A SEARCH FOR RESPONSIBILITY IN ALGORITHMIC MANAGEMENT ON FOOD-DELIVERY PLATFORMS

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ABSTRACT

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Abstract
This master's thesis studies the experiences of the management, developers, and couriers about Wolt Enterprises' algorithmic management system to understand what kind of issues regarding responsibility are raised. The research is part of algorithmic management research, and the topic is approached through discussing artificial intelligence and algorithms. Algorithmic management is understood as a sociotechnical concept referring to the changing relationship between workers and a machine (Jarrahi et al. 2021, 4). The discussion is narrowed down to platform economy and food-delivery companies. Responsible algorithmic management is discussed through ethics, responsible management, and ethics of artificial intelligence. It is defined as considering the legal, social morality and individual level of ethical decision making (Tasioulas 2019, 53) and managing workers in a way that is ethical towards human workers. There are many issues related to responsibility, which are mentioned in the literature as grievances and should be taken seriously by companies operating in platform economy.

The data of the research was collected through semi-structured interviews with 10 interviewees that were part of the management and courier partners at Wolt. Content analysis was used to analyze the data.

The research reveals that the interviewees experience the use of algorithmic management system mainly positively and couriers' grievances concern the bundle task and task reassignment and the instability of the application which could also be considered as responsibility-related issues. Couriers experience positively the support service offered by Wolt. However, the management denies the use of term algorithmic management in Wolt's context. This study contributes to the previous research by increasing understanding about the algorithmic management system in practice. Responsibility issues raised by the literature seem to contradict the experience of Wolt couriers in relation to freedom they experience through entrepreneurship and the support and income they receive from the company.

Key words
artificial intelligence, algorithms, algorithmic management, platform economy, food-delivery, ethics, responsibility, responsible algorithmic management, couriers

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TIIVISTELMÄ (ABSTRACT IN FINNISH)

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Tiivistelmä – Abstract

Tässä pro gradu työssä tutkitaan kokemuksia Wolt Enterprises Oy:n algoritmijohtamisjärjestelmästä, jotta voidaan ymmärtää, että millaisia vastuullisuuteen liittyviä haasteita siihen sisältyy. Tutkimus on osa algoritmijohtamisen tutkimusta ja aihetta lähestytään tekoälyn ja algoritmien kautta. Algoritmijohtamisella tarkoitetaan sosioteknistä käsitettä, joka viittaa ihmisten ja tietokoneen muuttuvaan suhteeseen organisaatiossa (Jarrahi et al. 2021, 4). Keskustelu on rajattu algoritmijohtamiseen alustatalouden ruuankuljetusyrityksissä. Vastuullista algoritmijohtamista lähestytään etiikan, vastuullisen johtamisen ja tekoälyn etiikan käsittelyn kautta. Se määritellään ottamalla huomioon päätöksenteon lainsäädännöllinen, sosiaalimoraalinen ja henkilökohtainen taso (Tasioulas 2019, 53) ja että ihmisiä johdetaan tavalla, joka on eettisesti kestävää johdettavia kohtaan. Kirjallisuudessa mainitaan monia vastuullisuuteen liittyviä haasteita, jotka alustataloudessa toimivien yritysten tulisi ottaa vakavasti.

Tutkimuksen aineisto on kerätty 10 puolistrukturoidun haastattelun avulla Woltin johdon ja lähettikumppaneiden kanssa. Sisällönanalyysia käytettiin aineiston analysoimiseen.

Tutkimus osoittaa, että haastatellut kokevat algoritmijohtamisjärjestelmän käytön pääasiassa positiivisesti ja että lähetit näkevät epäkohdiksi useamman kuljetuksen yhdistämisen ja siihen liittyvä tehtävien uudelleenallokoinnin sekä applikaation tekniset ongelmat, joita voidaan pitää myös vastuullisuuteen liittyvinä asioina. Lähetit kokevat Woltilta saamansa tuen positiivisena asiana. Woltin johto puolestaan kieltää, että algoritmijohtaminen termin käyttö soveltuisi Woltin kontekstiin. Tämän tutkimuksen merkittävyys suhteessa aikaisempaan kirjallisuuteen tulee ymmärryksen lisääntymisestä algoritmijohtamisesta käytännössä. Kirjallisuuden esiin tuomat vastuullisuuteen liittyvät haasteet eivät näytä pitävän paikkaansa Woltin lähettien kokemuksen mukaan, vaan suurin osa läheteistä nauttii yrittäjyyden tuomasta vapaudesta ja on tyytyväinen Woltilta saamaansa tukeen ja ansioon.

Asiasanat

tekoäly, algoritmit, algoritmijohtaminen, alustatalous, ruuankuljetus, etiikka, vastuullisuus, vastuullinen algoritmijohtaminen
Säilytyspaikka Jyväskylän yliopiston kirjasto

CONTENTS

1 INTRODUCTION

This master's thesis focuses on algorithmic management and especially responsibility issues in food delivery context, which have emerged as the industry has been developing in the recent years. Companies operating in platform economy have received negative publicity in regards to their operating systems's impact on workers.

> Service Union United (Pam) on Thursday announced it has asked a district court to rule on the case of one of its members who had worked as a courier for Wolt, a Finnish food delivery platform. The legal action was submitted to the District Court of Helsinki on Thursday. (Teivainen, 2021.)

The discussion has been going on especially around the employment status of the couriers. The Finnish discussion, however, is not unique and similar discussions have been going on internationally. The Guardian analyzed 39 legal cases dealing with gig economy companies in 20 countries in Europe, Australia, Chile, Brazil, South Korea and Canada which dealt with a variety of issues regarding the basic rights of workers (Butler 2021). Many courts have taken the side of the worker. The discussion and negotiation over the principles on which work is done in platform economy, will probably go on, or even accelerate in the future.

After initiating my own research on the topic of responsible algorithmic management it became clear that this research would be both current and relevant to the discussion going on right now. The concept of algorithmic management has developed only within the last few years from understanding it as an algorithm replacing certain management tasks (Lee, Kusbit, Metsky & Dabbish 2015, 1603) to a sociotechnical concept in which the changing nature of the relationship between a machine, and a human being is considered in an organizational context (Jarrahi, Newlands, Lee, Wolf, Kinder & Sutherland 2021, 4). Algorithmic management takes place on platforms through a mobile application, which ties the worker, a contractor, to a certain place and time, and where almost no human involvement is present (Ivanova, Bronowicka, Kocher &

Degner 2018, 7). There are many companies working this way in sectors like food-delivery and transport.

Companies working on food-delivery share similar features being derived from algorithmic management and at the same time those features raise questions if these companies work in a responsible way towards their couriers. There is no definition for responsible algorithmic management in the previous scholarly literature. Based on the related literature, it can, however, be defined as considering the legal, social morality and individual level of ethical decision making (Tasioulas 2019, 53) and managing workers in a way that is ethically solid considering the impact of such management on human workers.

Despite the lack of definition, there are many issues related to responsibility, such as worker surveillance, control, compensation, information asymmetry, company and worker communication and worker status, which are mentioned in the literature as grievances in the algorithmic management systems. Those issues should be taken seriously by companies operating in platform economy because they have a rather negative impact on the lives of the couriers.

The research on food-delivery platforms has only begun and the studies concentrate only on a few operators on the field. There certainly is room for doing research on a Finnish based Wolt Enterprises Oy, a company established in 2014 and now operating internationally after some food-delivery companies, especially in Europe, have withdrawn their operations due to the developing legislation towards algorithmic management.

Wolt was chosen to be the target organization because it is such a visible part of the street view, if you happen to walk by a restaurant almost at any time of the day in Finland. There are food couriers walking, cycling, scooting, or driving around with their delivery bags carrying food from the restaurants to the homes of hungry customers. As mentioned, Wolt has also received publicity because of the court cases dealing with the courier status. The whole operating system of Wolt needs shedding light on it. Because there is some research on other companies working with algorithmic management, it is interesting to see whether Wolt is fighting with similar responsibility issues as these other companies do. The data of the research is collected through qualitative, semi-structured interviews with management, developers and couriers at Wolt.

This research examines the experiences of the interviewees about Wolt's algorithmic management system to understand what kind of issues regarding responsibility are raised in that context. Three research questions have been formed to respond to this research aim.

1. How algorithmic management is used in the work processes?
2. How do managers and couriers experience algorithmic management as part of the organizational functions and their own work?
3. How and why do the interviewees experience responsibility or the lack of it as part of algorithmic management system at Wolt?

Through answering the research questions, understanding of Wolt's operation system will grow and at the same time the views of the management and couriers about the system will be understood together with understanding how they evaluate Wolt in relation to responsibility. These will be the main contributions of this research.

In the first part of the thesis after the introduction, the literature related to algorithmic management and responsible algorithmic management will be reviewed. Algorithmic management will be approached through discussing the concepts of artificial intelligence and algorithms in general. The discussion regarding algorithmic management will be narrowed down to work on a platform and especially on food-delivery platforms. Responsible algorithmic management will be approached through discussing ethics and responsible management and narrowing the discussion down to ethics in the context of artificial intelligence. Finally, the discussion related to algorithmic management on food-delivery platforms will be brought together with responsibility and issues raised by the literature regarding the topic will be discussed.

The second part of the thesis covers the methodological choices made regarding the research together with the introduction of Wolt Enterprises Oy and the research participants. The third part includes the results and analysis of the research after which, the results will be discussed in detail summarizing them together with the literature reviewed. Also, the limitations of the study will be discussed. Finally, in the conclusion the future research opportunities will be discussed.

2 THEORETICAL FRAMEWORK

In this chapter the theoretical framework of the study will be discussed. First, algorithmic management is introduced starting with the concepts of artificial intelligence and algorithms. Then the discussion is narrowed down to algorithmic management on platforms and specifically on food-delivery platforms. The second section of theory discusses the concept of responsible management narrowing down to ethics of artificial intelligence and some issues related to responsibility raised by algorithmic management.

2.1 Algorithmic Management on Food-Delivery Platforms

Before defining and elaborating on algorithmic management there is a need to describe related terms, which have led to the development of algorithmic management concept. These terms are artificial intelligence and algorithms, which will be discussed in this section.

2.1.1 Artificial Intelligence

Already over 60 years ago, artificial intelligence (AI) was defined as an action performed by a machine, that would be understood as intelligent if it would be performed by a human being (McCarthy, Minsky, Rochester and Shannon 1955, 11). This is a good starting point for the discussion, because the definition can still be understood as part of the AI definition today.

From the beginning of its history, AI has been offering services to human beings, but the emphasis has later shifted to understanding AI to be interactive with human beings (Moldenhauer and Londt 2019, 55). As the effectiveness of the data processing capacities of AI have increased, advanced algorithms can process data amounts, that exceed the human capabilities of data processing (Schildt 2017, 24). These capabilities enable AI to have a more central role in organizations.

A common belief about the use of artificial intelligence in the organizations has been, that it will replace human beings in routine tasks but will help or augment human beings in non-routine labor-intensive tasks (Lovergine & Pellero 2018, 72). However, even though AI can help in routine tasks, it does not always work independently. Altenried (2020, 146) has written about platforms, such as Amazon's Mechanical Turk, that employ so called crowd workers to perform tasks that the machine cannot do, even though it seems like the machine would be performing those tasks. He continues that people working behind the AI processes, for example, recognize duplicates and help the computer where it does not manage to find a solution.

Another view of defining AI that suits well in the context of this thesis is that artificial intelligence refers to a machine replacing a human manager's duties (Noponen 2019, 44). Machines have already started taking over managerial functions. As Avolio, Kahai and Dodge (2001, 617) have noted, the increased availability of information has not only changed knowledge structures, but also the nature of leadership. This idea will be discussed further in the following sections.

2.1.2 Algorithms

The word algorithm refers to a set of exact steps that are taken to perform a task. The decisions made in the digital world by algorithms are made automatically without human involvement and they are based on a set of rules or statistical models. Algorithms perform tasks that are assigned to them and learning algorithms can observe their environment and learn from it. (Eurofound 2018.)

The algorithmic process can be described with an analogy of a recipe, which leads a baker, for example, to take the ingredients and to bake a cake through a step-by-step process. In a similar way, an algorithm performs a task assigned to it with a certain process, to come to a desired result (Willson 2017, 140). Moreover, the algorithm interacts with other systems in the process (Willson 2017, 141).

Learning algorithms are developed on machine learning, calculation and statistical techniques and use large sets of data as their source of information to give responses, structures, and dynamic forecasts to be used for various purposes (Faraj, Pachidi & Sayegh 2018, 62). Moreover, algorithms can rewrite themselves as they perform tasks assigned to them (Duggan, Sherman, Carbery & McConnell 2019, 119). Through their information processing and learning capabilities, algorithms serve as the basis for many systems in the business world.

2.1.3 Algorithmic Management

Even though the term algorithmic management is still very young, its definition has rapidly developed to have different nuances in it. The development started from the concept of e-leadership, which describes social influence processes, which artificial intelligence helps to effect change in people's attitudes, behavior, and feelings (Avolio et al. 2001, 617). One of the first definitions of algorithmic management was that software algorithms replace tasks of managers and do

other institutional tasks, such as overseeing workers (Lee, Kusbit, Metsky & Dabbish 2015, 1603). Besides these, algorithm manages tasks, defines the best ways of performing them and determines the pay related to performing and evaluating the performance (Harms & Han 2019, 74). In addition, algorithmic management can be understood as referring to self-learning algorithms controlling human workers through decision making independent of human oversight that influences human labor (Duggan, Sherman, Carbery & McConnell 2019, 119).

Möhlmann, Zalmanson, Henfridsson and Gregory (2021, 7) have combined the idea of control by algorithmic management to coordination that the algorithms perform and connected those functions to human managers. They link their definition to work on a platform, from which data is collected and where it is used to develop and continually improve learning algorithms.

Many writers have connected algorithmic management control with digital Taylorism, which alienates technology designers from performers or workers (Fleming 2017, 694; Galiére 2020, 357; Duggan et al. 2020, 13). What is commonly known about Friedrich Taylor, he developed his management system to make production more efficient. In the context of algorithmic management, Taylor's views are put in the 21st century context where control is practiced through digital means. This is the opposite development to softer management practices that has been a dominant trend of management in the recent decades.

However, artificial intelligence augmenting decision-making or replacing human tasks is not the whole picture about how algorithmic management can be understood. The relationship between artificial intelligence and human being develops as AI takes over managerial tasks.

Sun (2019, 310) notes, that algorithms should be understood in the context of everyday labor in which humans and non-humans together with social and technical perspectives are considered. This includes the notion that workers are not mere subordinates but have understanding and feelings about algorithms that need to be considered (Lupton, 2014 as cited by Sun, 2019, 311). Jarrahi et al. (2021, 4) have summarized algorithmic management as a continuum and redefinition of relationship between employees and their managers. They say that

> understanding the emerging role of algorithms in organizations means taking a sociotechnical perspective, and moving from questions of replacement or substitution towards questions of balance, coordination, contestation, and negotiation (Jarrahi et al. 2021, 4).

They continue to describe the process that takes place when the roles of human beings and the computer are intertwined and how the relationship influences different actors in the organization.

