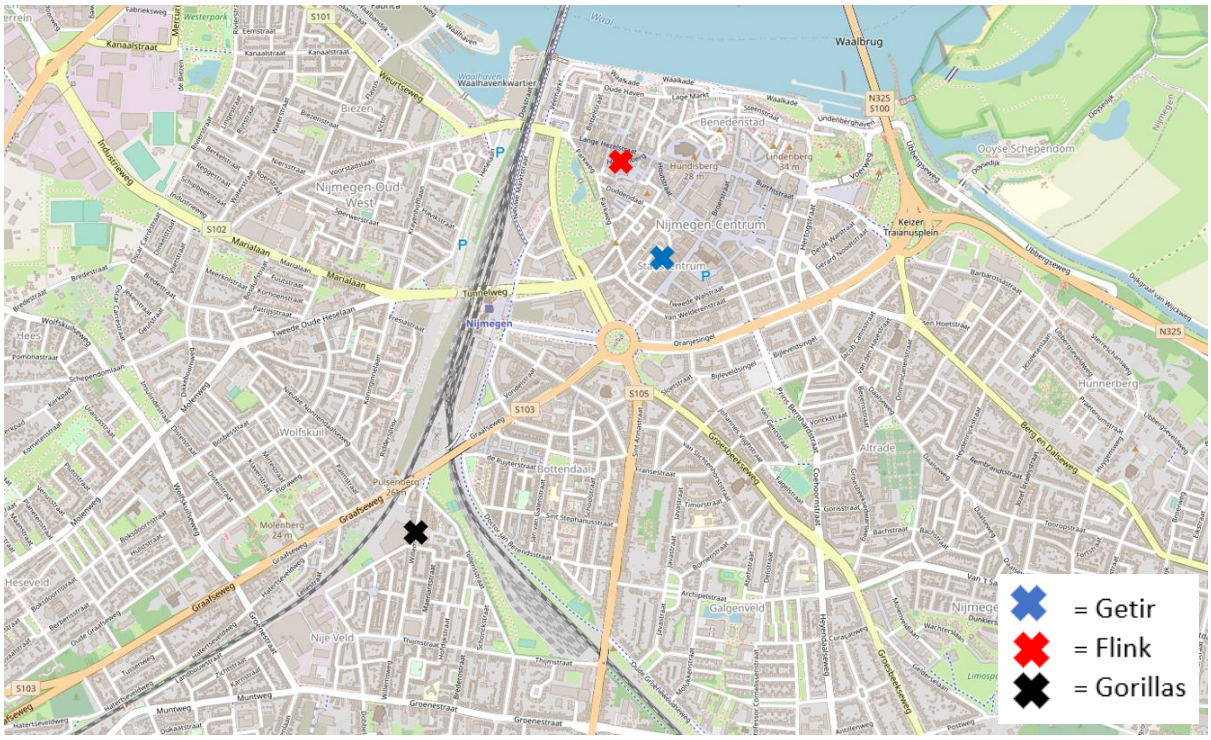


*Figure 14: Location of flash delivery services in Nijmegen.*

Additionally, R1 and R3 state that the location strategy of flash delivery services is aimed at densely populated areas, which is illustrated by the following quote: *"They (flash delivery services) are located in parts of the city that have a high population density, of course for the reason that they have a lot of people there, which makes it easier to reach proper business results"* (R1, personal communication). According to the key figures of the 'Centraal Bureau Voor de Statistiek (CBS)', an organisation that collects data on dutch society, this statement is valid regarding the city of Nijmegen. Figure 15 displays the population density of districts in Nijmegen (CBS, 2021). When a comparison between the location of flash delivery services and the population density inside that district is made, one finding is notable. Two establishments are located in districts that are coloured in dark red: these are the most densely populated districts of Nijmegen. One establishment, again the one of Gorillas, is located inside an area that is considered as second most densely populated. When a district or neighbourhood is regarded as dense and intricate, the pressure on space increases. On top of that, flash delivery services produce a relatively large number of traffic movements. Therefore, the location strategy of flash delivery services to locate themselves as close as possible to customers in a densely populated district, generated turmoil in the city of Nijmegen. According to R3, the location of Gorillas which is located outside the city centre, generated less turmoil than the other two locations (R3, personal communication). During the unstructured observation, this location was visited. During that observation, the following fieldnote was documented, which supports the assertion of R3.

