

“NO BOSS. FLEXIBLE SCHEDULE. QUICK PAY.”

**A QUALITATIVE STUDY ON ALGORITHMIC MANAGEMENT
AND CONTROL IN FOOD DELIVERY PLATFORMS**

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Abstract:

Modern technology has enabled new managerial solutions in the continuous strive for increased efficiency. One example is Algorithmic Management, which handles typical managerial tasks such as giving directions and providing feedback by tracking and measuring workers. One industry at the forefront of using this technology is home food delivery. The use of Algorithmic Management and its ability to control workers has led to a polarized view of this industry, with the critics making the comparison to Scientific Management and the platform companies claiming the jobs to be free and flexible. Even though the jobs have been argued to be generally highly controlled, there are visible signs that some aspects are not. Examples are couriers working in mixed uniforms, using equipment in poor shape, and seeming generally uncommitted to their jobs. To answer the research question: “In what ways does Algorithmic Management in food delivery platforms affect managerial control?”, 13 qualitative in-depth interviews were conducted with food delivery couriers and company executives of the major food delivery platform companies in Stockholm. By using theories of organizational structure, motivation, and commitment, the authors have analyzed and discussed how Algorithmic Management implies both increased and decreased ability to control in this setting. Contradicting the critique that these delivery jobs are Digitally Tayloristic, the study concludes that the food delivery companies lack control in some areas, and the results confirm that the replacement of the traditional manager can lead to both increased and decreased control.

Keywords:

Algorithmic Management, App Work, Food Delivery Platforms, Managerial Control

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Contents

Acknowledgments	2
Contents	3
1. Introduction	5
1.1. Background	5
1.2. Purpose and Research Question	6
1.3. Scope	7
2. Previous Research	7
2.1. Digital Taylorism	7
2.2. Algorithmic Management Fails to Include Human Aspects	8
2.3. Research Gap	9
3. Theoretical Framework	9
3.1. The Machine Bureaucracy	10
3.2. The 6 Rs of Algorithmic Control	11
3.3. The Job Characteristics Model	11
3.4. Organizational Commitment	12
3.3. Theory Discussion	12
4. Methodology	14
4.1. Method of Choice	14
4.1.1. Research Paradigm	14
4.1.2. Research Method	14
4.2. Data Collection	15
4.2.1. Sample	15
4.2.2. Interview Process	15
4.3. Data Analysis	15
4.4. Method Discussion	16
4.4.1. Ethical considerations and implications	17
5. Empirics	17
5.1. Increased Control	17
5.1.1. App Control	17
5.1.2. Dispatchers	20
5.2. Decreased Control	21
5.2.1. Unclear Managerial Roles	21
5.2.2. Lower Motivation and Commitment	22
6. Analysis	24
6.1. Increased Control	24
6.1.1. Comprehensive Technostructure and App Dependence Increase Control	24
6.1.2. Support Functions Have the Possibility to Increase Control	25
6.2. Decreased Control	25

6.2.1. Unclear Managerial Roles Decrease Control	25
6.2.2. Simple, Repetitive Tasks and Low Autonomy Decrease Control	26
6.2.3. Evaluation and Feedback do not lead to Intended Control	26
6.2.4. Low Commitment Leads to Less Ability to Control	27
7. Discussion and Conclusion	28
7.1. Answer to the Research Question	28
7.2. Contribution and Implications	29
7.3. Suggestions for Further Research	30
8. References	31
Appendix A: Overview of Respondents	36
Appendix B: Interview Guide, Couriers, English	37
Appendix C: Interview Guide, Platform Executives, English	38
Appendix D: Interview Guide, Platform Executives, Swedish	39

1. Introduction

1.1. Background

In recent years, food delivery platforms have become a natural part of the service sector as a result of new technological solutions, changes in consumer habits, and increased wealth (Mckinsey Global Institute, 2016). Consumers have higher than ever demands on what services they want and when (Mckinsey Global Institute, 2016), and new types of companies can today deliver food from the local restaurant right to the customer's doorstep (O'Connor, 2016). However, the delivery platforms have received not only approval among customers but also heavy criticism from the media (e.g., Larsson, 2022; Schumpeter, 2015; Wennerström, 2022), labor unions (e.g., Antonsson, 2021), government agencies (e.g. Skatteverket, 2022), and the European Commission (2021) due to unconventional working conditions. Besides, there has been a debate that platform companies are *highly controlling* of their workers, measuring and rating them via Algorithmic Management (Duggan et al., 2022). Paradoxically, there are visible signs that such Algorithmic Management *cannot control everything*: For example, couriers are seen working for multiple platforms simultaneously while wearing mixed uniforms and using equipment in poor shape (Arbetsmiljöverket, 2021). The perceived level of service is lower than compared to typical service companies, and couriers seem generally uncommitted to their work, signifying that there are issues with this way of managing.

Although criticized for insecure working conditions, the platforms claim that the jobs are free and flexible and offer low thresholds to the job market (e.g., Bolt, 2022a; Wolt, 2022a). UberEats (Uber, 2022a), for example, advertises delivery jobs with “No boss. Flexible schedule. Quick pay.”. Likewise, Wolt (2022a) advertises with “Be your own boss”. These advertisements are true in the sense that there is no traditional boss. Instead, an app is handling typical managerial tasks such as task assignment and coordination of couriers, while also controlling and measuring them (e.g., Jeronimo et al., 2022; Möhlmann et al., 2021). This new type of work has been labeled app work (Duggan et al., 2020), and the app's control mechanisms as Algorithmic Management (Lee et al., 2015).