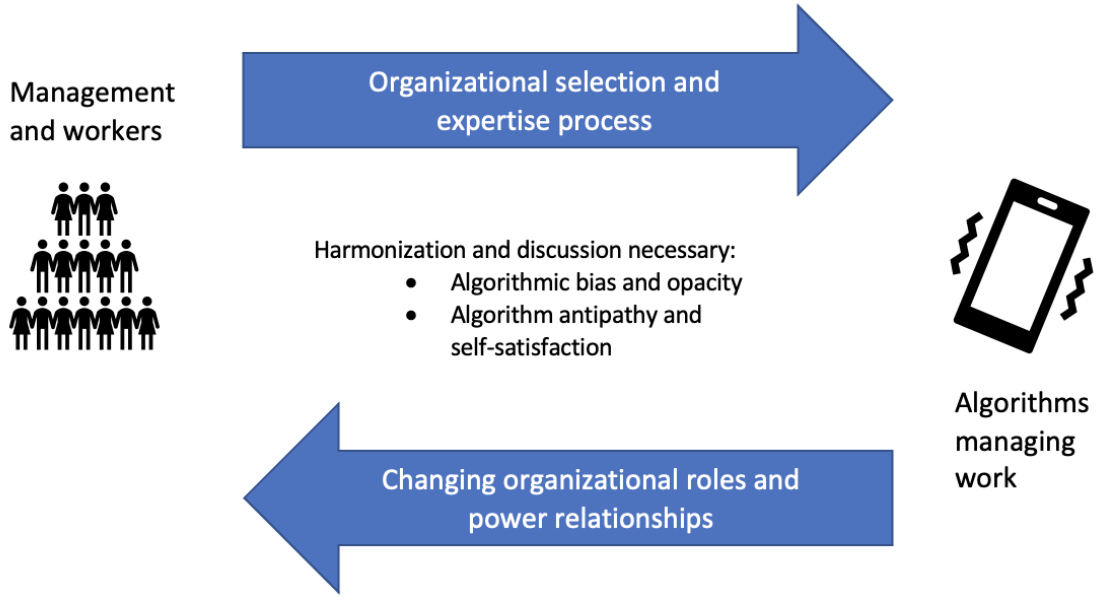

FIGURE 1 Algorithmic management by Jarrahi et al. (2021, 5)

In Figure 1, Jarrahi et al. (2021, 5) describe the process of algorithmic management where there are two parties involved: human workers and managers and on the opposite side technical algorithms managing work. In the middle of the figure there is, the organizational selection and expertise process in which human beings develop the technical side and on the other hand, the technical side which influences the organizational roles and power relationships of human beings. Both harmonization and discussion are needed, because algorithm bias and opacity, and antipathy and self-satisfaction disturb processes.

Due to the use of algorithms the power of a single manager may either increase or decrease after algorithmic management system has been implemented in the organization (Jarrahi et al. 2021, 6-9). The relationship between algorithms and human beings is in a state of constant change and renegotiation. Even though Möhlmann et al. (2021, 44) do not include this idea in their definition of algorithmic management, they write that the model they have developed about algorithmic control and coordination "captures the interplay of algorithmic management and human agency".

The definition presented by Jarrahi et al. (2021) of algorithmic management is used in this thesis, because the view represents what happens when algorithmic management is applied in the organization. It is not solely a question of replacing the management with a computer or reinforcing control on workers, but the roles of different actors are influenced in the process. This view gives a holistic context to the use of algorithm in the organization and pictures the change processes that naturally take place when algorithm is applied in managing people.

According to Schildt (2019, 25), when a company takes algorithmic management to be part of their management system, usually they start from processes that are straight forward or independent because they are the easiest

to adopt. He continues that it is usually beneficial for companies to develop their own programs or applications to reach the desired design and functionality and through that to gain the best productivity. Otherwise, they would often need to shape their organizational systems and adapt their processes to fully benefit from the program. (Schildt 2019, 25.)

Schildt (2019, 25) continues that algorithmic management shifts power in organizations from managers to a greater number of workers, for example to program developers and analytics professionals, who build the algorithms and interpret them. Algorithmic management thus changes in addition the relationships of workers in the workplace.

Wood (2021, 3) has argued, that algorithmic management seldom exists in its purest form, where there is no human involvement present. He continues, that in most cases the use of algorithmic management influences in restructuring the work rather than totally replacing managers or workers in the system. EU and UK GDPR legislation protects workers from machine decision making and therefore decisions like automatic contract termination should not be used (Wood 2021, 14). This also sets some limitations to the scope in which algorithmic management can be applied in the workplaces at least in Europe.

Algorithmic management is used both in conventional and new organizational settings. The conventional setting refers to a work setting in which human beings have traditionally worked together. In a conventional work setting, algorithms complement the relationship between the management and the workers (Jarrahi et al. 2021, 2). For example, Leicht-Deobald et al. (2019) list several ways algorithms are used in HR decision-making, for example, in recruitment, fraud prediction and designing work. Wood (2021, 3–9) describes the use of algorithmic management in warehouses and factories to direct employee tasks, evaluate work and help discipline workers. Algorithms have been brought in to help human beings and to make their work more effective.

Algorithms can be divided into three categories: descriptive, predictive, and prescriptive algorithms (Leicht-Deobald et al. 2019, 380). The purpose of descriptive algorithms is to help managers to understand how the past influences the present by utilizing statistics, for example, to measure employee performance. They continue, that predictive algorithms, on the other hand, use the past or present statistics to predict the future probability of certain actions. For example, they predict fraud or help managers to recruit new employees.

Prescriptive algorithms go beyond predictions to suggest alternative scenarios and actions following from them, to support decision-making or to make automatic decisions (Leicht-Deobald et al. 2019, 380–381). When algorithms are used to help decision-making, the management system projects and redefines power relations and the way information is exchanged between the workers and the management (Jarrahi et al. 2021, 3). Prescriptive algorithms are used in new organizational settings. Next, the discussion is narrowed down to algorithmic management on a platform.

2.1.3.1 Algorithmic Management on a Platform

Platforms are part of the new organizational setting in which algorithmic management is used to make automated decisions and to organize the work of the employees. Gawer (2014, 1240) defines platforms as distinctive markets that facilitate the transaction of consumers that would not otherwise deal with each other. The platform thus has created a new marketplace which is run by automated algorithmic management systems.

Ivanova, Bronowicka, Kocher and Degner (2018, 7) prefer using the term application-based management about algorithmic management on a platform, which emphasizes the role of a mobile application and the absence of human manager in work management. Also, the term gig economy platform is used to describe the quality of work that the platform offers (Goods, Veen & Barratt 2019).

In platform economy setting, a distinction can be made according to the type of platform work. Graham and Woodcock (2018, 245) have three categories of platform work. First, there are the location-specific applications, where a certain location is required of the workers to perform the work. Second, there are microtask platforms, which collect work of a similar skill level and are in between the worker and the employee to divide the work to the employees and third, there are freelance platforms, that require more professional capabilities of the workers and where the worker is usually in direct contact with the employer. (Graham & Woodcock 2018, 245.)

Howcroft and Bergvall-Kåreborn (2019) have, instead, four categories for platform work. They call location-specific applications asset-based services, which are performed offline, are based on the assets of the workforce, such as cars and bikes and where the work is performed at a certain time in a certain place (Howcroft & Bergvall-Kåreborn 2019, 27–28). The microtask platforms are divided into two by differentiating online tasks forums from creative play forums, 'playbour' crowdwork, which highly talented people do because it is fun, even though they do not get paid from it (Howcroft & Bergvall-Kåreborn 2019, 27). The fourth type they call profession-based freelance crowdwork, which is similar to Graham and Woodcock's (2018) freelance platforms. This thesis concentrates on location-specific applications working on a platform because the organization studied operates under this setting.

In platform economy the algorithm defines the power-relationship of the employer and the employee. Compared to a human-to-human relationship, there is a more hierarchical relationship between the worker and the employer (Jarrahi et al. 2021, 6). What is typical to platform work, is that usually there are independent contractors working in the platform, who are not considered as employees but rather entrepreneurs. Harms and Han (2019, 74) note that digital technology is almost solely used for communication between the worker and the employer. Since the relationship is more hierarchical, workers are entrepreneurs and the communication takes place through digital technology, there is a greater distance between the management and workers than in a conventional work setting.

As Duggan et al. (2019, 118) note, in algorithmic management algorithms are used to govern the rules underlying platforms, for example, to select and manage workers in case of linking a customer to a worker. They continue that the speed in which the transaction takes place, is almost instantly. The relationships on a platform are either trilateral or quadrilateral, which means that there is a customer purchasing a service that is sold by a supplier (in case of a food delivery) or directly by the worker (in case of transportation). The application or the platform works in connecting those two or three parties to enable the transaction. (Duggan et al. 2019, 118.) There is no question, that the use of algorithms makes the processes and transactions very effective. The relationships between the parties in the platform could be argued to be relatively equal, but this is not the case. Because the algorithm does the work of selecting, managing, and linking, it is usually not visible to workers on what basis the decisions are made.

Ivanova et al. (2018, 7–8) describe five characteristics of platform work. First, there is a tracking software monitoring work processes and performing worker surveillance. Second, while tracking workers, a huge amount of data is collected, which then is used for different purposes. Third, algorithms make automated decisions based on collected data and fourth, automated messages, pop-ups and reminders are sent to workers in to influence them and shape their behavior. Finally, the platforms are designed in a way, that in one hand they work on pre-programmed ways to exclude certain alternatives and on the other hand give users certain freedom to choose from a given set of alternatives. (Ivanova et al. 2018, 7–8.) Even in the basic processes of algorithms functioning in the platform, the worker is put under the control of the organization running the algorithm.

There are also other characteristics involved in platforms. Algorithms enable performance management by customers instead of managers, discipline and set targets to workers and motivate them through pay incentives (Duggan et al. 2019, 120). The discussion will be narrowed down to focus on platform work and specifically on food-delivery work, which carries the general features of platform work, but has also some specific features of its own.

2.1.3.2 Algorithmic Management on Food-Delivery Platforms

Since early 2010's, there has been a growth in new type of platform work, called, food-delivery work or on-demand delivery work (Timko & Melik 2021, 498). Nowadays there are several companies on the field, of which three, UK-based Deliveroo, Germany-based Foodora, which nowadays a part of Delivery Hero Holding, and US-based Uber Eats have gained the attention of researchers so far (Ivanova et al. 2018, 3, Foodora 2021).

To become a courier for a food-delivery company, a person needs a mobile phone, to download the mobile application, a food-delivery bag and possibly a vehicle such as a bicycle to be able to start working (Veen, Barratt & Goods 2020, 393). That makes starting work rather easy. It is interesting that most of the delivery workers are from an immigration background (Timko & Melik 2021,

506). Because no special language skill is required, working in food-delivery is an easy way for immigrants to start earning their living in a new country.

A common feature to all food-delivery companies is the labor process that takes place, which Veen, Barratt and Goods have described (2020, 394). First, the courier goes to the work area, logs onto the application, and waits for the order to be designated to him or her. When the order arrives, it is accepted or as it is in most cases, it can also be rejected. Then the courier goes to the restaurant to wait for the order, which is confirmed on the app and he or she notifies the app when the order is completed and received to be transported to the customer. Then the order is checked and put in a delivery pack after which the courier receives the delivery address and starts navigating to the address. Finally, the food is delivered to the customer and the application notified about the completion of the delivery. (Veen, Barratt & Goods 2020, 394.)

For example, at Deliveroo in Germany, couriers can choose their shifts, each lasting an hour, pick several of them and they are also free to cancel shifts 24 hours in advance, or to take a longer leave without consequences. When Deliveroo limits the number of workers through the shift system, Uber Eats does not do that (Veen et al., 2020, 395). In those companies in which the number of workers is not limited, the competition between the workers becomes more severe of the tasks available.

As Ivanova et al. (2018, 11–12) note, couriers have a freedom to choose in which zone of the city they work and which route they take to complete the delivery. They elaborate, that giving couriers freedom helps the company to keep and attract more staff and gain value through better performance on the road through individual choices made in each circumstance. On the other hand, the worker freedom is narrowed in several ways, which brings us to the discussion about the impact of algorithmic management on workers. Ivanova et al. identify that the application's tracking system keeps statistics of couriers which influence their monetary incentives and give certain couriers priority to choose their preferred shifts, leaving others no choice or even no work (2018, 12–13).

Many companies use automated notifications and reminders, which are rather negative persuasion techniques to direct the courier actions (Ivanova et al. 2018, 12–13). Uber Eats, on the other hand, bases its' system on persuading the couriers with promotions, which is a more positive way of getting people to work for them (Veen et al., 2020, 392). From the company's side, both negative and positive tactics may guarantee enough couriers for them to operate, but from the couriers' side both have rather negative impacts. Both limit the freedom to choose especially when, as Veen et al. state (2020, 401), there is no control over the number of orders received.

In general, couriers are paid per delivery. Naturally, there are more orders placed at certain times on specific zones than at other times or zones, which narrows down courier choice if they desire to earn money. Van Doorn (2020, 140) notes that pay by delivery makes it possible for the companies to control workers more effectively. A monthly newsletter reveals courier statistics and encourages

them to earn more (Ivanova et al. 2018, 13–14). If the pay is tied to the statistics, they serve either as a stick or carrot for the workers.

There is also an information asymmetry between the company and workers. Couriers do not know how exactly the reward and punishment systems of the app work. As Ivanova et al. note (2018, 16) they are given the delivery address only after accepting the order and picking it up. As a result, there is no way for the couriers to evaluate beforehand the cost of performing the task. Moreover, they do not know the exact zone areas, number of workers assigned in a shift, or the number of workers given privileges in choosing their shifts first (Ivanova et al., 2018, 16).

Worker control is a subject that arises in the case of platform work. In this context it means, that even though couriers are considered as entrepreneurs, companies try to direct their work, for example according to the demand to guarantee adequate number of workers to deliver the service. Ivanova et al. (2018, 5) elaborate on the subject from the point of view of both managerial and market control. They continue, that because the owners need to gain profit from the work, control needs to be executed to enable high performance of labor. Timko and Melik (2021, 500) write, that platform structure has to do with optimizing centralized control and on the other hand peripheral autonomy. Control is the key for optimizing revenue in this context.

Work surveillance is another means of food-delivery platforms to control workers. As described in the section of platform work, algorithmic surveillance requires huge amounts of data to be collected and processed by the algorithm. Based on the data certain decisions are made that influence couriers. Managerial surveillance of human beings is often assumed to be absent in algorithmic management, but human managers work 'in the loop', which means that they intervene, when needed (Newlands 2021, 724). Customer surveillance is less used in food-delivery platforms compared, for example, to ride-hailing platforms (Newlands 2021, 725).

Surveillance is based on collected data, which is dependent on mapping accuracy of both GPS and digital maps. As Newlands (2021, 729) notes, there may be technical limitations in the systems, but they are neglected. Also, the impact of spatial conditions such as weather, traffic circumstances or other possible obstacles are not considered as neither the precise location, such as an upper floor (Newlands 2021, 730). As a result, the heaviness of work may vary significantly depending on the conditions and accidents may result when the workers try to accomplish their task as fast as possible.

Galiére (2020, 363) offers, however, a more positive perspective on courier work in relation to control and surveillance through her study on Deliveroo workers in France. She proposes that there are so many flaws regarding the control performed by the application, that on both individual and collective levels, workers can work around control mechanisms. Even the disciplinary measures taken by the application are not always functioning in real life situations. Galiére (2020, 364) has also noted the existence of operational management in the background of algorithmic management, but they do not

have enough time to react to performance indicators proposed by the application. It depends, how visible these flaws in control and surveillance are for the workers, whether they will try to work around them or test the effectiveness of the system controls.

As Kougiannou and Mendonça (2021, 750) mention, some food-delivery companies appointed Courier Leads from more experienced couriers to help new couriers in health and safety issues and to discuss concerns related to work. However, they note that later these responsibilities were removed from couriers and companies started relying solely on the algorithmic management in dealing with the workers. This means that workers need to send an email if they have any questions and typically an algorithm would answer their query with an automated response (Duggan et al. 2019, 123). As a result, couriers lack any direct contact with a human being.

In general, there is no possibility for dialogue between the company and couriers and rather the workers are silenced through the communication system (Kougiannou & Mendonça 2021, 750-751). If a human would be available behind the algorithmic management, it would be rather a customer service person responding to messages rather than a human manager (van Doorn 2017, 903).

Despite silencing, workers communicate with each other in many ways that are outside the control of the platform organization. They have, for example, digital forums where they can discuss issues that are in their mind. This is the way they attempt to improve their working conditions and get a fairer payment for their work (Kougiannou & Mendonça 2021, 755, 757). Often several couriers are waiting for their orders in the same restaurant and can give, for example, practical advice on how algorithmic management works in real life (Galiére 2020, 365). There is also unionizing of workers taking place to fight for the rights of the workers and making sense of the system they are working with (van Doorn 2020). These informal ways of communicating with each other compensate for the lack of communication with the company.