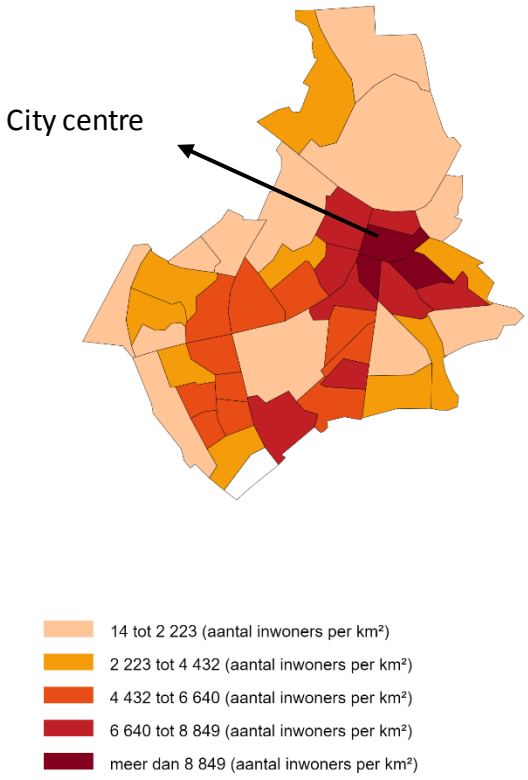


*Figure 15: Population density districts of Nijmegen. Source: CBS (2021)*

Observation Flash Delivery Nijmegen
Fieldnote 01-11-2022

- *Busy access roads: many people, a lot of traffic, many different sounds*
- *Couriers blend in with traffic, since this road is very active and bustling, flash delivery service does not stand out*
- *Couriers return quickly: fast delivery*
- *If everyone obeys the traffic rules, no dangerous situations*

*Fieldnote 2: Observation Nijmegen Willemsweg. Source: Author.*

Furthermore, according to e-commerce expert R2, an entrepreneur must be well aware of the surrounding area of a certain business location. When a business model settles itself

down, the executive is responsible for a proper adaptation to the environment. This is illustrated by the following quote: *"Irrespective of the legislative destination of a certain dark store, if that fits correctly, an entrepreneur and its enterprise simply need to adjust to the environment in which they are operating. That is a fundamental entrepreneurship guideline: you should always be aware of your surroundings, and if this encompasses an area with many residents, enterprises should adapt to this"* (R2, personal communication). Moreover, this statement implies that it does not solely concern whether an enterprise is allowed to locate in a certain location according to a zoning plan. Thus, even if a certain business model is lawfully applicable, as defined in a zoning plan, an entrepreneur is considered to behave appropriately towards the surrounding area. In order to form a sustainable relationship with the concerning environment, adjustment is an important strategy considering the business perspective of flash delivery services.

### *Authority perspective*

Considering the perspective of Dutch municipalities, one crucial notion retrieved from the interviews is that city interests and everyday urban life shall not be harmed as a result of business-related activities. The following quote illustrates this notion: *"When we discuss location features, flash delivery services need to substantiate that their dark stores do not hamper the surrounding area. They need to assure that their activities are environmentally sound. Additionally, when it comes to traffic engineering, they need to assure that they do not generate problems during the process of loading and unloading. Traffic flows shall not be impaired"* (R6, personal communication). Therefore, flash delivery services are preferably not located in the middle of a city centre. According to R7, the hustle and bustle of a city centre make it an inappropriate place for services like this. Especially when it comes to shopping streets. In an urban centre, space is limited. Therefore, an inner-city shopping street is not the most suitable location. However, a city centre should be vibrant and dynamic; a location on the edge of a city centre might be appropriate. Every individual case deserves appropriate consideration (R7, personal communication). For example, an establishment located on a busy access road seems to be appropriate. People living on active, busy roads are accustomed to the noise. Additionally, the process of loading and unloading can be executed relatively easy on access roads in contrast to inner-city shopping streets. This is explained by the following quote: *"Because it is a relatively big access road, where a lot of traffic passes by. As a result, flash delivery couriers, driving that road on their bikes or scooters, yield relatively less hindrance"* (R6, personal communication).

The next finding retrieved from the interviews, revolves around residential areas. According to R3, areas that are intended for residential purposes, are not appropriate for flash delivery services. The number of notifications and complaints from nearby residents has shown that flash delivery related activities cause too much nuisance for areas that are normally characterized as quiet (R3, personal communication). The following part of a conversation illustrates this:

Interviewer: *"Are there any suitable locations imaginable for dark stores?"*
R3: *"Yes, yes, I think it is fine to see them at a kind of industrial-like site, or on the edge of a business park. In any case, not in a residential area."*
Interviewer: *"So, it is important that there don't reside people alongside?"*
R3: *"Yes, not residing, that is important."*

This notion is shared by R1 and R6, who also state that residents suffer from flash delivery related activities, executed in their residential areas. R6 describes that the municipality of Utrecht hosted a council information session with flash delivery services as the main subject. During this session, several stakeholders got invited to express their points of view on the situation in Utrecht. By virtue of this session and previous conversations, R6 points out that residents are *'annoyed and tormented'* by flash delivery services related activities (R6, personal communication). The municipality of Utrecht experienced that there is a 'field of tension' between the direct neighbourhood and various forms of nuisance and inconvenience. Therefore, a residential area is not considered as the most suitable location for a dark store. However, flash delivery as a service has a lot of consumers, who enjoy utilising this novel business model. The ones that use this service happily deserve a voice too. Nevertheless, according to R6: *"the annoyance and frustration outweigh the pleasure of existing customers"* (R6, personal communication). Therefore, several Dutch municipalities chose to set up and adapt regulations related to flash delivery.

A location that is considered to be more appropriate, as stated by R3, R6 and R7, is a business park or industrial area. In an area like this, there are simply fewer people to burden with nuisance. Moreover, as mentioned by R3, properties are cheaper at industrial sites: *"Because, a property, located at the edge of a city or on an industrial site, is much cheaper than an expensive property located in the core of your centre"* (R3, personal communication). However, flash delivery services pursue quick delivery, which is not always achievable when they are located at an industrial site. The average distance to a customer grows significantly relative to a more centralised location. Therefore, it is important to mention that this is not the only suitable location for flash delivery services.

Based on the above-addressed information, and information retrieved from the theoretical framework, Figure 16 is compiled. This figure displays location characteristics that are desirable for both the commercial interests of flash delivery services and the interests of Dutch municipalities. A cross means that it concerns the interests of municipalities or flash delivery services (or both).

| Location Features | Municipalities | Flash delivery services |
|---|---|---|
| Feasibility zoning plans | X | |
| Appropriate opening hours | X | |
| Absence of noise pollution | X | |
| Attractive appearance | X | |
| Not in a pedestrian zone | X | |
| Traffic safety | X | X |
| Close to the customer | | X |
| Appropriate size | | X |
| Densely populated area | | X |
| Adequate infrastructure for Quick delivery | | X |

*Figure 16: Location features*

As discussed in the theoretical chapter, Dutch zoning plans consist of various zoning forms. All zoning forms have specific characteristics and features. Some of these forms are visualised in Figure 17. Based on the information retrieved from the interviews and the literature study, Figure 17 is constructed. The symbols indicate the degree of suitability of a certain zoning plan. However, as described in the theoretical chapter, distinct zoning forms are combined and mixed in practice. A specific location might demand a combination of several zoning forms.

| Zoning | Suitability |
|---|---|
| Residential | ✗ |
| Retail | + |
| Industrial/Commercial | ✓ |
| Office | ✓ |
| Catering | + |
| Agricultural | ✗ |

*Figure 17: Zoning forms and suitability degree*

When finding the most suitable location for a flash delivery service, it is crucial to understand and take into account all specific location features. This is illustrated by the following quote:

*"It concerns the entire composition of functions. Thus, you need to think about traffic, about the residential zoning form, afterwards, take the design of public space into account, the width of the road, the sidewalk, the cycling paths"* (R6, personal communication). Therefore, it is important to combine both Figures 16 and 17. Additionally, Figure 6 is regarded as a supplement to these figures. Thus, one should take all relevant variables and characteristics of a specific location into consideration when finding a suitable location.