There is also evidence about gaming practices against algorithmic management system by couriers. As Sun (2019, 319) notes, for example, in China delivery workers made their own orders and pretended having collected and delivered them without doing so in reality. He continues, that couriers collaborated with others to meet the deadlines of order delivery. Gaming practices seem to work as an opposition against algorithmic management system and the companies running such systems, that do not function in a fair way.

Galiére (2020, 366) points out, even though many food-delivery workers have many complaints against Deliveroo, their main target is the pricing and insurance questions rather than the algorithmic management itself. For example, pay-per-delivery is considered fair, and many workers consider themselves as winners and embrace the system (Galiére 2020, 367). There is, however, often waiting times that are unpaid, which are compensated on working long hours at the risk of burnout (Fleming 2017, 700).

In this section the literature related to algorithmic management has been discussed in detail. The discussion has been narrowed down to algorithmic

management on platforms and especially on food-delivery platforms. Some common features were discussed. In the next section the discussion is brought to the context of responsibility.

2.2 Responsible Algorithmic Management

Responsible management is a broad concept covering issues related to what an organization does and its relationship to its' stakeholders and the environment. In this section, responsible algorithmic management will be defined by first defining ethics and bringing ethics and artificial intelligence together in the discussion. In the final section the context of algorithmic management is discussed from the point of view of responsibility through issues raised in the literature.

2.2.1 Ethics

The term ethics means a set of precepts, norms or directions that serve an individual to make good or right decisions (Siau & Wang 2020, 75). Some writers analyze moral processes to understand them rather than to evaluate them (Ciulla & Forsyth 2011, 230). As a result, ethics has both sides of trying to understand and to evaluate the quality of decision-making.

In general, ethics can be divided into three streams. Deontological or normative ethics has to do with comparing one's actions to predefined norms, obligations or conventions and defining whether those actions are complying and can so deemed ethical (Ananny 2016, 94). This approach can be derived to Immanuel Kant. A second approach is a teleological or consequential approach developed by Jeremy Bentham and John Stuart Mill (Ananny 2016, 94). Within this approach utilitarian ethics focuses on the consequences of one's deeds to seek happiness of the greatest amount of people (Auvinen, Lämsä, Sintonen & Takala 2013, 419). Another question then is who can define happiness of the greatest amount of people (Ciulla 2005, 328).

A third main approach is virtue ethics, that is a field of normative ethics studying what makes an activity either acceptable or unacceptable and gives moral guidelines to make ethical decisions in challenging situations (Siau & Wang 2020, 75). The concept was developed by Aristotle, and it focuses on the virtue of the actor rather than the actions (Gal, Jensen & Stein 2020, 2). Ciulla and Forsyth (2011, 234) comment that active practice of virtues is important because otherwise one cannot be considered as virtuous.

Gal, Jensen & Stein (2020, 3) divide virtue ethics into three components: targeting internal good which leads people to understand their potential and pursuing excellence, achieving practical wisdom which helps to make ethically correct judgements and act accordingly, and operating voluntarily which reflects understanding the whole situation and acting because it is the right way to act. All three ethical streams look at the question of the quality of decision making

from different angles either comparing it to a set of values, evaluating the consequences or concentrating on the ethicality of the decision-maker.

2.2.2 Responsible Management

Responsible management as a term has been used interchangeably with other related terms: ethical leadership, ethical leader behavior, moralized leadership, and managerial ethical leadership (Kaptein 2019, 1136). Ethical leadership is defined by Ciulla (1995, 17; Ciulla 2005, 333) as both moral goodness and effectiveness of leadership.

Defining responsible management is not a simple thing and neither is practicing it, even though the subject has been discussed and studied since 1950's. The early research concentrated around the idea of value-laden responsibility, where the wellbeing of the community was emphasized (Pless & Maak 2011, 5). Brown, Treviño and Harrison (2005, 120) define responsibility as a behavior that is normatively suitable both through manager's actions, his or her interpersonal relations and encouraging similar action in employees through two-way communication and good decision-making. Especially sensitive behavior towards employees, honesty, the fairness of manager's actions, socialized charismatic leadership and abusive supervision are qualities that are considered responsible and have been developed into Ethical Leadership Model (Brown, Treviño & Harrison, 2005, 117). So, there is the point of view of the actor, that is the manager and the point of view of the people around being led that need to be in balance to be deemed responsible.

The concept of responsible management can be traced back to the ethical streams introduced earlier. Ciulla and Forsyth (2011, 239) have created a framework of three questions to seize the problem of responsible leadership, which applies also to responsible management. The teleological trend asks the question of what a manager does or what is the result of the actions. The virtue trend asks how things are done by the manager and what is the process behind those actions. The deontological trend asks why things are done in a certain way by the manager which refers to the moral intentions. To be deemed to be a responsible manager, one needs to be both qualified and ethical (Ciulla & Forsyth 2011, 231).

In a study of Finnish top managers Kujala, Lämsä and Penttilä (2011, 203) point out, that utilitarian ethical thinking was most common among the managers, and, for example, cost-benefit analysis was used to evaluate decisions for common good. However, virtue cannot be ignored because showing others what is right requires courage to stand up and reveal your character (Hibbert & Cunliffe 2015, 178). It is not enough to act in a way that seems responsible, but responsibility is also deemed through the character present in the actions.

There are several things influencing the understanding of responsible management in the workplace. Kish-Gephart, Harrison and Treviño (2010, 3) introduce a framework showing correlation between unethical choices at work of which the management is not excluded. There are three levels influencing decision-making that are either conscious or unconscious: individual,

organizational, and ethical issue features. At the individual level there are psychological ingredients such as cognitive moral development and one's perception of others' welfare. At the organizational level there are, for example, work climate characteristics of egoism or benevolence and cultural attitudes towards ethical behavior. Also, one's choice in the situation depends on ethical issue characteristics, such as what consequences an action may have, how great the consequences are and how fast they are realized. (Kish-Gephart, Harrison & Traviño 2010, 3–5.) This framework shows the complexity of ethical decision-making in the workplace because many of its' features are invisible and situation dependent.

James Rest (Rest 1986 as cited in O'Fallon & Butterfield 2005, 375) has developed a framework of ethical decision-making in the work context including four stages: recognizing the issue with an ethical tone, evaluating the issue, settling the moral intent, and undertaking moral action. Responsible management consists of several decisions that need to be made in the process of managing both people and issues at hand. Decisions are made when choosing what to do and in the process of doing those things. The moral intent or the question why, is the connecting piece in these two frameworks introduced. If the intent can be judged ethical, probably also the actions can be deemed responsible.

A perspective to unethical or irresponsible management has been taken in manipulation studies of leadership. Manipulation can be defined as purposeful behavior of lying or misleading people where the object does not know about the intent of the person to mislead. Manipulation can be concealed into stories that are told in work context by the leader (Auvinen, Lämsä, Sintonen & Takala 2013, 417–418). The manager needs to be aware of both the consequences and the motivation behind storytelling to act responsibly (Auvinen, Lämsä, Sintonen & Takala 2013, 429).

Responsible management has, thus, many tones in the organizational context. It is related to the actions of the manager and the motivations behind them, the whole organizational culture and its' influence on the people being led, the situational characteristics and the effectiveness of the organization in various decisions to be made. Now the discussion will be directed towards the context of responsible management and artificial intelligence.

2.2.3 Ethics and Artificial Intelligence

Besides responsible management ethics needs to be discussed in the context of artificial intelligence (AI). There are several similar terms for AI related ethics, which emphasize slightly different things. Computer ethics was defined by James H. Moor in 1985 as the study of nature and social effects of technology, policy formation and ethical usage of computers (Moor 1985, 266). His study focused on the ethicality of people using computers.

Machine ethics has turned the focus of ethics to ensuring that machines act in an ethical way towards human beings and other machines (Anderson & Anderson 2011, 15). Smith and Green (2018, 85) say that roboethics underlines programming ethical standards inside artificial intelligence systems. They

continue that the ethical standards need to be internalized by the developers that they can program them into the system, but the developers need the support of the leadership in this work. AI ethics can be defined as moral obligations and tasks of an AI and its programmers (Siau & Wang 2020, 75). It can be stated that machine ethics, roboethics and AI ethics all have a similar focus on the system working ethically, which puts the pressure on the developers to understand ethical decision making.

Tasioulas (2019, 53) mentions three levels of ethical questions that need to be thought of when considering ethics of robots and artificial intelligence: laws, social morality and the individual or organizational level. First, laws mean common standards, which are obligatory to be followed and which are enforced by varying penalties. Second, social morality means the ethical culture outside the legislation that should lead people to act according to shared moral standards in the society. Finally, at the individual and organizational level, each party has their personal moral standards that either follow the legislation and social morality, go beyond that, or allow personal freedom to break either one. (Tasioulas 2019, 53.) Ananny (2016, 96) notes that all these three levels of ethics are needed in decision making related to technology. There are others, that consider only two levels of ethical thinking: the collective and the individual level (Etzioni & Etzioni 2017, 404).

Rességuier and Rodrigues (2020, 1) note, that if no impact assessment of AI systems is performed, those systems can have damaging effects on people, communities, or the wider societal level. They continue, that now it seems that AI ethics concentrates on the legality of actions. This is problematic because it is not designed for that purpose, and it can lead to ethics washing or even to attempts to ensure that no legislation will be set to regulate AI (Rességuier & Rodrigues 2020, 2). Hagendorff (2020, 100) agrees and states that AI companies discourage legal frameworks and there is a trend of promoting internal self-governance of companies in following ethical rules.

There is a call for AI ethics because there are many issues that are raised in relation to usage of AI and its impact on people. There are human rights related themes such as privacy, freedom of speech and organizing, and discrimination that if not considered carefully, can harm human beings who are working closely with AI or using it (Siau & Wang 2020, 77). In Ananny's (2016, 97) view ethics is important in relation to algorithms, because of the sociotechnical relationships that are created through algorithmic actions need to be evaluated. Whether AI is viewed through its' impact on the users or through developers and other decision-makers of AI systems, there is a level beyond legality, that needs to be considered.

The purpose of ethics is to look at the reality from new angles and through that be able to see, how behavior or regulation needs to be changed (Rességuier & Rodrigues 2020, 2–3). McNamara, Smith and Murphy-Hill (2018, 732) found out in their research of ethics of software developers that the norms and directions provided by ethical codes did not impact ethical behavior of engineers. Ethical codes are often used in companies to reveal the management's

understanding about the correct way of doing things and to point to the ethicality of companies (McNamara 2018, 730).

Hagendorff (2020, 108) explains the ethical degradation of AI with economical reasoning. The main purpose of the companies is to gain monetarily and that is why value- or precept-based ethics are not considered while developing the systems or educating programmers. Rose's (2007, 328) study is in line with this. He found in his research that legal compliance was the level that corporate directors were ready to act on issues affecting social responsibility and the shareholder view came next, which usually meant maximizing financial gain (Rose 2007, 328).

Personality traits of the developers and environmental characteristics also play a role in how a person relates to choices that need to be made (Kish-Gephart, Harrison & Treviño 2010, 3). That is why the solution offered by Hagendorff (2020, 112) to AI ethics problem is virtue ethical approach. Application of ethical thinking in AI cannot be an insertion of list of rights and wrongs in AI, but people working in the field need to have a stronger character, a more ethical attitude, a sense of responsibility for their actions and a strength to object unethical actions. Even though other actions in the field are also needed, such as the development of legislation, auditing, and whistleblowing, through virtue ethical thinking AI professionals understand short- and long-term results of AI on people and change the way they perceive, for example, data usage (Hagendorff 2020, 113).

What makes AI ethics complex is the interrelation of the tree levels: legal, social and individual level and the rapid change of the field where especially the legal level lags behind (Tasioulas 2019, 54). Ananny (2016, 109) concludes in relation to ethics of algorithms that all three approaches to ethics need to be considered together: the deontological, teleological and virtue ethics. Another question beyond this discussion is whether AI can be taught to make its own ethical decisions. Etzioni & Etzioni (2017, 412) think that AI should rather be understood as a partner in ethical decision making than an independent actor.

When bringing ethics of artificial intelligence discussion to the context of algorithmic management, it can be summarized, that the task of responsible algorithmic management is to make sure that the platform is working in an ethical way towards human beings. To be successful in it, all three levels of ethical thinking need to be brought to the discussion. Algorithmic management can be deemed responsible, when it considers the legal, social morality, and individual or organizational level of its actions. It is important to understand how algorithmic management as a sociotechnical relationship impacts the lives of the couriers and the broader society and to make sure these impacts endure ethical testing. There needs to be a balance between economical reasoning, and its impacts on human beings.

2.2.4 Responsibility Issues Raised by Algorithmic Management

Algorithmic management entails several consequences to work life, employment relationships and people management that need to be discussed in the context of responsibility and ethics. As Pastuh and Geppert (2020, 180) note, both academic

and public discourse is filled with controversy about the effects of algorithmic management on a platform.

From the management perspective, use of algorithmic management brings challenges that are not necessarily noticeable. Algorithmic management is an efficient way of organizing work, and an assumption is easily made that the decisions made by algorithms are always correct. One may think that algorithms omit human biases and work always on a fair way towards workers. That is why algorithmic responses or actions are not necessarily questioned, because they are thought to be superior to human thinking. However, algorithms carry biases and reflect the cultural background of their developers (Leicht-Deobald et al. 2019, 381, 384). Thus, a critical viewpoint should be included in developing and using algorithms to make management responsible.

The platform work is promoted to be flexible and independent work (Ivanova, Bronowicka, Kocher & Degner 2018, 3). However, one of the consequences of platform work is workers' employment status. As mentioned earlier, usually the workers are self-employed. This way the responsibility about social security including sick leaves, holiday pay and other related costs is on the worker. There is no social protection provided by the platform company (Ivanova, Bronowicka, Kocher & Degner 2018, 3). One unfortunate example of this was the case of Deliveroo in Germany, when they left the market with a four-day notice before suspending all activities in Germany (van Doorn 2020, 147). Suddenly many couriers were left without work and income. According to law Deliveroo probably did nothing wrong, but according to social morality such action could be deemed irresponsible.

This self-employment trend is seen as part of neo-liberalization of the economy that has been fed by digitalization (van Doorn 2017, 900). Entrepreneur status means in practice, that the worker carries many costs of work normally paid by the employer including the work equipment (Fleming 2017, 693). However, there has been an exception to this rule in the food-delivery marked. A majority of Foodora's riders used to be employees (Ivanova et al. 2018, 3), but now as they have withdrawn from many markets and are concentrating on the Nordics, this is not any more the case. Naturally, there is nothing wrong in working with entrepreneurs, but the compensation they receive must be in balance with the costs that the worker must cover with the income.

From a workers' perspective, the employment relationship seems purely transactional where workers seek to gain income in exchange for their work. There does not seem to be any attempt of developing mutual trust or long-term working relationships between workers and the employer, because freedom of choice is emphasized when working for a platform company (Duggan et al. 2019, 121–122). There is some evidence that workers are looking for career development opportunities or mentoring from other workers or managers, but even training opportunities are almost nonexistent or workers need to pay to attend them (Duggan et al. 2019, 121, 124).

Regarding the employment relationship, the human relationship of platform workers is very thin. All the communication towards the company goes

through the app and the application plays the role of a boss (Ivanova et al. 2018, 4). Jabagi, Croteau and Audebrand (2020, 4004) note, that algorithmic management departs significantly from the earlier logic of relying on human managers to supervise the work. They continue that the absence of human interaction can cause the worker to feel lack of organizational support. When there is enough organizational support, it usually leads to increased satisfaction in work, which impacts on worker commitment and loyalty and improves job performance (Jabagi, Croteau & Audebrand 2020, 4001).