# 5. Conclusion

This research sought to unravel the encountered friction in Dutch urban areas, as a result of flash delivery service related activities, by examining the spatial impact of these activities and discovering which location characteristics are the most suitable for the establishment of associated dark stores. To investigate this two folded objective, a case study design was selected. Inside this conclusive chapter, the following main question needs to be answered:

> *'What is the impact of flash delivery services and their 'dark stores' on an urban environment and how could a proper location choice reduce the encountered friction?'*

In order to do so, three research methods were utilised, which together completed the process of triangulation (figure 8). The data gathered from semi-structured interviews with e-commerce experts reinforced the information drawn from the literature research. In further interviews, four representatives of Dutch municipalities were asked about their experiences with flash delivery services. Lastly, an unstructured observation took place in order to observe the phenomenon in a real-life context. To provide structure, this conclusion is constructed around the sequence of the four sub-questions.

1. *Defining, characterising and understanding the overarching concept: what is 'flash delivery'?*

To start with, the rise of flash delivery services occurred exceptionally fast. Within a year, these services settled down in almost all large cities in the Netherlands. In essence, flash delivery is considered as a quick form of grocery delivery, ordered online and delivered to a customer's doorstep, whereby the goods are delivered out of decentralised dark stores (Huang & Yen, 2021). This service originated out of previous forms of e-commerce (Figure 2) and consists of a set of distinct features and characteristics. For instance, e-commerce expert Martijn Hos explained that this service is utterly data-driven. Furthermore, flash delivery services deliver their goods on two-wheeled vehicles. Moreover, the semi-structured interviews revealed that, to an extent, flash delivery is generationally bound: younger generations use flash delivery services more often. A rationale behind this notion is the concept of *instant gratification* which is described in back chapter 2.4: *'Yes, I want it now!'*. According to R4, younger people in general are less patient and more impulsive. Additionally, this generation is used to being instantly gratified. The article of Stokx, Schepers, and Jeekel (2022) explains that instant gratification usually does not fuse with sustainability; putting this generation to an interesting test.

2. *Understanding the encountered friction: what is the spatial impact of flash delivery services on their direct environment according to Dutch municipalities?*

As stated by Villa and Monzón (2021), flash delivery inside an urban environment brings about a diversity of difficulties. Since this type of e-commerce deals with low inventory levels, the resupply frequency of dark stores is relatively high. Additionally, delivering small quantities to many delivery addresses means a considerable growth in traffic movements. Therefore,

flash delivery services influence urban traffic. Moreover, a finding retrieved from every interview with Dutch municipalities, is the generation of public nuisance as a result of flash delivery related activities. The most frequently mentioned form of nuisance, concerns noise pollution. R3 explains that business activities are transmitted to the adjoining public space. For example, *'one problem is that couriers hang outside, waiting for a delivery, causing nuisance'*. As a result, all concerning municipalities received numerous complaints regarding flash delivery services. Furthermore, flash delivery services influence the streetscape through their out-of-home marketing campaigns and striking outfits: *'you just can't ignore it*'. One could argue that the overall impact of flash delivery services is far-reaching. However, as explained by R2, people tend to overestimate noticeable objects. This bias might exaggerate the absolute impact of flash delivery services.

3. *What planning instrument is a preparatory resolution ('voorbereidingsbesluit') and why is it used by several Dutch municipalities?*

As a consequence of all the turmoil, Dutch municipalities deployed a planning instrument which is referred to as a 'preparatory resolution'. According to Laar (2021), this instrument enables a municipality to stop undesirable developments by declaring that the concerning zoning plan is 'under preparation'. During this process, which normally takes about one year, the municipality can adjust the zoning plan. Since this is a brake, not a stop, already active flash delivery services could proceed with their activities. Moreover, according to R3, the Dutch *'official mill rotates carefully, but slowly';* therefore, regulative processes are often time-consuming. In the meantime, flash delivery services conquered the Dutch market by expanding exponentially. However, this fast-paced growth hampered everyday urban life and the residents of our cities extensively alarmed their authorities. In turn, these authorities saw no other solution than deploying a preparatory resolution.

4. *Solving the location issue: which location characteristics are considered to be the most suitable for flash delivery services and their dark stores?*

The last sub-question tried to find out which characteristics belong to the most suitable location for a dark store. Section 2.5 (location theory) showed the importance of a proper location choice. From a business strategy perspective, *'it is all about being quick and regional'* (chapter 2.2). Therefore, the location of a dark store, preferably, is centrally located, as close to the customer as possible. However, oftentimes, inner cities are already bustling places with little space. Therefore, a location in the middle of a city centre is not appropriate. Especially shopping streets should be avoided: the visitor experience shall not be impaired. Secondly, residential areas are not appropriate for locating dark stores. The interviews revealed that many residents experienced inconvenience as a result of activities around dark stores. Conversely, a location on a relatively busy access road seems to appropriate. The observation showed that, on a busy road, flash delivery couriers blend in with other city and traffic users (see Fieldnote 2). Furthermore, industrial sites and business parks are considered suitable locations too. In these areas, fewer inhabitants suffer from disturbance. Figure 16 and 17 sum up the location features, zoning forms and to which degree they are considered advisable. To

conclude, as stated by R6, all specific location features should be taken into account when determining a location choice: *'It concerns the entire composition of functions'.*

### *Concluding remarks*

The impact of flash delivery services on Dutch urban areas is far-reaching. This novel branch with striking features emerged extremely fast, which caused a shock in Dutch cities. Local residents and municipalities were not prepared for the consequences. In the end, a proper location choice mitigates the encountered friction. If the negative excesses are brought down to a minimum, the negative sentiment around flash delivery might fade away. However, *'when people want this much convenience, there is always a price to pay'*. For these services, it is crucial to harmonize between societal acceptance on the one hand and commercial interests on the other. While investigating this phenomenon, it became clear that there are many different perspectives to approach and value this service. For some, delivering groceries to your doorstep is part of the *urban utopia.* However, as observed by Michel Foucault, *'there is no utopia without a dystopia'* (Ernste, 2022).

# 6. Recommendations

## 6.1 Recommendations for praxis

This chapter discusses some recommendations about the overarching topic of flash delivery. These recommendations are based on the results and findings of this research and can be considered as solutions for the encountered friction (as described in the introductory chapter). Moreover, this chapter discusses recommendations for further research regarding the topic of flash delivery.

The first recommendation is coined by R3, policy advisor and account manager at the municipality of Nijmegen. During this interview, it turned out that approachability is essential for the municipality of Nijmegen. This is explained by the following quotation: *"So, approachability is crucial, get into conversation with each other, find a suitable location for this phenomenon together, without causing nuisance"* (R3, personal communication). Besides approachability, 'keep the conversation going' seems to be an important adage. If all concerned stakeholders reveal their expectations and needs, the ongoing friction might be mitigated. This notion is confirmed by R1, as illustrated by the following quote: *"It is crucial to keep the conversation going and one should proceed with confronting flash delivery services. That those negative excesses are the biggest problem and not the service itself. The service itself is fine. The municipality should communicate about those negative excesses"* (R1, personal communication). Thus, this recommendation applies to both sides: both the flash delivery services and the concerning municipalities should speak up and get in touch with each other. Furthermore, when finding the most suitable location for a dark store, cooperation between the two stakeholders is encouraged: the location features in Figures 16 and 17 have two-pronged interests. However, when talking about cooperation, transparency from both sides is crucial as well. As discussed in the introduction, flash delivery services are regularly reproached for a lack of transparency. Thus, increasing transparency is considered one of the recommendations.