The lack of organizational support is a common reason why workers on platform terminate their contract with the company (Kuhn & Maleki 2017, 193). For the platform company this is not a problem, if they have newcomers coming in as a constant flow. These companies have aggressive advertising campaigns and encourage other workers to sign up new hires against economic incentives to keep the worker numbers in a demanded level (van Doorn 2017, 904). This, again, is an issue of social morality whether it is acceptable to neglect workers' social, emotional, or other support needs that traditionally have been part of work life.

Algorithmic management influences also the worker perception of fair decision-making, which usually can be evaluated based on the quality of information, objectivity, transparency, consistency, and the process of revising inaccurate decisions (Jabagi et al. 2020, 4007). Algorithms may be perceived more objective, even though they are not exempted from human bias influenced by their creators. For example, Sun (2019, 320–321) has noted that algorithms working at the background of Chinese food-delivery platforms, had biases towards capitalism and emphasized the benefit of the owners and customers over the benefit of workers.

In algorithmic management the process of decision making is outside worker understanding and no explanations are offered. When there is no direct human involvement, the process of receiving justice may be frustrating for the workers. According to a study made by Basukie, Wang and Li (2020) the reasons behind unfair decision-making were different in developed and developing countries. In developing countries technical limitations made it hard for the algorithm to work properly, when in developed countries the experience of unfairness had to do with hiding information from the workers (Basukie et al. 2020, 8–9). Transparency or the lack of it influences the perceptions of fair decision-making and because of the nature of algorithm, even the management may be unable to give accurate answers if the fairness of algorithmic management is questioned.

As a result of over reliance on algorithmic decision making, personal integrity of the users may decrease. Leicht-Deobald et al. (2019, 382) note that algorithmic decision making may strengthen the conflict between integrity and compliance. If the person developing the application is relying too much on the compliance side or what is right in the organizational context to do, they may start neglecting their personal integrity, which means personal principles behind ethical actions. The tight control on the platform has led workers to manipulating

the platform in several ways. They have been able to trick the tracking system or cooperated with other workers to benefit from the statistics that are created through that cooperation (Timko & Melik 2021, 502). If the workers do not think the algorithmic management system works fairly, they will start working their way around it. If, in addition, the developers' integrity is a problem, algorithmic management becomes a vicious circle of the users fighting for their rights to gain justice and fair treatment. Organizations operating algorithmic management should take it seriously to operate their systems in a responsible manner.

In this literature review the concepts of algorithmic management and responsible algorithmic management have been defined together with the related terminology. Algorithmic management refers to a sociotechnical concept that takes place when the algorithm and human beings negotiate and attempt to find a balance with the way the algorithms influence the redefining of relationships in the organization and, on the other hand, how the human beings influence the processes algorithms perform (Jarrahi et al. 2021, 4). Responsible algorithmic management means that the algorithmic management functions in an ethical and good way towards human beings, which can happen through taking the legal, social morality and individual or organizational level of actions into consideration and ensuring that there is a balance between economical reasoning and its impact on human beings. There are many responsibility-related issues raised in the literature that need to be considered by companies operating on platform economy. Next, the methodology of this study will be discussed.

3 DATA AND METHODOLOGY

3.1 Wolt Enterprises Oy

As it was also stated in the introduction, Wolt Enterprises was chosen to be the context of this research because of its visibility in the street view of any city center in Finland and because of the publicity, the company has received in the previous years. Moreover, using Wolt as an example is an easy way of explaining algorithmic management to anyone who is not acquainted with the subject because the company has become so well known, especially through growth of home deliveries made during the covid-19 pandemic.

Wolt Enterprises Oy was established in Helsinki, Finland, in 2014 by the founding team of Miki Kuusi, Elias Aalto, Mika Matikainen, Oskari Pétas, Lauri Andler and Juhani Mykkänen (Wolt 2021). They operate in 23 countries and in over 129 cities and they have over 135 000 courier partners, 60 000 restaurant and retail partners and serve over 15 million customers in Europe, Japan, and Israel. Nowadays Wolt has over 4000 employees who mainly develop and sustain the Wolt platform and support its' users (Heikkilä 2021, M1).

Wolt promotes itself as a technology company, which builds infrastructure to serve its' partners. Wolt launched its' food-delivery operations in summer of 2015 in Helsinki and in 2020 they expanded to grocery and retail deliveries. They have been able to develop an operational model that is sustainable even in places with lower population density (Wolt 2021.)

Wolt was listed by Financial Times as the 2nd fastest growing company in Europe in 2020 (Kelly, 2020). In 2020, their revenue was 280,7 million euros and the operating loss was 47,1 million euros. They have collected several rounds of financing from investors, including 440 million euros in 2021 (Lappalainen & Korte 2021).

Wolt has received publicity regarding the courier partners' status as entrepreneurs. In February 2020 the Finnish Regional State Administrative

Agency requested the Finnish Labor Council, whose role is to give statements about the application and interpretation of Working Time Act, to interpret Wolt's role in managing and supervising courier partners' work. As a result, in October 2020, the Labor Council gave an interpretation according to which courier partners who had a contract with Wolt as individuals, for example through light entrepreneurship, should be considered as employees rather that entrepreneurs and the Working Time Act should be applied to their work. The decisive issue in the case was that Wolt has the possibility of managing and overseeing courier partners' work through the platform, for example, through automatic surveillance built in the Wolt application. (Työneuvosto 2020, 16–19, 25.) On the 1st of November 2021, the Regional State Administrative Agency gave their decision on the issue which followed Labor Council's interpretation that Wolt couriers should be regarded as employees of which Wolt was going to appeal to the Administrative Court (Pietarinen 2021).

On the 9th of November 2021 it was published that U.S. based Doordash will acquire Wolt in the beginning of year 2022 for about 7 billion euros. Doordash operates in the same business sector and Wolt will continue as a brand name also in the future. The acquisition price is a record in Finnish history of company sales (Heikkilä 2021).

3.2 Data Collection Methodology

The data of this study was collected through qualitative, semi-structured interviews. In its simplest form, qualitative research means data in textual, either written or recorded form (Eskola & Suoranta 2014, 15). A common source of interest in qualitative research approaches is to understand and interpret social and cultural constructions behind reality (Eriksson & Kovalainen 2016, 4). This is also the case in this research. The main goal of the research is to understand how the interviewees both understand and at the same time interpret and conceive the reality they work in.

In qualitative research, the research plan at its best changes and adapts along with the research. Qualitative research captures the process behind the phenomenon and data collection, analysis and interpretation become intertwined influencing each other back and forth (Eskola & Suoranta 2014, 15–16). In this study the literature review was written first and the research was done after that. Research themes and questions rose from the literature, but they were modified while performing the research and analyzing the results. Finally, the research was reflected to the literature in the form of discussion.

The ontological presumption of the research is subjectivism, which refers to each person having a unique viewpoint and experience that is possibly changing during their lives and dependent on the situation (Bryman & Bell 2007, 26). The purpose of a naturalistic research presumption is to present the views of those researched as they are (Eskola & Suoranta 2014, 16). Concepts about reality, on the other hand, can be shared (Eriksson & Kovalainen 2016, 14).

The epistemological point of view of this research is subjectivism or constructivism, in which reality is socially constructed and knowledge built on the understanding of social actors (Eriksson ja Kovalainen, 15–16). Constructivism is linked to interpretivism, and its purpose is to understand and interpret social action emphatically (Bryman & Bell 2007, 18). In this research basic theoretical concepts are presented through the wording of the interviewees.

Semi-structured interviews were chosen to be used in data collection. There was a set of questions made beforehand under two themes, algorithmic management, and responsible management, but it was possible to change the order and wording of each question during the interview (Eriksson & Kovalainen 2016, 94). In general, interview is interaction between people in the form of conversation (Eskola & Suoranta 2014, 86). Semi-structured interviews relate well to conversation because they give more freedom to take an idea presented by an interviewee and elaborate on it through questions not included in the interview guide (Bryman & Bell 2007, 474). Especially, when the interviewees come from a different background, this is helpful to deepen the understanding of their views.

Both individual and pair interviews were used for data collection. Individual interviews were prioritized but pair interviews were done due to a request from the company researched. In general, a group interview is an effective way to collect information because participants can support each other in the interview (Eskola & Suoranta 2014, 95). The aim of data collection through semi-structured interviews is to gain in-depth understanding about the interviewees' experiences about the subjects discussed.

3.3 Data Analysis

The purpose of data analysis is to produce new knowledge through organizing and summarizing the interview material without changing the original meaning of the information received in the interviews (Eskola & Suoranta 2014, 138). Even though subjectivity of the researcher cannot totally be avoided, objectivity is targeted. Objectivity means that the researcher does not mix his or her values and assumptions to research data (Eskola & Suoranta 2014, 17).

The collected data will be analyzed through qualitative content analysis. The purpose of content analysis is to portray and construe data (Eriksson & Kovalainen 2016, 121). Interpretation is used as a means of data analysis. Usually, its purpose is to understand how the interviewees comprehend the meaning of the research themes and the reasons behind their understanding (Eriksson & Kovalainen 2016, 124). The understanding is researched in a specific context, which in this research is the organization they work for, and how those concepts are related to each other (Eriksson & Kovalainen 2016, 124).

The literature review will serve as the basis for evaluating the research data. The answers will be compared to the basic definitions of algorithmic management and responsible management raised from the literature and the organizational functions compared to the research done on algorithmic

management especially on food-delivery platforms. In addition, the issues raised by the literature about responsible management on food-delivery platforms will be discussed and evaluated based on the interviews.

3.4 Performing Research and Transcribing the Data

When the literature review was written, the theoretical concepts to be dealt with in the research became clear and the focus of research started to crystallize. It was time to start contacting the target company and to write the interview questions.

The initial target was to get all interviews from the management and developers of Wolt and to concentrate on their experiences in the research. However, because I was able to get only four interviews from Wolt, I included six Wolt couriers in the interviews. The interviewees were chosen through purposive selection to learn as much as possible from the interviewees (Polkinghorne 2005, 140). It was important to have interviewees, who had enough knowledge of the algorithmic management system at Wolt through their experience and different points of view to guarantee the richness of the material to be researched.

The interviews were performed between 25th August and 26th September 2021. One interview with two informants was performed through a face-to-face interview and the rest including 8 informants were performed via Zoom. All Zoom interviews were recorded through Zoom recording function and face-to-face interview through computer. There were two pair interviews done. The interviews followed a similar pattern and order and only a few specifying questions were asked when needed.

The interviewees were sent an orientation letter in advance of the interview to allow them to think about the interview situation and themes beforehand. It was also important to let them know about the data handling and security issues. The orientation letter is found in Appendix 1. In the beginning of each interview there was an introduction in which the interviewer told about recording, transcribing, preservation, and careful handling of the recorded data. Moreover, it was told that the interviewees are kept anonymous and that single informants will not be recognized neither in the summary nor in single quotations of the thesis. In addition, it was told that interviewees can, if they wish, obtain the finalized thesis when it is ready.

The literature review clearly pointed to two themes that I wanted to research through the interviews. These themes were 1. Algorithms managing people and 2. Responsibility and algorithmic management. The first part of the interviews concentrated on the work processes related to algorithmic management at Wolt. Interviewees were also asked how the processes influenced courier communication and the relationship of the couriers towards Wolt and in what way these were different compared to a conventional work setting where a human being is managing work. The second part of the interviews dealt with how the interviewees understood responsibility in general, how responsibility or

the lack of it was reflected in Wolt's work processes and how it needed to be improved at Wolt. A detailed account of the interview questions is available in Appendix 2.

The interviewees are introduced in Table 1. The interviews lasted from 30 minutes 13 seconds to 53 minutes 33 seconds. All interviewees except one were male. All Wolt employees were grouped under the management because they all held management positions even though two of them took part in developing the Wolt application. That is why their views are analyzed and discussed under the title management. All couriers were of an immigration background and worked in Jyväskylä, Central Finland. Most of them were students or had another job and worked as a courier parttime. There was one full-time courier interviewed.

TABLE 1 Interviewees

Informant	**Reference**	**Date**	**Sex**	**Status**	**Interview length**	**Pages**
Manager	M1	25th Aug 2021	male	Wolt employee	0:47:26	15
Manager	M2	13th Sep 2021	male	Wolt employee	0:30:13	7
Manager	M3	20th Sep 2021	male	Wolt employee	pair interview	12
Manager	M4	20th Sep 2021	male	Wolt employee	0:50:55	12
Courier	C1	16th Sep 2021	male	Self-employed	pair interview	14
Courier	C2	16th Sep 2021	male	Self-employed	0:52:46	14
Courier	C3	21st Sep 2021	male	Self-employed	0:48:52	11
Courier	C4	22nd Sep 2021	male	Self-employed	0:53:33	11
Courier	C5	24th Sep 2021	female	Self-employed	0:36:50	8
Courier	C6	26th Sep 2021	male	Self-employed	0:36:09	7
Total					**5:56:44**	**85**

The interviews were transcribed. One transcription was sent to the interviewee for review because he requested to do so and there was a problem with the internet connection which caused the need to review some part of the interview to get a full account of the interview transcribed. As Polkinghorne (2005, 139) notes, some information and nuance is lost when transcribing the interviews into written form but this should not be crucial in the context of this research.

After the transcription, the analysis was started by selecting relevant quotes from the interviews. The relevance was judged by the coverage of the research questions and the interviewee covering a part of the theme that the other interviewees did not cover. After the material to be used in the text had been selected, it was collected under relevant themes into a holistic discussion of the topic.

3.5 Research Reliability

To evaluate the reliability of this research, Lincoln and Guba (1985 as cited in Bryman & Bell 2007, 411) have suggested a criterion of four: credibility, transferability, dependability and confirmability. Credibility means that the research is performed in a way that guarantees good quality and subjects the results to be evaluated by the participants. Eskola and Suoranta (2014, 211) state that evaluating the reliability of research is essentially a question of the reliability of the research process. The research process started with contacting the potential interviewees who all were previously unknown to the researcher, which can indicate that the researcher did not have a personal influence on the experiences told by the interviewees. Of course, there is a possibility that the questions were leading the interviewee to answer in a certain way, but at least it has not been the motivation of the interviewer. The results of the interview were not evaluated by the interviewees because they have been recorded and transcribed and it can be trusted that what the interviewees said, they also purposed to say so. As mentioned earlier, one transcript was checked afterwards by an interviewee.

Transferability means the generalizability of the results (Bryman & Bell 2007, 410). The context of this research has been unique. Whether these experiences are transferrable to another context, is not sure, but a rich account of experiences has been attempted to be collected through the number of interviewees and the quality of answers. As it can be later seen in the analysis section, interviewees brought out many views that were independent of each other.

Because this study attempted to describe the experiences of the interviewees, it is possible that the account of experiences is not complete. As Polkinghorne (2005, 138) writes, there are intrinsic limitations to human experience when comparing it to, for example, observing human behavior. He continues that in addition to understanding his or her experience the interviewee needs to be able to communicate those experiences to the interviewer. Two of the interviews were done in Finnish and the relevant parts of the transcription were translated into English. Because most of the interviewees were not native English speakers, there is already a language barrier which probably hindered interviewees from expressing their experience in the best possible way. However, if an interviewee did not understand the question, semi-structured interviews allow the interviewer to ask additional questions so that the interviewee is directed towards answering the question that was purposed by the interviewer.

Dependability of research means that the process of research is traceable and can be audited afterwards (Bryman & Bell 2007, 414). This includes, that records of the research process are kept from the start to the finish. For example, in the context of this research the different stages of problem formulation are recorded in presentations made in the seminars and in different versions of thesis sent to supervisors. Selection of research participants was described already earlier, and it is important that they were selected on purpose, not randomly. Interview transcripts are available for checking and any notes made in the process of writing this thesis are accessible. Also, the justification for decisions

made regarding which quotes were chosen for the results part, is recorded as described earlier.

Confirmability refers to objectivity of research. Subjectivity cannot be totally avoided but the research needs to be performed in a way that personal values or presuppositions do not overpower the willingness to understand the interviewees and what they mean (Bryman & Bell 2007, 414). I believe, that even though it is impossible to leave all presuppositions behind while doing the research, they did not disturb the result of the analysis and discussion of this thesis. Next, the results of the research will be discussed.

4 RESULTS AND ANALYSIS

The purpose of this chapter is to present the experiences of the interviewees about Wolt's algorithmic management system to understand what kind of issues regarding responsibility are raised in that context. This is done through answering the research questions based on the interviews performed. First the results concerning courier work processes are presented and then the concept of responsible algorithmic management in the context of Wolt is analyzed.

4.1 Courier Work Processes and Algorithmic Management

In this part of the chapter work processes and algorithmic management of Wolt are presented. The research question of how algorithmic management is used in the work processes in Wolt is answered. In addition, the question about how algorithmic management is experienced by interviewees is discussed. Work processes are described from discovery to onboarding and from induction and activation to performing deliveries. Moreover, the payment and the communication processes are described together with the interviewees' understanding about algorithmic management.

4.1.1 Discovery Phase

At discovery phase, a courier hears about work opportunities at Wolt. Usually, couriers hear about Wolt through a word of mouth or social media marketing, which could be carried out either by organic or purchased advertisement by Wolt (M3). One of the interviewed couriers said that he saw an advertisement online and applied as a result (C6). Wolt studies carefully what kind of campaigns are effective in attracting new couriers and concentrates on using them in marketing (M3).

Currently Wolt has about 10 000 people in Finland, who would like to work with them, but the company limits the number of couriers to guarantee enough

earnings for the couriers who already cooperate with them (M2). Worldwide Wolt has over 100 000 courier partners and about 400 000 waiting to join them (M1). One of the couriers describes that sometimes Wolt opens an opportunity to join them, for example, for five couriers in Jyväskylä and five in Turku (C1). The discovery face is important especially for Wolt in attracting new couriers.

4.1.2 Onboarding Phase

The onboarding phase includes the application process that a potential courier goes through before starting to work for Wolt. From the point of view of the interviewed couriers it was very easy to apply by filling out a form in the Wolt webpages. In the application process, people need to give their contact information, social security number, place where they want to work in and an estimation of how many hours they are going to work per week. In addition, they will need to indicate whether they will use a car, a bicycle, or a scooter to deliver food.

In addition to information given, the candidates needed to take a test in the process of applying. There was a point collection system in which they needed to answer questions in the process of applying and they could proceed when they had collected enough points (C1 and C6). However, it seems like the system has changed over the years and now the information given in the application form is simply reviewed by Wolt (C2 and C5).

Usually there has been a delay before the application has been accepted. That is probably because there has been no possibility to take in new couriers. The interviewees reported a delay varying from two weeks to almost one year. One of them said

> … I waited a long time. Maybe half a year. I apply and about after half a year they call me .C2

One person reported that he had to reapply in the process because Wolt had removed all the applications (C3). One courier also reported that he had an interview before he could proceed (C6). There has been a development in the onboarding process in the course of the time.

According to C1, during the covid-19 pandemic Wolt opened the possibility for some new couriers to work for a fixed period of two to three months after the demand had risen and courier work had become very busy. However, because the demand stayed up, those contracts were made permanent. In general, it seems that the onboarding is done when there is a permanent opportunity to work for Wolt.

4.1.3 Induction Phase

During the induction phase couriers are introduced to working at Wolt and naturally it is available for those who have done the onboarding and are then, as manager M2 told, in the order of signing up invited to proceed. Wolt uses an

external platform called Edume to introduce new couriers to Wolt (M2). On the platform there are videos that the couriers can watch and learn from. Earlier they used Microsoft Teams and the introduction session took about two to three hours (C2).

Through videos couriers learn about how to establish their own business and deal with invoicing, value-added-tax, and pensions insurance. Moreover, they learn about the functioning of the Wolt application, the pay they will receive, and the laws and regulations related to working at Wolt. The regulations have to do with traffic laws and health and safety instructions when handling food products. Couriers are, for example, advised not to touch customer food and told how the food can be kept either warm or cold. Couriers need to agree on understanding health and safety protocols to be able to start working (M3). They get also practical advice through case examples (C1).

It seems like the couriers are in general content with the introduction and the information given in the session has been enough for them to start working for Wolt. One interviewee disagrees, however by saying that

> I think normally nowadays people tend to ask a lot their friends … how do I use this or what do you do when this comes along? But there is no … proper training where they show you that this is this … other than just that quick introduction. C5

Because there is no other training offered afterwards when working at Wolt, she thinks that new couriers would need more support in the beginning when they start working (C5).

After the information session is finished, couriers will proceed to sign the contract. The contract is between two companies, Wolt and the company that the couriers have started themselves. There are two possibilities nowadays: they can become light entrepreneurs and sign up for invoicing platforms such as ukko.fi or free.fi that will take care of accounting and invoicing, or they can establish their own company in any company form available. At that stage they also need to give either passport or residence permit information and to scan driver's license together with a selfie to confirm that it is the same person sending the documentation and signing the contract (M2).

Earlier it used to be possible to use an income-tax card to work for Wolt if one earned less than 10 000 euros per year. A company was needed if one earned more than that. Nowadays, things have, however, changed, and one needs to always have a company invoicing Wolt (C4). Most of the couriers interviewed work for Wolt as light entrepreneurs. Only one interviewee told that he had established a company (C4).

> …I opened my company. I took the other option when I open the company, then company is mine and because my wife is from [country A], there's a lot of business opportunity in [country A] so I said OK if open my company there might be opportunities that can have [country A] [country B] then I can diversify. That's why I choose the business option. C4

This courier had additional motivations in starting his own business which the other couriers did not seem to have. Evolvement of the induction phase is also

obvious in the course of time both in the means Wolt has used to introduce new couriers, as well as in the type of contract that couriers and Wolt have.

After a contract has been signed, a courier can go and pick up the gear such as a courier bag for carrying the food or clothes such as jacket or trousers. It is voluntary to use Wolt's gear. Couriers need to pay a deposit of 50 euros for the gear (M2). After the gear is picked up, Wolt application is activated.

It was not discussed in the interviews whether couriers can return to the platform after they have finished the induction phase. However, they will receive a 10-page document talking about entrepreneurship and co-work including useful links to external information, for example, related to pensions (M2). In general, it seems like Wolt has done a pretty good job in giving enough information for couriers to start working for them.

4.1.4 Activation Phase

In the activation phase couriers are encouraged to start or to continue working for Wolt. Activation is done in several ways. First, Wolt gives couriers hints about the current demand. Wolt projects demand for financial reasons and the goal is to help couriers to maximize their earnings (M3). They have also prototyped a demand forecast this year and saw about 10 % of the couriers using it (M3). They are thinking about making it part of the basic functions of the application.

Couriers seem to be following the demand status that shows in the application 'busy' or 'not busy'. Especially those who work part-time benefit from it and can plan their work better based on the status to earn money more effectively (C3 and C4). However, the status is not always helpful, as one courier says:

> Because for example with sometimes, the application showing busy immediately going 10 or 15 couriers … go online its immediately go quiet … because it's no orders for everyone. Maybe now it's coming 20–30 orders per hour or maybe more but when going 20 couriers more and this coming on the half. C1

So, the demand status is helpful for the couriers, but it does not guarantee that they are able to earn money.

Second, Wolt uses personal statistics to encourage couriers to work more. Couriers can only see their personal performance such as earnings, kilometers driven and number of deliveries made but cannot see the general statistics, for example, of all couriers in Finland (C2). The statistics are found in the app and are helpful to review what has happened in the past (C2). Still another way of activating workers are the promotions done to get couriers to work on a certain day and time. C3 told about a promotion that offered 1 euro more per delivery if he would work from 11 a.m. to 1 p.m. on a certain day. All incentives used by Wolt are financial to promote more earnings.

A third issue that came up in the interviews with couriers, was that Wolt used to have a shift booking system, through which couriers were supposed to book shifts for next week by Wednesday at 4 o'clock (C4). There was, however, the option of not booking shifts and still being able to work. One courier

interpreted the removal of the shift system by saying that it was not anymore necessary because there were always more couriers working than necessary (C1). Another interpretation made by C4 was that removing shifts had to do with a court case and union pressure related to it that took place about a year ago. He also had the feeling that there was a ranking system at the time because he noticed that some people were able to get more shifts than others, especially those who worked more (C4). Whatever was the reason behind the shift booking system and its removal, it is not anymore there to activate couriers and couriers seem content of its' removal (C1, C4).

Couriers experience that they are free to choose when to work and when not.

> I find that to be very convenient, so I log in when I find that it's either good time to go to work, I just find that I don't really have anything to do and I just go to work. C5

> And I think the ninety percent of the couriers, they don't agree they wanted to be like now free to choose the timing, because, for example, now I have one hour free I can go online. I can make some extra money. I can come back home. Tomorrow I'll have five hours. But for example, if we work like shift, … today I have five hours but no free shifts for me. For example the other company Foodora works like that. You need to book before you go to work if you don't have booking shifts, you cannot go. C1

> I'm basing on the surveys that we have done, we have seen is that couriers love the freedom of flexibility of being able to start their job and each time at any given point in time and … choose the tasks that they want to do. M3

This type of contract makes life less stressful (C1) and when freedom is discussed, many couriers refer to Foodora, another food-delivery company operating in Finland which has a less flexible system (C1, C3, C4). The best thing is that one can influence the pay he or she is receiving (C2). Because there is no shift booking and no sanctions for not working, it seems to be very convenient for the couriers to work this way and they feel that freedom they experience is the biggest difference compared to a more traditional work setting (C5). Freedom of working whenever they want, is the theme emphasized by all couriers.

The main goal of any company is to have a balance between revenues and expenditures. In Wolt's interest finding a sustainable business model is important (M3). The core of Wolt's system is to balance supply and demand and to do it by calculating averages (M1). Because Wolt does not have control elements such as shift booking and couriers are able to cancel tasks, they need to trust that there will be enough couriers working when needed. For example, it was raining during one of the interviews and there were not enough couriers to deliver because customers are prone to order food when it rains (M1). However, Wolt's model seems to be, in general, activating enough couriers to keep the system functioning.

4.1.5 Delivery Performance Phase

At the delivery performance phase couriers do the actual delivery work. One cycle of delivery performance starts when a courier logs in the app and receives

an order and it finishes when the delivery is completed. After that the cycle starts from the beginning.

The process that takes place before courier delivery phase is a customer ordering food and a restaurant estimating how long it will take them to prepare food (M1). A courier opens the app and swipes right to indicate that he or she is online. Being online makes it possible to receive gigs or deliveries to be made. The gig assignment process is described to be very simple. M4 wants to emphasize that only a small amount of data is used in the process that combines a customer, a restaurant, and a courier partner.

> I think … let's say the … important aspect is that … that's rather a kind of small amount of data is used to make the decisions than like large. So, it always goes from this, that you have something, something very simple … and then you take it from there. So, for example, in our case … we have the the kind of deliveries created by the customers actions so basically you have a delivery … in a restaurant and then you have some kind of estimate, OK it's gonna be … done by that time by the … restaurant so the restaurant will accept the delivery and kind of starts … preparing the food and then that … information is used … in the optimizer, route optimizer to assign all the different purchases to different … courier partners. M4

There is no evaluation of couriers' history or rating done by the customers in the optimizing process, and it is the way Wolt has built up the system from the beginning (M4). Algorithms are used in the task assignment process, because doing the same thing without a computer would not be feasible (M3).

The key to being offered a gig is closeness to the restaurant that prepares the food (M2). Only sensible gigs are offered to the couriers which means mainly the distance and the time that it takes for them to go to the restaurant (M1). That is why couriers are often driving around restaurants while waiting an order to be allocated to them (C3). Because the key to the success is effectiveness in the delivery process, Wolt tries to minimize the waiting times and sometimes it means that tasks will be reassigned if it takes too long for a courier to get to the restaurant (M3). It means that a courier loses an order even though he or she is already on the way to pick up an order from a restaurant.

When a gig is offered to a courier, the app gives an estimation of how many minutes it will take to go to the restaurant and when the food will be ready (C3). If a courier accepts an order, he or she can start navigating to the restaurant by using any map application available. In the Wolt app there are two navigation apps, Apple Maps and Google Maps embedded that a courier can easily use (M2). Couriers consider the Wolt app in general very useful, because all the tools are at their fingertips (C3). Also, the map is found to be very useful (M5), even though one courier had a problem with it not working smoothly enough (M3). That is why he used Google Maps app directly.

One recent development in the Wolt app is that couriers can do bundle tasks, which means receiving several orders simultaneously. Economically speaking, that is the way to earn money and the two couriers mentioned that they preferred doing them (C4 and C5). However, especially courier C4 has experienced problems with bundle tasks. He says that earlier he could predict what was going to happen and orders were not reassigned. Now he is troubled saying that

> … it says 10 minutes, go and pick the order. Restaurants they are always very fast, … they are not ready in 10 minutes, maybe by 7 minutes, it's great. And then you start driving but it take you exactly 10 minutes to get there, so once it's ready at 7 minutes you are not yet there, after 2 minutes, 5 minutes you're not there. The other task, that you were supposed to have, it's gone. C4

He thinks that the algorithm cannot always be trusted, and there should be a possibility of overriding it by a human being, if necessary. He has also had problems with receiving a part of a bundle task and needing to return to the same restaurant after he has already started navigating to a customer address (C4). He has contacted the support service that helps couriers to deal with problems to tell them that this kind of system does not make sense to him especially because it makes people to hurry and as a result break the traffic rules (C4). Breaking rules can cause accidents that also other interviewees are worrying about (M2 and C1). What in addition causes drivers to be exposed to risks, are long working hours (C1) and multitasking while driving (C2).

When food is ready for delivery, a courier indicates in the app that he or she has received it and verifies in the app that all items are included in the delivery (C3). After that the app shows the delivery address and a courier starts navigating to the customer address. The app may have additional information such as door codes included (C5). Wolt tries to help couriers as much as possible to find the addresses quickly (M3). Despite of that, couriers sometimes find it difficult to find the correct location especially if the address given by a customer is incomplete (C4).

Most of the deliveries to customers are nowadays non-contact deliveries which means that a courier knocks the door and leaves the food at the door and waits for a customer to open (M2). Another option is that a courier hands the food directly to the customer. In addition, couriers are told to wear masks while working (C3). In general, the delivery process is simple and very repetitive.

Nowadays there is also a possibility of declining an order. When a courier presses the reject button, he or she will need to wait until the order is relocated to someone else, and it will take about 30 seconds to one minute that the order stops showing in the app (C5). There are no penalties for declining an order, however (C1). Declining an order is a new development in the app that has been in place for only a few months (C5). None of the couriers gave an interpretation, why the change took place but at least it diminishes Wolt's control towards couriers. If a courier needed earlier to cancel an order, he or she had to contact the support to tell the reason why he or she could not take the order (C2).

Recently, couriers have faced some problems with the app. There has been instability, which C4 interprets coming from the company expansion. These glitches, as they call them, make working very difficult. Sometimes it has been hard to be able to receive an order and one day for about 45 minutes the system did not work properly (C3). These glitches have surprised a courier who has been working already for two years for Wolt because earlier the app has been working smoothly (C4).

> Well lately the app has been having a few glitches and problems which surprised me because in the time that I have worked, I haven't really come across such things. But I guess it just comes with, you know, with the company becoming bigger and people buying more from Wolt. So, then actually comes with it but for risk or threat with the way that the Wolt company has been going, I do hope that that they are able to fix those problems and that those problems come less because it would definitely affect the customers and how they see Wolt. And they will less likely want to order from Wolt. Obviously, it's double then, it will affect my payroll if there are not people buying. C4

4.1.6 Payment Process

The payment model Wolt has chosen to use for courier partners is payment per delivery. Wolt management thinks that it is motivating for the couriers because they can influence their pay by performing deliveries as fast as possible, which is also in the interest of Wolt (M1). If Wolt couriers were employed by Wolt, it would mean that they would receive a monthly salary and possibly the incentives of Wolt and couriers would not be uniform anymore (M1).