The following recommendation indicates that every case requires a customised approach. The results from one municipality or city are not necessarily representative of others. For example, Amsterdam is a relatively old city with a historical centre, full of narrow streets. In addition, the population density of Amsterdam is high. These characteristics make Amsterdam especially sensitive to the side effects of flash delivery: *"Amsterdam is, so to say, a 17$^{th}$-century city with very little space, so one notices directly, it immediately causes nuisance"* (R1, personal communication). Therefore, Amsterdam needs a customised approach when it comes to finding the most suitable location for dark stores. On the other hand, the interview with R7 revealed (some colleagues informed him) that the municipality of Zwolle experienced few problems related to the emergence of flash delivery services. Zwolle is relatively small, and even if a dark store is located at an industrial site, the promise

of delivering groceries within minutes is still feasible. R6 acknowledges that customisation is important when assessing a certain flash delivery services location: *"(…)in particular, it is crucial to understand the environmental conditions, these simply differ at each location and between concepts, and this requires a customised approach"* (R6, personal communication). Cities have a lot of different features and characteristics, which makes them unique and special.

Building on the previous recommendation, this section discusses the importance of constructing a clear vision. Since there are many types of cities with all unique features and components, the diversity between each case could be considerable. Therefore, municipalities should construct a specific and distinct vision on which locations they consider appropriate. R6 underlines the importance of a clear vision: *"In particular, what I consider as important, is having your own vision. Instead of saying: figure it out yourself, we will let you know how we assess it afterwards"* (R6, personal communication). With a clear vision, one can decide whether a location choice is desirable beforehand. In addition, developing a clear vision helps flash delivery services too. If they are aware of some locational preferences from the authoritative perspective, location strategies from a business perspective can be adjusted.

The following recommendation discusses the velocity of authoritative processes. When a phenomenon like flash delivery enters society, and it turns out that the consequences are far-reaching, it would be pleasant if the concerned authorities are able to act quickly. Back in paragraphs 2.4 and 4.3.1, several Dutch policy instruments are discussed. Moreover, in these paragraphs, it is discussed that authoritative decision-making in the Netherlands is a thorough but slow process. Nevertheless, the fast-paced development of flash delivery services showed that quick intervention is desirable. Although this recommendation might be hard to achieve as a consequence of the relatively high bureaucratic level of the Netherlands, increased speed in authoritative acting would help regulate novel developments. Early and anticipatory regulation might prevent future obstacles.

At last, this recommendation section ends by encouraging flash delivery services to keep searching for methods that contribute to the vitality of cities and society as a whole. Try to find a balance between profitability on the one hand and societal acceptance on the other. Since they are considered frequent and intensive users of a city, the city might expect something in return.

## 6.2 Recommendations for further research

Besides recommendations for praxis, this chapter discusses some recommendations for further research. To start with, this research is qualitative in nature. Further research regarding this topic could utilise a quantitative research design with quantitative research methods. Throughout this thesis, the impact of flash delivery services inside an urban context

is solely displayed by words and expressions. Investigating the numerical impact of flash delivery might reveal other insights. As discussed in the last section of chapter 2.2, one could speak of a certain bias which leads to the overestimation of flash delivery service couriers inside an urban environment. However, besides noticing this bias, this is not further investigated. For sequential research, it might be worthwhile to study this bias and validate the statement that suggests the overestimation of couriers.

Furthermore, throughout this thesis, just a limited amount of cities in the Netherlands, with active flash delivery services of course, were observed. Further research could select a different set of cities or might focus on just one. Moreover, the geographic scope of this research is aimed at the Netherlands, whereas flash delivery occurs in many other countries around the planet. Every country has specific characteristics and features which might yield different research outcomes. For example, figure 6 describes several location features that differ between countries. Therefore, finding a suitable location for dark stores might vary between countries, which is interesting for further research.