Couriers receive a base fee of 4 to 5 euros per one delivery depending on the city, date, and the time of the day (M2). If the straight line distance between the restaurant and customer is more than 1,5 kilometers, they will receive 0,43 euros per every starting 250 meters. If the order is late and a courier needs to wait, there is a compensation fee paid. According to one of the interviewees it is paid after 10 minutes of waiting and it is about two euros (C5). There are special promotions made, for example, offering one euro extra per delivery, if it is expected that there will not be enough couriers available at a certain time (C3). In addition, there are bonuses for large deliveries (M2). Couriers are not compensated for fuel usage, but they can get tax deductions from the government.

An average courier earns 15–16 euros per hour plus VAT and within the last two years the average has risen by 2 euros (M2). Compared to courier work in the employment context, the minimum pay in the collective agreement is around 9 euros per hour (M1). With the difference of 9 and 15 euros the courier pays pensions and other costs. Average couriers perform two to three gigs per hour, and they invoice Wolt on average a little less than 6 euros plus VAT per gig (M2).

Couriers that were interviewed were in general content with the pay they received (C1, C2 and C5). Some were especially satisfied with the opportunity to earn some extra when having another job to support them (C1 and C4). One interviewee, who had another full-time job, had a target of earning a hundred euros every day from Wolt and he optimized the work as much as possible (C4). He said that the most important thing is to minimize the pick-up distance.

> I just plan myself because for this work, now I notice that you don't need to work too much. In economics there is what we call the break-even point. You know, you are able to know, it's like in economics there's something we call diminishing returns. You know get to a point when at a certain point you start turning again you might think you're making more, you're putting more energy in and everything, the cost is getting higher, but you are not making. So because of my economics background, I'm very, very, I know when to go in and when to go out. C4

Wolt's statistics support the previous saying that 67 % of the couriers are satisfied with their income, 11 % are dissatisfied and the rest are neutral about it (M1). The only example of dissatisfaction towards the salary was from a full-time courier who said the following, when being asked about the salary.

> OK, for me I can say yes but … it's not good. Yes, I can say, when I start like when I started in 2018, I was say yes it's, it's good but it's not good. It's not good because we drive so much and it take 10 or about 10 hours you starting in the car and ten hours it's like 100 and if 20 euros a day and you will, if you, you calculate good, it's not enough. Because 10 hours or 12 hours it is so long. Yeah … it's not good for me but it's enough for me because I live myself, not it's, not big deal but if I say newcomers it's not good C6.

When he started, he thought that the salary was good but now he has realized that long hours and the pay are not in line with each other. He can live on the salary because he does not have a family to support, but he is not content with it and he would rather be employed and receive a monthly salary because it would guarantee a stable income for him (C6). Based on the interviews, it seems like it is easier for part-time couriers to be satisfied with the salary than for full-time workers.

4.1.7 Communication Process

Courier communication is limited towards Wolt. The initial communication about the interest to work for Wolt takes place online and as it seems, there is necessarily no direct human contact on discovery, onboarding, induction, and activation phases. Communication is initiated by the courier but it is otherwise one-directional from Wolt to courier except for the feedback received through testing of courier's knowledge. The communication can be in a form of a message sent to all couriers to tell that they are busy and to encourage people to go online (C1).

The communication on delivery performance phase takes place through the application. The basic communication occurs through the basic functions in the app as explained earlier and by indicating in the app for example, which stage in the delivery process is going on (M2). If there are no problems, there is no other communication between a courier and Wolt. However, when there is a problematic or exceptional situation, a courier can have a direct human contact. In those situations, a courier contacts the support service, where there are about 200 people working in shifts in Finland supporting couriers, restaurants, and customers (M1).

A contact to the support service can take place through messaging in the app or by calling. Couriers call if they have an urgent issue such as a problem with a customer address, a customer not opening the door or a technical problem that they face and otherwise they send a message. If there is a technical issue, the support service may send a message to all couriers telling, that they are working on the problem and that they discourage people to contact them by phone (C1). Technical issues are in general compiled and sent to the product development team for solving (M4).

In general, couriers seem content with how fast the support service responds and can solve different kind of issues (C1, C2, C3).

> All the time they improve the customer service. I think it's not the customer service, it's like a support service, support service. They, the maximum waiting is about a minute to respond. … Sometimes it's a short time but sometimes it's minutes going. It depends how busy it is. C1

> Sometimes because somebody put the wrong inaccurate pin location for their home so but when you contact the support they reply immediately and then problems can be solved. C4

Couriers feel that communication is more efficient through the app and problems can be solved immediately (C4). The support service handles people very well (C3). In case of difficult customers or poor behavior by a restaurant worker, they tell couriers not to do anything else than just their job and leave the rest for them (C1).

If communication were through a face-to-face contact, there would be more waiting time involved (C2) and it would not really be feasible in the type of work couriers do (C1). However, some couriers would prefer having a face-to-face contact if it was possible (M2, C1).

> Actually, face-to-face is better, but in this work it's, it's not possible. … All the time you're somewhere else you have to go from place to place to work. C1

Communication between couriers and Wolt, except for problem solving situations, does not seem to play an important role for the couriers. One of the couriers said, that there are no casual conversations, and no more communication is needed (C5). However, when she gets a moment to think about it, she changes her opinion.

> Well, … now that I thought about it maybe maybe could actually be good now that I thought about it when you do have that communication with your colleagues and the bosses, … the higher ups or the ones that you can communicate with it definitely let's the higher ups kind of see your point of view and understand you a bit be better so that they can be able to put you in positions where it's not too tough for you. That's my opinion. C5

Another courier is delighted with conversations he has with other couriers and the support he receives when he has problems (C6). His response reflects, that couriers have been able to build a community together and communicate with each other informally.

Before covid-19 pandemic, Wolt organized face-to-face meetings with their management where couriers could sign up and come to discuss system improvements and give direct feedback to Wolt (C1). They have nevertheless not organized them lately which has terminated direct contact between the management and couriers.

As entrepreneurs, couriers have a freedom to choose when they work and to pursue whatever relationship they like with Wolt (M3). Couriers are also free to have several jobs at the same time if they wish (M4). The relationship is a

matter of choice (M3). One of the couriers says that there is no emotional or friendly connection to Wolt that would probably exist if there were human beings managing the work (C3). When communication is limited, it also limits the connection and relationship of the couriers to Wolt.

To summarize, the communication between Wolt and couriers is limited but sufficient from the point of view of most couriers. However, through the communication system, which concentrates on the functions of the app, workers are distanced from the company and do not have normal relations that workers would have in a regular work setting. However, couriers are content with the support service that Wolt has provided for the them.

4.1.8 Algorithmic Management and Courier Work

The previous sections have described how algorithmic management has been used in the processes of courier work and what the interviewees thought about it. This section attempts to complement the experience of the interviewees about the algorithmic management system.

Algorithmic management is used in managing couriers' work especially in the delivery performance process when tasks are offered to couriers to make deliveries. Based on the interviews, most of the couriers do not question the role of algorithmic management as part of their work. For example, C3 says that the algorithm works usually in a straightforward way.

> … Most of the time the algorithm is direct and straightforward. It doesn't deviate or there's no unnecessary pressure. It's predictable and easier to anticipate what's going to happen … after this or after this order …, how I'm going to go through this. It's easier to anticipate. C3

In general, couriers are satisfied with the algorithm managing their work and the freedom it gives them when there is no other boss over them (C6). There is only one courier that is more critical towards algorithms and using them in managing people.

> I think there are different roles for AI and the support side and then so the human … I mean for the HR… Some roles that maybe you can do better. Computer can do certain things better, … something that is repetitive, repetitive, repetitive, like wrong address or something they can help. C4

He would prefer a combination of the algorithm and human beings managing the work. However, none of the couriers questions the use of the term algorithmic management in relation to their work.

The Wolt management has a totally different view about the use of the term algorithmic management in Wolt's work context.

> We don't manage couriers, we manage tasks. M3

They think that algorithmic management would require a control element over workers, that their system is lacking (M1). This control would have to do with

when and where couriers are working, how they work by choosing routes, vehicles, clothing they wear and even their outward behavior. And if these were not obeyed, sanctions would follow (M1 and M2).

There seems to be a clear reason for refuting algorithmic management as a word. It is the societal discussion going on around the issue (M1). The management compares Wolt to other food-delivery companies that use more control elements.

> And with some companies the algorithm, you can better argue, that it manages the work. There can be, for example, some ranking systems, that you see how fast the courier does his work, what kind of customer evaluations he receives. A courier, who does not get equally good evaluations, that person is not offered equally good gigs. That is … algorithmic management. Wolt has made such a decision already years ago, that we do not want to go this way. We see it, like as a dystopic worldview. M1

Algorithmic management as a term, in the view of the management, gives a wrong tone to courier work because there is no forcing or commanding involved in the system (M1).

Table 2 summarizes the answers to the first two research questions how algorithmic management is used and how the interviewees experience it.

TABLE 2 Work processes and algorithmic management

Process Phases	**How algorithmic management is used in the processes?**	**How the interviewees experience the use of algorithmic management?**
Discovery Phase	• Algorithms used in attracting new couriers through advertising	
Onboarding Phase	• Algorithms used behind the application process	• Applying was easy. • There was a time lap of two weeks to almost one year before being able to start working.
Induction Phase	• Algorithms used behind the introduction process	• Couriers are content with the introduction and the information given. • One courier thinks that there should be more training for new couriers.
Activation Phase	• Algorithmic management used in current and future demand projections.	• Couriers are actively using current demand projection and 10% used future demand projections, which help them to earn money more effectively. • However, the status does not guarantee earnings.
	• Personal statistics to encourage working more	• Statistics are easy to find in the app and are helpful.

	• Promotions to get couriers to work at a certain time	• Promotions are seen as positive incentives.
	• In the past there was a shift booking system.	• Couriers are content that shift booking was removed because there is now full freedom to work whenever they want. • Life is less stressful for couriers when they have the freedom to choose when to work. • One can influence his or her pay directly.
Delivery Performance Phase	• Algorithmic management used in the gig assignment process	• The assignment process is very simple. • This process is made possible by using algorithms. • The app and the map applications in the app are easy to use. Everything needed is available in the app. • One courier had a problem with the map application.
	• Bundle task assignment process	• Economically it is an effective way to earn money and couriers preferred it. • However, there are some problems with bundle tasks. Leads often to order reassignment and unnecessary driving.
	• Task reassignment done in the gig assignment process	• Human and algorithm collaboration would be needed more to get it to work better. • Hurrying may cause breaking traffic rules and accidents.
	• The algorithmic management done in directing courier work while delivering	• The app directs the work in a simple way, which is easy to follow.
	• Address of customer disclosed after the order is ready for transport	• Sometimes couriers find it difficult to find the customer location.
	• Declining an order is possible nowadays.	• Earlier couriers needed to give an explanation to the support if they could not take the delivery (in case of an emergency).
	• Instability or glitches in the application	• Recently the app has not worked properly.

		• Couriers hope that Wolt can solve the problem before it starts influencing customers and couriers.
Payment Process	• Algorithms used to do payment calculations • Payment per delivery model	• The management thinks that it is motivating for the couriers to get paid per delivery • Couriers were content with the pay received. • Extra earnings were appreciated by couriers who had another job. • Optimizing of earnings seems to be possible. • According to the statistics 67 % of couriers are satisfied with their income. • A full-time courier was not satisfied because he had to work 10–12 hours per day.
Communication Process	• Communication takes place through the application	• Basic communication is made very simple in the app about the advancement of the tasks.
	• In problematic situations human contact is possible either through messaging in the app or by calling.	• Couriers are content with the speed of response and support's problem-solving ability • Communication is more efficient through the app and problems are solved immediately. • The support handles people very well. • Some couriers prefer face-to-face contact, but it is not possible in this type of work. • Communication between couriers and Wolt is otherwise not very important for couriers. One courier thinks that it would help the management to understand couriers better if they had a direct contact with couriers. • Couriers have been able to build a community and communicated with each other informally.

	• Earlier Wolt organized meetings with the management.	• A good channel for couriers to give feedback and help develop the app.
	• In general communication is very limited.	• There is no emotional or friendly connection of couriers to Wolt.
Algorithmic management in general	• Algorithmic management and courier work	• Couriers do not question the role of algorithmic management as part of their work. • Couriers are satisfied with the freedom the system provides for them. • According to one courier humans and algorithms should manage the work together • The management denies the use of algorithmic management because of the lack of control.

The previous table summarizes the use of algorithmic management in Wolt's work, pay and communication processes and shows how the interviewees experience processes as part of their work. Algorithms are used in all processes and algorithmic management is used especially in activation and delivery performance phases and in payment and communication processes. Algorithmic management is used to project demand, through statistics and promotions and in gig assignment, bundle tasks and gig reassignment processes. In these processes some information is revealed and other concealed from the couriers, which leads to information asymmetry especially when the communication between couriers and Wolt is limited to contacting support in problematic situations. The pay per delivery model serves at the basis of the system and communication happens mainly through the app and through support service.

In general, the interviewees experience the algorithmic management and its functions positively, even though the management denies the use of the term in the context of Wolt. Couriers have some concerns regarding the bundle tasks, the gig reassignment process, and the glitches that the application has had recently. Most of the couriers are content with the pay they receive even though one full-time courier interviewed is not satisfied with it. Couriers experience the support service they receive from Wolt positively.

4.2 Responsible Algorithmic Management

In this part of the chapter the results of the research are presented concerning algorithmic management and responsibility. The purpose of this section is to

answer to the research question of how and why the interviewees experience responsibility or the lack of it as part of algorithmic management system at Wolt.

4.2.1 Principles of Responsible Management

Responsible management is a very broad term which the interviewees find easier to describe in concrete terms related to their work rather than in theoretical concepts. However, general principles about responsibility can be derived from the answers.

There are several general principles related to responsibility that are discussed by the Wolt management. Consistency in actions is described through choosing the model that Wolt has chosen for couriers, which means them being entrepreneurs and following the rules abiding to entrepreneurship and not trying to manage their work (M1).

> … One part of responsibility is that you have to … choose, which rules you follow to play with, because both of the rules have pros and cons. That… if you … choose this model, which we have chosen. We work with entrepreneurs and then the responsibility in relation to that is that we also follow those rules. M1

Another manager speaks about the transparency and trustworthiness towards all Wolt's partners and when communicating about different issues to them (M2). Also, equal treatment related to gender, religion and ethnic background of couriers is part of responsible management (M2 and M3).

Fairness of pay is also part of responsible actions towards workers. In Germany Wolt uses an employment model because there is no other model available (M3).

> So, one example. … We don't pay our courier … for example, this is primarily an example in Germany because in Germany you have to have an employment model. You can't have a freelancing model version right … here we don't pay our careers … on a minimum wage we pay more than the minimum wage … to the couriers and that's simply because we don't think the minimum wage is … sustainable for any human who at this point… So we we strive to do that so … that's one way of defining our responsibility. M3

Responsibility concerns also data usage in a way that is appropriate, which includes not misusing data for rating of the couriers (M4). So, there are many general principles related to responsibility.

Couriers' answers concentrate on respect and good treatment of the couriers and no views of irresponsible actions from the side of Wolt are discussed in the interviews. A humane way of treating couriers as people who make mistakes, is important.

> Yeah, they they are so nice, and they said OK, we will call to the restaurant make another one just going through this route somewhere if you wanna. If it's spilled food or drink or something else it's like normal day all the time. OK don't worry we'll fix that mess. Don't need to think about that. C2

Wolt is helpful towards couriers when they have problems (C1). They feel a sense of respect which leads to mutual respect and, also, a courier acting in a responsible way (C3). In addition, responsibility has to do with a professional way of doing things (C5). It seems that Wolt deals with its couriers in a respectful manner.

When the interviewees are asked about prioritizing law, social morality, or personal ethics, many answer that all of them are needed in decision making (M2, C3, C5 and C6). It is difficult to put them in order.

> I'm not sure, it's difficult it's, kind of, it depends always. So maybe, I think … that was … good. Yeah it always depends, so kind of setting, any of these higher for certain is, it's quite difficult. M4

It depends on the case, which one of the three should be emphasized (M4). Following the law is very important (C2) and, for example, if the government says that all couriers need to be made employees, Wolt should do so (C6). Also in traffic, legality is emphasized because traffic rules are made to be followed (C2). Moreover, the role of personal ethics is important in case when there are no laws or rules covering a particular issue (C6). Personal ethics comes into question when one gains access to information that should be used only for professional reasons (C4). To conclude, it is difficult for the interviewees to prioritize law, social morality and personal ethics and it depends on the angle from which responsibility is looked at, which one should be emphasized.

4.2.2 Responsible Algorithmic Management at Wolt

There are several aspects that come up when discussing Wolt in the context of responsibility. These aspects have to do with their support system, measuring satisfaction, managing complaints, pay and improving courier benefits.

Especially the couriers appreciate the support system that Wolt has built for the couriers and mention it as one element of responsible management. The speed of reply and convenience of contacting the support though the app which is made possible through ready-made selections in the app is appreciated (C5).

> I think … if when, I think that we have access to support when we don't know what to do and it is very important. That, that when we are in need, that the response is quite fast and also the Wolt has already set up this , like, how would I put it, I wouldn't say buttons but like selections where you can select from if you have a certain problem so that you don't even, you don't have to like sit down and write was the problem. C5

The couriers also value the support taking it seriously if a courier has a problem, for example, an incident in the restaurant (C4).

Another side of the support system is the information that Wolt provides for couriers when they start working. As mentioned earlier, they provide couriers a 10-page document covering entrepreneurship, co-work with Wolt and other useful information. In addition, couriers are provided with a free help line with the Finnish Entrepreneurs that can aid them in the process of becoming an entrepreneur (M2). Courier support could be interpreted to be part of social

morality. It is generally expected that a company takes care of its workers and does it in a manner that conveys respect towards them.

Wolt increases transparency by publishing statistics every 3 months about how couriers experience working at Wolt. The majority of the couriers is content with cooperation with Wolt and they give an average of 4,2/5 to their happiness (M1). Couriers give 4,18/5 to their general satisfaction about working at Wolt (M1). Both figures are very high. 81 % of the couriers works for Wolt because they want to do so, and the rest do it because they have no other work available (M1). The majority of 60 to 70 % of the couriers prefer working as an entrepreneur because they want to keep the freedom it offers to them. About 20 to 25 % would prefer employment and the rest are indifferent about the matter (M1). The interviews with the couriers seem to be in line with these results that couriers are content with working for Wolt.

Moreover, Wolt has recently started collecting daily feedback from the couriers. A feedback collection button appears in the app when the courier is about to switch the app off and he or she can give feedback by pressing thumbs up or down button (C5). Couriers can also give stars to the functioning of the app and the quality of the support service that they receive and write down their complaints in textual form (C5). This way it is easy for the couriers to remember to give feedback.

If couriers complain to Wolt about a problem they face, they can file their complaints to the support service.

> Always you can … we have rather many levels, in which one can … go upwards … to complain, if there is something. That if a courier is unsatisfied with how some of our support personnel has, for example, served him. Always you can file a complaint to the manager. If there is a grievance, you can file a complaint to the country director. M1

Couriers can complain all the way to the CEO, if necessary (M1). As a courier notes, it is important to listen to all the parties if there is a complaint towards someone (C4). It is important the system of dealing with complaints is impartial and it is possible to appeal to the next level in hierarchy when needed.

One issue regarding responsibility is the relation between the number of couriers working for Wolt and the number of deliveries they make which will influence their pay. As it was discussed before, Wolt limits the number of couriers. Some couriers interviewed think that the biggest threat towards their income is that the number of couriers is increased without the demand increasing (C2, C3). A courier states that the answer to rising demand is not to increase the number of couriers but to make the system work more efficiently (C4). If Wolt can keep the average pay of couriers at around 15 euros despite of the increase in the number of couriers, there should be no responsibility related problem involved.

A part of responsibility towards couriers' pay at Wolt is that a courier gets paid more for the delivery than what a customer pays for it. About half of the restaurant commissions go to the couriers (M1). According to Wolt's statistics, couriers give an average of 3,83/5 to their invoicing amount (M1), which is a

good average in general. Moreover, couriers seem to be content with receiving their pay every two weeks (C3).

Wolt wants to be a responsible actor in platform economy according to its management, but what makes it difficult is that the whole concept is new, and the regulation has not developed to suite this kind of work (M1). They want to take law and regulation into account but also consider morality, which means doing things in a good way. They also want to take part in the societal discussion and defend their point of view and on the other hand, admit if they have made mistakes (M1).

One part of making sure that Wolt's actions are lawful, is the operation of their central compliance team. Their role is to make sure that Wolt operates in an ethical manner (M3). They have the big picture of the requirements and needs in all countries in which Wolt operates (M4). They have weekly meetings with the product development team that builds the app, and they may request, for example, to improve courier activity in some way (M3). In addition, teams do their own research in compliance issues (M3).

The problem Wolt is facing when wanting to improve courier benefits, is that those actions may be used against them, which is common in the whole industry (M1).

> When we know a lot of things, in which we would like to do better, but we are in, in a legal, as in Catch-22 situation, which means that, I don't know it is familiar with you, this problematic, so to say. But, when a company like usl when this has to do with cooperating with entrepreneurs. So always when we offer couriers something nice, in practice it can be used against us in court. M1

One example of this is voluntary accident insurance that the labor union had earlier complained about as a sign of irresponsibility towards couriers. In 2020, Wolt added the insurance to courier package but did not include a salary component to it because of the fear that it might be regarded as an employment type of benefit (M1). As a result, couriers do not receive a compensation for the time they cannot work if they are injured. This insurance can be used against them in court to prove that a courier has worked in an employment type of relationship because it is normal for employers to take such insurances (M1). Another similar issue is that Wolt would like to replace the food that is damaged by couriers, but they cannot do it because an entrepreneur has a responsibility to cover his or her own mistakes (M1).

Wolt also would like to improve the social support system for entrepreneurs in other ways, but the law does not allow them to do so (M1). For example, if it was possible, Wolt could pay social payments such as pensions directly to the pensions company and pay couriers only the amount that finally belongs to them (M2). This would help the couriers, because the only negative thing mentioned about entrepreneurship is that in addition to establishing the company, they need to pay everything on their own after they have received the full amount on their bank account (C1).

> But only the bad things is because you can be, you can make, you must make your own company and if you work a lot. You need to pay everything for yourself. Pension,

health insurance, everything. Only this one. This is a normal. If you start some normal job, you need to pay off from your pay slip, they cut it. C1

Table 3 summarizes the answers to the third research question of how and why the interviewees experience responsibility or the lack of it as part of algorithmic management system at Wolt.

TABLE 3 Responsible algorithmic management at Wolt

Responsible algorithmic management	**How do the interviewees experience responsibility or the lack of it as part of algorithmic management system?**	**Why do the interviewees experience responsibility or the lack of it as part of algorithmic management system?**
	• Wolt attempts to follow principles of responsible management in their operating system. • Responsibility is defined through those principles.	• Wolt's managers feel that Wolt acts in a consistent, transparent, and trustworthy way, promotes equal treatment, fairness of pay and correct data usage. • Wolt's couriers feel that in general responsible management refers to respect and good, humane treatment of workers, a willingness to help and a professional way of doing things that are present in Wolt's actions.
	• Couriers are content with the support system.	• The support replies fast. • It is convenient to contact the support through the app's ready-made selections. • They take couriers' problems seriously. • Wolt provides couriers with a 10-page document with information. • There is a free helpline with the Finnish Entrepreneurs.
	• The majority of couriers is content with their cooperation with Wolt. They prefer working as entrepreneurs.	• There is transparency through statistics published of the general view of the couriers. • Wolt actively collects feedback through the app. • Couriers can file complaints with Wolt. They can appeal to the next level in hierarchy.
	• The majority of couriers is satisfied with the invoicing amount. • Some couriers see the decline in their invoicing amount as the	• Wolt limits the number of couriers, which guarantees a better income for couriers. • A courier gets paid more than what the customer pays for the delivery.

	biggest threat towards their work.	• Couriers are paid every two weeks.
	• It is difficult for Wolt to develop more responsible practices because of the limitations in the legislation.	• The central compliance team is built for Wolt to act in an ethical manner. • The regulation is underdeveloped. • Wolt has added an accident insurance for couriers but cannot include a salary component in it. • Wolt cannot replace food damaged by a courier. • Wolt cannot improve the social support system through deducting social payments directly from couriers before paying them.

To summarize the results collected to Table 3, couriers are, in general, of the opinion that Wolt is a responsible company towards them. There are several definitions offered to responsibility by both managers and couriers. Especially, couriers are content with the support system that is convenient to use, replies fast and takes their problems seriously. Most of the couriers prefer working as entrepreneurs because of the freedom it offers them. Most of the couriers are content with the payment system of Wolt.

Wolt would like to develop more responsible practices towards couriers if the legislation would allow them to do so. Thus, responsibility-related issues that were raised through the interviewees in the algorithmic management system of Wolt, were more related to the stable operation of algorithms, task reassignment especially related to bundle assignments, and in case of one full-time worker, the payment amount which were all mentioned in the previous section related to algorithmic management at Wolt.

5 DISCUSSION

5.1 Algorithmic Management in the Context of Wolt

Algorithmic management is used in many ways in Wolt's work processes and it was mainly experienced positively by the interviewees. There were also some responsibility-related issues brought up by the interviewees but in general Wolt received a good evaluation from them. However, the literature reviewed in this thesis gives a more critical view of the algorithmic management systems. In this chapter the results presented are discussed together with the literature. The discussion will be started with algorithmic management in relation to Wolt's processes and continued with responsible algorithmic management at Wolt. In addition, the limitations of the study will be discussed in this chapter.

Algorithmic management was used in many processes at Wolt. At preliminary stages before starting the actual work, algorithms are used in a traditional way. The literature, however, does not include much discussion about discovery, onboarding, and induction phases that were described in the research results. There are some resemblances but also differences compared to other food-delivery companies hiring workers. For example, as the literature points out, most of food-delivery couriers are of an immigration background (Timko & van Melik 2021, 506), which was the case with Wolt couriers interviewed. The interviews did not cover the reasons why these interviewees had immigrated to Finland, but many of them were students and immigrants for whom starting to work for Wolt was rather easy, as was also concluded by Timko and van Melik (2021, 506). Contrary to their study (Timko & van Melik 2021, 508), Wolt did not offer any bonuses for couriers recruiting new workers.

Veen, Barratt, and Goods (2020, 395) reported that Deliveroo limits the number of workers on the platform which also Wolt does but Uber Eats, on the contrary, has no entry limitations. The difference between Deliveroo and Wolt is the shift booking system, which Wolt has removed. However, there are other differences between these companies, such as Deliveroo assigning workers on

specific zones before giving them orders and Uber Eats offering bonuses if couriers go to a certain area to work (Veen et al. 2020, 395), when Wolt gives its' workers a freedom to choose where they work and does not persuade them with financial incentives attached to a specific location. Wolt couriers experience algorithms as effective and follow their recommendations, even though they do not guarantee work for them. It was not discussed in the interviews, do the messages that couriers receive about the demand situation, specify the exact location where the demand is high. However, no frequent bonuses were offered except for the special promotions. The freedom that Wolt couriers experience in relation to when and where they work, seems not to be common in algorithmic management systems in general.

Because of the lack of the shift assignment system, the use of algorithmic surveillance is not that obvious at Wolt, even though Wolt collects data regarding the workers. Contrary to other similar companies, personal statistics are not used at Wolt for prioritizing or penalizing couriers (Ivanova et al. 2018, 12). They do not include customer rating that makes Uber Eats statistics a performance management tool (Veen et al. 2020, 397). Neither is there any evidence based on the interviews that Wolt would use reminders to notify couriers for not performing as expected, which was the case with Deliveroo riders when they did not start moving after they had accepted an order (Ivanova et al. 2018, 12). In addition, no commanding messages from Wolt were reported by the interviewees compared to other companies that used negative persuasion techniques. In general, Wolt seems to use more positive persuasion tactics rather than negative when attempting to meet the customer demand.

The food-delivery process that takes place at Wolt follows the process described by Veen, Barratt, and Goods (2020, 394). It starts when the courier logs on and receives an order and finishes when the order is delivered. Declining an order is possible in Wolt's system and couriers and managers interviewed told that it had no consequences to the couriers, which is experienced positively by the interviewees. Couriers working for Deliveroo and Uber Eats, on the contrary, seemed to have questions of what would happen after declining too many orders and had a fear of account deactivation in case of too many orders declined (Veen et al. 2020, 398). Other platform companies, such as taxi company Uber, use account deactivation threat in their direct communication with drivers (Rosenblat & Stark 2016, 3766). It can be concluded that even though the work process of Wolt follows other food-delivery companies, Wolt seems to offer more freedom to their couriers regarding which orders to accept and decline. The interviewees experienced this freedom as the possibility to influence their working times and the pay they receive.

Bundle tasks were preferred by some Wolt couriers because they were seen as an effective way of earning money. Uber Eats also allows couriers to collect multiple orders (Veen et al. 2020, 396). One Wolt courier had complaints about how the algorithms functioned regarding bundle assignments and it was not totally clear why he had accepted such an inconvenient bundle task if declining was possible. There was also evidence from Uber Eats that sometimes the courier

experienced bundle tasks inconvenient because the delivery distance was long, and the other customer had to wait long for their order to be delivered (Veen et al. 2020, 397). There was no indication of task reassignment in the previous literature. It may be that platform companies have developed that only recently.

Instability in the Wolt app was experienced by some couriers as a threat for the future. Basukie et al. (2020, 8–9) reported this to be a problem especially in the developing countries. Because of the technical nature of the app, instability is present also in Western countries occasionally, but it probably is not in general so disturbing for the work as in developing countries.

The information asymmetry described by Ivanova et al. (2018, 16) is present also at Wolt. Couriers do not know how the task assignment process works even though the managers claim it to be very simple and to be based on the location. Veen et al. (2020, 398) note that the couriers they interviewed experienced similar problems. Moreover, the customer delivery address is portrayed only when the order is received for transport, which was the case with other food-delivery companies (Veen et al. 2020, 398) and, in addition, with other companies using algorithmic management, such as Uber (Rosenblat & Stark 2016, 3762). It seems to be common for all platform companies that they hinder the worker's ability to estimate the cost of the work beforehand, which allows the company to control worker more heavily. Wolt, however, compensates also for the distance, which makes assignments with longer delivery distance more profitable than in those firms that only provide for the basic fee. The interviewees seem to experience information asymmetry as neutral to them because no issue was raised regarding it.

A common payment model that also Wolt follows is payment per delivery. The Wolt management experiences that the payment model brings together the motivation of both Wolt and the couriers, so that a courier works effectively to earn as much money as possible. However, as van Doorn (2020, 140) argues, the model benefits especially the company through data-driven economic incentives. What Wolt does differently compared to other companies besides paying for the delivery distance, they provide a bonus for waiting for a delayed order, which does not seem to be common with other food-delivery companies (Veen, Barratt and Goods 2020, 395). As Veen et al. continue, couriers interviewed by them often had grievances about the waiting time between orders and their income in general. It is probable, that payment for distance and the waiting fee improve the experience of fairness for couriers of Wolt's payment model.

There was no evidence of Wolt managers getting involved in the work or communication processes towards couriers other than in case of complaints that would be forwarded to higher hierarchical levels. No indication of surveillance mechanisms came up in the interviews of which Newlands (2021, 725) comments as managers working behind the surveillance system. At Wolt, it seems that the management is distant from couriers and all human communication goes through the support service. It is, however, experienced positively, that there are human beings available for courier communication and couriers are satisfied with the quality of support they receive. As Duggan et al. (2019, 123) write, it is

typical that couriers receive automated responses from the support and thus lack any contact with human beings. This is not the case with Wolt's operating system.

Some evidence came up in the interviews that in the absence of managerial communication towards couriers, they had relations with other couriers and were able to fulfil their communication needs through those relations. It seemed that courier expectations towards Wolt regarding communication were very low in general. The interviewees did not bring up digital forums, except that one courier mentioned after the interview, that there was a Facebook group for couriers. The evidence mentioned by Galiére (2020, 365) about couriers sharing information about the functions of the application when waiting their orders in the restaurants, came up in the interviews.