# 7. Critical Reflection

Irrespective of the worthwhile results and findings this research yielded, some shortcomings request further explanation and discussion. Without implying that the research as a whole is deteriorated by these shortcomings, it is important to mention them. Moreover, taking these deficiencies into account might enhance future research regarding this topic.

To start with, the initial goal was to get in touch with flash delivery services themselves. While searching for the most suitable location for flash delivery services, the goal was to include the location strategies of flash delivery services as well. As if right now, solely Dutch municipalities expressed themselves during the interviews. Unfortunately, I did not succeed to get in touch with staff members of flash delivery services, despite numerous attempts. As a consequence, this thesis needed some adjustments. For example, it was necessary to reformulate one of the sub-questions. Furthermore, in order to investigate the phenomenon in question as completely as possible, which is desired in case study research, it would have been more appropriate if flash delivery services had a voice too. Their perspective is completely absent, which is unfortunate. A different point of view might have brought considerable changes in the outcomes of the research. However, I put a lot of effort into trying to get in touch with flash delivery services, and the fact that I did not succeed might indicate a lack of transparency.

Secondly, in the flash delivery sector, there were a lot of developments that took place extremely fast and quickly after each other. Within a short period of time, a situation could have changed entirely. In addition, as highlighted earlier, this topic was very popular on Dutch social media platforms and news organizations. Therefore, it was almost impossible to keep track of all occurrences. As a result, some parts of this research are already outdated. For instance, the interviews were conducted in March and April, whereas by now, some flash delivery services already left certain cities. Moreover, in May, flash delivery services set up certain rules of conduct. These might have changed the behaviour of deliverers and the appearance of dark stores. As a result of these alterations, repetition of this research might yield different outcomes and findings.

Looking back at the methodological choices made throughout this research, one could suppose that the addition of some quantitative data collection methods might have added interesting insights. Some aspects of flash delivery are investigated and presented preferably by digits and quantitative data. In that regard, a mixed methods research design might be more appropriate for further research. Moreover, within this research, I interviewed solely four different municipalities. A broader selection could have added different points of view. The same applies to the number of experts that have been consulted. The question raises whether this research is representative of the rest of the municipalities in the Netherlands. However, due to the time limitations of this study, it was difficult to interview more people.

The last point of this reflection concerns a language barrier. Throughout this research, several Dutch policy concepts are brought up. There are a few concepts that are typically Dutch and only occur in the Netherlands. Sometimes, the exact translation is not as sufficient as I would like, simply because there is no literal translation. However, I tried to explain these concepts thoroughly, so that the reader still was able to comprehend them. Moreover, the mother tongue of myself, the author, is Dutch, whereas this thesis is written in English. Throughout the research process, I experienced that it was harder for me to write in English instead of Dutch. For this reason, it often took more time to write things down than expected beforehand.

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# 8. Appendix

## 8.1 Research plan

This research plan was written beforehand.

**Internship: how is your research related to the internship organisation?**

Firstly, the issue concerned is originated and offered by Stec Groep. While finding an internship organisation, I decided to be flexible, thus I did not develop or work out a definite topic and research plan. During the application procedure, my supervisor and I discussed the issue of flash delivery in Dutch cities. This is described as a topical issue, influencing everyday city life. Moreover, the topic is regarded as relevant for both the organisation of Stec Groep as well as me, a master's student. Currently, the legislation on flash delivery services falls behind: the services are considered retail, which makes it hard for municipalities to regulate them. The organisation Stec Groep is interested in the outcomes of this research since they might serve a mediating role between the delivery services and the municipality. As a consulting firm, Stec Groep might inform both parties with relevant information. When there is a conflict of interests, Stec Groep might contribute to a solution regarding this conflict, using the results of this research. In particular, the location issue addressed in this research helps to designate the most suitable location for flash delivery services. It is crucial to keep in touch with all involved actors; there are many different interests related to this issue and therefore many different objectives. Furthermore, an important aspect to bear in mind is to be unbiased while conducting this research. When an opinion is formed beforehand, it is impossible to construct a thesis properly.