When returning to the definitions of algorithmic management presented in the literature review, the view of Wolt's management reflects the view presented by Duggan, Sherman, Carbery and McConnell (2019, 119) about algorithmic management controlling human workers without human oversight. They deny the use of algorithmic management in the context of Wolt because of lack of strong control elements in the system. However, when looking at the view of Lee, Kusbit, Metsky and Dabbish (2015, 1603), who propose defining algorithmic management purely as replacing managerial functions and overseeing workers, there is no question of using the term also in Wolt's context.

When discussing algorithmic management though the definition given by Jarrahi et al. (2021, 5), it should be understood as redefining the relationship between employees and managers, and stabilizing, coordinating, questioning, and bargaining over its' role in the organization. The roles of the couriers, managers and the algorithm are changing constantly, and the interviews verify that there has been a development in the app that represents balancing or bargaining related to the amount of control that Wolt holds over the couriers. Both removing the shift booking system and introducing the possibility to decline orders, have diminished control by algorithm and given the control to couriers. The management has had a vital role in making decisions related to these changes.

On the other hand, the algorithm still holds control over task assignment and reassignment and the courier ability to evaluate the feasibleness of the task beforehand. Couriers question some of the functions of the management system as the task reassignment and are troubled with the technical problems that they sometimes face when using the application. Couriers are also giving Wolt feedback of how to develop the application which could be understood as bargaining about the functions of the app. It can be, thus, concluded that algorithmic management is part of Wolt's management system also through this definition of algorithmic management, which was chosen to be the definition used in this thesis because it is holistic, and able to represent the change processes that take place in an organization when algorithmic management is applied.

5.2 Responsible Algorithmic Management in the Context of Wolt

Now the concept of responsible algorithmic management will be discussed and simultaneously Wolt's algorithmic management system can be evaluated in relation to responsibility. First, when looking at the ethical streams reviewed previously, it can be stated that defining Wolt's processes through deontological ethics is somewhat hard because the predefined norms for algorithmic management come from traditional work relations which have differences compared to platform economy. This deontological evaluation of Wolt as a company can be, naturally, done but a question can be raised whether it is relevant.

On the other hand, teleological approach of ethics is more applicable, because it looks at the consequences of actions (Ananny 2016, 94) which in the context of food-delivery platforms have been concentrating on courier status and other effects on courier wellbeing. The last ethical approach of virtue ethics concentrates on the virtue of the actor (Gal et al. 2020, 2) and it is difficult to make judgments based on the interviews because there were only four interviewees of Wolt's management and defining whether they act virtuously or not, would need more in-depth research.

When looking at the concept of responsible management, it was experienced by Wolt managers through general principles of consistency, transparency, trustworthiness, and equal treatment. In addition, fairness of pay and appropriate data usage were thought to be part responsibility. Couriers experienced responsibility as respect, good treatment, understanding humanity and readiness to help which all are part of a professional way of managing people. When evaluating these ideas against Ciulla's (1995, 17) definition of responsible leadership as moral goodness and effectiveness of leadership, moral goodness is present in the managers' definitions of responsibility. Couriers' definitions take the wellbeing of the community, that is couriers, into consideration, which is the definition offered by Pless & Maak (2011, 5) about responsible leadership. Also, the Ethical Leadership Model (Brown et al. 2005, 117) carries the notion of caring about employees, which couriers consider as an important aspect of responsibility. It can be concluded that the definitions offered by Wolt managers and couriers follow the definitions given in the literature for responsible leadership.

A pursuit for effectiveness lays at the foundation of algorithmic management systems in general. As Kujala et al. (2011, 203) have noted, cost-benefit analysis was at the foundation of utilitarian ethical thinking in their study of Finnish managers. The whole algorithmic operating system reflects optimizing and making Wolt's functions as effective as possible. However, even the interviews with managers reflect willingness to improve courier conditions. The motivation behind these decisions, then, is another question. Whether it is related to individual experience of fairness of certain actions, the organizational level of willingness of doing good for the workers or to issue features themselves such as

the consequences doing or not doing (Kish-Gephart et al. 2010, 3), remains unknown.

Following the law, social morality, and personal ethics were all perceived by interviewees as important in decision-making. These three levels of ethical questions come from Tasioulas's (2019, 53) framework of evaluating roboethics. The three aspects are hard to prioritize because of their situation dependency.

The legislation regarding algorithmic management has not developed and as mentioned, the legality of actions is judged based on traditional employment laws which have been tested in many countries during previous years. One example mentioned earlier is the courier status as an employee or an independent entrepreneur, which has received the attention of the public through media. Based on the interviews, Wolt wants to follow the law, but on the other hand take part in the discussion related to developing the interpretations about the law. Wolt wants to take part in the societal discussion about platform economy and especially their compliance team is working on the legality and ethicality of their operations. Thus, especially the management experience Wolt functioning responsibly towards the labor legislation.

Social morality issues are probably receiving the most attention in the interviews. The support service is experienced positively. This experience deviates from many food-delivery workers and other platform companies such as Uber. In those companies standardized answers are received from the support and workers fight to get answers that take the issue at hand into consideration (Kougiannou & Mendonça 2021, 750; Rosenblat & Stark 2016, 3771). Couriers, in addition, are satisfied working with Wolt according to the statistics. Collecting feedback is a sign of listening couriers' voice and the possibility of filing complaints and appeal to the next level in hierarchy are both important.

There are also other responsibility related aspects such as the balance between the number of couriers and the invoicing amount per courier that is in average good at Wolt. Improvements such as adding an accident insurance to couriers are experienced as important thing by the management in enhancing responsibility, but the legislation is reserving some actions such as replacing damaged food or paying the social insurance on behalf of the couriers, for employers. All these issues raised go above following the law and have to do with taking good care of the workers.

The individual aspect of ethics does not receive much attention in the interviews in relation to Wolt's actions and responsibility towards couriers. Couriers experience their own role as moral agents important when picking up food from the restaurants, serving customers and abiding to the traffic regulation. This aspect would need more research to understand better the moral decision-making at Wolt. When looking at all the three elements of law, social morality, and individual ethics, Wolt seems to have all these levels present in their operational system in a way or another.

When looking at the issues regarding responsibility in algorithmic management, the correctness of decisions and algorithmic biases are brought up by Leicht-Deobald et al. (2019, 381). The Wolt management experiences

algorithms to function in a fair way and couriers do not bring up issues or doubts related to this. The only issue regarding algorithmic functions mentioned by a courier is the reasonability and algorithmic action in relation to bundle tasks and task reallocation, which was mentioned earlier. In that context he wished that there would be a human being evaluating decisions made by the algorithm to make them more reasonable.

The literature brings the concern regarding the freedom and the employment status of couriers which weakens courier social security (Ivanova et al. 2018, 3) and makes a courier to pay the cost of working (Fleming 2017, 693). The relationship of couriers to Wolt is a relationship between two companies. Couriers work as entrepreneurs and can be accepted to become partners only if there is a work opportunity offered by Wolt in a certain city. The freedom that the working relationship offers to Wolt couriers is appreciated, which was also recognized by some couriers of Deliveroo and Uber Eats interviewed by Veen et al. (2020, 396). Wolt couriers can have other jobs and they are free to work whenever they want and can decline orders if they wish. Interviewed Wolt couriers do not experience social security issues or entrepreneurship as problems and most of them are content with the situation. The only thing experienced as an inconvenience regarding entrepreneurship was the need to make social security payments themselves.

It seems to be true according to the interviews, that the working relationship between couriers and Wolt is purely transactional, and the development of relationship is of a lesser importance to the couriers, which also Duggan et al (2019, 122) recognize to be common in platform economy. Couriers experience the lack of a boss watching over them positively and mostly they are not longing for more contacts because they feel the system is working well enough the way it is. The worry about not receiving enough organizational support that Jabagi et al. (2020, 4001) raise as an issue being important in work satisfaction, does not seem to be the experience of Wolt couriers. The most important part of organizational support mentioned by the interviewees is the support service with real people answering courier requests. There was, in addition, no evidence in the interviews of manipulating the app, which was a concern raised by Timko and Melik (2021, 502) as a response to felt unfairness of the operating system.

Couriers seem to experience Wolt as a responsible company despite of the algorithmic management characteristics that deviate from a traditional work context. One explanation for this can be the job quality model developed by Goods et al. (2019, 506–507) for gig workers. In their model job quality is comprised of a financial dimension, a self-government dimension, and a pleasure dimension. Wolt offers a satisfactory level of financial incentives for work and probably because of the accident insurance, also the health and safety component of the model is covered in a satisfactory level. Freedom is emphasized as the most important feature of courier work and because there are not many control mechanisms limiting courier freedom, the couriers are content. An element that was present in the interviews, regarding pleasure, was that couriers want to serve customers well and are proud of doing their work in a professional but also in a

relaxed manner. Based on the model proposed by Goods et al. (2019, 506–507), if all three dimensions are fulfilled, they give the worker a feeling of satisfaction which seems to apply to interviewed couriers of Wolt.

Another explanation to the positive experience of couriers could be related to Galière's (2020, 367–368) writings about algorithmic management utilizing normative control rather than relying on disciplinary control on workers. She argues that couriers embrace algorithmic management for two reasons. First, courier contract and the application process enforce a rhetoric where the entrepreneurship status becomes important emphasizing freedom and making the algorithmic management system a natural part of their work. Algorithms are perceived according to her as rational, objective, and powerful and for that reason they are useful also for the couriers. Second, workers value a system in which their efforts define their personal income. If the system is perceived as fair, there is nothing wrong, if those working more, also earn more money. (Galière 2020, 367–368.) Wolt couriers seem to experience entrepreneurship as a benefit and appreciate their ability to influence their income.

This research sheds light on Wolt's work processes related to algorithmic management, interviewees' experiences about the processes and their connection to responsible algorithmic management. Working at Wolt seems to carry many benefits compared to other food-delivery companies and that is why many issues raised in the literature are not experienced as problems from the point of view of the managers and couriers interviewed. Wolt is experienced as a relatively responsible company by both the managers and the couriers and thus, responsibility can be found also in algorithmic management on food-delivery platforms.

5.3 Research Limitations

Every research has its limitations. Some limitations or unanswered questions have been brought up in the discussion part of this chapter. They relate to the precise content of the messages received by the couriers and the exact functioning of bundle tasks. This research offers an overview of the algorithmic management system at Wolt and that is why it does not cover all the topics in detail.

The research was performed with 10 interviewees covering the experiences of these people about algorithmic management and responsibility. The sample size is rather small to make strong conclusions about the subject. It is possible that the result would be different if more couriers were interviewed. However, the experience of the interviewees is true and cannot in that sense be questioned.

There seem to be differences between operational systems of Wolt in different countries. Germany was mentioned as an example of the employment model that differs from the entrepreneurship model in Finland. That is why the Wolt system described in this thesis may be different in another country context of Wolt. Obviously, every country has its own laws that may influence how the algorithmic management system is run in that context.

There can be limitations to what the interviewees told in the interview. It is possible, that they did not bring up all relevant experiences even though the last interview question asked whether there was anything else that should have been discussed in relation to the topic. It is also possible that the novelty of terminology regarding algorithmic management was confusing for some of the interviewees. It is possible that some couriers heard about the term for the first time in the context of this study.

The final limitation of the study has to do with the constantly developing application of Wolt which relates to algorithmic management of couriers. It is possible that the functions of the app will continue developing and the results of this study will not hold for that reason in the future. The new owner of Wolt, Doordash, may take the algorithmic management of couriers to a new direction that impacts how the couriers experience the algorithmic management system in the future.

6 CONCLUSION

This thesis has covered the theme of responsible algorithmic management by discussing algorithmic management on platforms and especially in the context of food-delivery companies and then by covering ethics, responsibility management and ethics and algorithms. A definition for responsible algorithmic management has been offered because it has not been developed in the previous literature. The purpose for discussing the themes in the literature review has been to understand the issues related to algorithmic management and responsibility in the context of food-delivery companies.

The experience of management, developers, and couriers was studied to understand what issues regarding responsibility are raised in the context of Wolt's operations. Several findings were made in the study. The most important finding is that even though there are many issues in the literature raised concerning irresponsibility of food-delivery companies, the interviewees do not raise a concern towards these issues. Their complaints concern the functions of algorithmic management such as bundle task and task reassignment processes and algorithmic glitches, which could also be considered as responsibility related issues because they make courier work unpredictable and raise concerns about the fairness and rationality of the system. Couriers are satisfied with the support they receive from Wolt and prefer working as entrepreneurs because of the freedom it offers them. There is evidence of willingness of the Wolt management to develop more responsible practices towards couriers if the labor legislation develops in a way that makes it possible.

The other findings have to do with the exact usage of algorithmic management in the courier activation and delivery performance phases at Wolt, for example, in demand projection and task allocation as well as in the payment and communication processes. In addition, this research sheds light on the experience of the interviewees about the algorithmic management system. The management denies the role of algorithmic management when couriers accept it as part of their work and have only a few complaints about it.

This study contributes to the previous research by increasing understanding about the algorithmic management system in practice.

Responsibility issues raised by the literature seem to contradict the experience of Wolt couriers especially in relation to freedom they experience through entrepreneurship and the support they receive from the company.

The platform economy has only started its' development and will most probably continue growing in the future. Companies operating in the field need to take seriously the issues and questions raised by the algorithmic management system. On the other hand, when issues are raised, they need to be looked at through the eyes of the workers.

There are many opportunities for future research in algorithmic management on food-delivery platforms. Research on similar topics that are covered in this research can be continued, such as the functioning of the algorithmic management processes and experiences about them at Wolt and other similar companies. Also, the systems develop and change frequently, which makes continuing research interesting and necessary.

Because this research has offered an overview of algorithmic management at Wolt, there are many topics that could be studied in more detail. In relation to Wolt's responsible algorithmic management, the role of virtue and individual ethics in developing Wolt application would need further research as well as the motivation behind ethical decision-making at Wolt.

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APPENDICES

APPENDIX 1 Orientation Letter

Dear interviewee,

I'm working on my master's Thesis for the Jyväskylä University School of Business and Economics, management and leadership as my major. The objective of my study is to understand Wolt's management, developers', and couriers' point of view about what it means to be managed by an algorithm, what kind of effects it has on those managed and how responsibility is connected to these themes.

The study is performed by interviewing 10-15 people. By participating in the interview, the interviewee simultaneously agrees to be part of the study. The interviews are performed as semi-structured interviews. The interviews will be recorded and transcribed.

All material collected in the research will be saved on an information secured place and it will be handled with confidentiality during the research process. The respondents are kept anonymous, and no single informants will be recognized either in the summary or single quotations. If an interviewee desires, he or she can have the final version of the thesis when it is ready. Taking part in this study is voluntary.

Thank you for your cooperation,

Soili Hyvönen
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APPENDIX 2 Interview questions

1. Interviewee background
Name, education, work experience
Position at Wolt

2. THEME 1: Algorithms managing people
Describe work processed connected to couriers at Wolt (for example aquiring workers, processes related to working as a courier, pay and benefits, training, and communication)?

What is your role in the processes or creating these processes?

What special or unusual there is, in your opinion, that a person is managed by an algorithm when comparing it to people managing the work? For example, how does it influnce courier communication with Wolt or between the workers? Managing people? couriers' status?

How does being managed by an algorithm influence the relationship between the couriers and Wolt? Describe.

3. THEME 2: Responsibility and algorithmic management
What does responsible management mean to you? What defines responsibility to you (e.g. following the law, social morality or you individual thoughts about responsibility?

How is responsible management reflected in Wolt's work processes?

What are the processes in handling couriers' complaints or whistle blowing at Wolt?

In which things responsibility should be improved at Wolt?

4. Future
What are future possibilities and threats considering your own work?

Do you want to add something, or is there something essential, that I have not asked in this interview?

Thank you for the interview!