Algorithmic Management has been argued to enable a reconfiguration of the worker-employer relationship and organizational control (Kellogg et al., 2020). Some argue that app jobs are highly controlled rather than free and flexible, as the platform companies claim, and have made the comparison to working conditions in early 20th-century factories. (e.g., Altenried, 2019, 2020; Staab & Nachtwey, 2016). Thus, the term Digital Taylorism has been coined, drawing on Frederick W. Taylor's (1911) Principles of Scientific Management.

Thanks to Algorithmic Management, food delivery platforms can run their operations with highly specialized work tasks and centralized control through extensive supervision of couriers. With Digital Taylorism as a starting point, the rigid structure and top-down control make it possible to consider the food delivery platforms configured similarly to Mintzberg's Machine Bureaucracy (Mintzberg, 1980; 1984). The configuration could be argued to explain how the platforms can control their geographically spread out workforce and deliver their services. However, there are also differences between the food platform companies and the Machine Bureaucracy: The many hierarchies of the Machine Bureaucracy, and the managers and foremen of Taylor's Principles (1911), are replaced by the app. Further, the abovementioned issues with couriers working in mixed uniforms, using equipment in poor shape, and expressing varying service-mindedness are signs that Algorithmic Management has challenges with controlling some human aspects impacting the service quality. To explore Algorithmic Management's ability to exert managerial control both *directly* and *indirectly*, the authors will combine Mintzberg's Machine Bureaucracy, the Job Characteristics Model (Hackman & Oldman, 1975; 1980), and theory of Organizational Commitment (Organ, 1988).

1.2. Purpose and Research Question

Algorithmic Management in food delivery platforms is used to partially or completely replace traditional managerial tasks such as giving directions to workers and evaluating their performance (Veen et al., 2020). Although courier jobs are advertised as freer and more flexible than traditional jobs (e.g., Bolt, 2022a; Foodora, 2022), much points towards excessive control and little freedom regarding job autonomy. However, there are also quality issues, hinting that the control might not be as high as previously debated. Conclusively, the Algorithmic Manager can handle some, but not all, managerial control successfully. Therefore, this study explores the intentions, functions, and implications of Algorithmic Management in food delivery platforms. The study aims to answer the question:

In what ways does Algorithmic Management in food delivery platforms affect managerial control?

For the purpose of this thesis, the authors define managerial control as management using tools and practices to direct and evaluate workers to generate desired outcomes by using both *direct* and *indirect* control. Examples of direct control are tools such as compensation, centralized structures, and highly prescribed procedures. An example of indirect control is the use of social contexts and incentives to promote inner motivation and commitment.

As Algorithmic Management is a new and growing phenomenon that has been more heavily debated than researched, this study should be able to provide nuance by taking an outside-in perspective and discussing two contradictory effects of Algorithmic Management.

1.3. Scope

The study includes four major food delivery platforms in Stockholm. Some of the platform companies also have other business areas (Bolt, 2022b; Wolt, 2022b; Uber, 2022b), but this study has considered only food delivery to increase comparability. Terms of employment in the sector vary somewhat between the companies: Some workers are freelancers, and others are legally employed. However, high flexibility, few work hours, and piece work salary is the norm also at companies where workers *are* legally employed. Likewise, high control over work tasks and low job autonomy is the norm also at companies where workers *are not* legally employed. Thus, the study has included four food delivery platforms, not delimiting based on employment type or company business model. Workers' dependence on the platforms makes it possible to argue that they are to be considered employees in most regards, except maybe legally (Altenried, 2019). Stockholm was chosen as a geographic delimitation for accessibility reasons and to limit the variability between platforms.

Although there are other types of app work, where the same practices of Algorithmic Management are used, this specific industry was chosen for the sample of companies to have few differences in the type of work and the way Algorithmic Management is used. Therefore, similar app-based companies, such as ride-hailing platforms, were not included.

2. Previous Research

2.1. Digital Taylorism

Digital Taylorism is a concept in research referencing Frederick W. Taylor's (1911) *Principles of Scientific Management* (Altenried, 2019, 2020; Jarrahi et al., 2021; Staab & Nachtwey, 2016). According to Taylor (1911), complex jobs should be broken down into simple, measurable tasks, and performance and pay should be linked. In food delivery platforms, digital technology has allowed for increased weight on surveillance, control, and division of labor (e.g., Duggan et al., 2022). Parts of this new way of organizing labor closely resemble Taylor's *Principles* (1911).

Coupling these Principles (Taylor, 1911) with the opportunities that come with digitalization, a new type of stopwatch management, this time in a “platform factory” (Altenried, 2020), is not to consider a leap back to Taylorism. Instead, it is a new form of Digital Taylorism or Neo-Taylorism (Altenried, 2019, 2020; Jarrahi et al., 2021; Staab & Nachtwey, 2016). Moreover, this new type of Scientific Management applies not only to the industrial laborers that Taylor (1911) studied but also to service workers such as in the food delivery industry (Schumpeter, 2015).

2.2. Algorithmic Management Fails to Include Human Aspects

Delivery companies are currently investing in automation projects to increase efficiency. For example, Amazon is pursuing development of delivery drones (Amazon, 2022), and in the food delivery sector, Foodora has released its fully autonomous delivery robot “Doora” onto the streets of Stockholm in a pilot project (Delivery Hero, 2021). Nevertheless, automation endeavors like these remain in early phases, meaning that last-mile delivery is still a very labor-intensive industry (Altenried, 2019). Instead of automating fully, Algorithmic Management is used to increase efficiency, as managerial tasks are automated, and the algorithm drives workers to operate efficiently (Kenney & Zsyman, 2016; Lee et al., 2015). Since the algorithm is in charge of much of the traditionally managerial duties, some claim that the people management-related aspects of empathy and relationships between workers and employers are worsened (Gilbert et al., 2011). The focus lies on the monetary aspects of the work, where pay is either fully or partially based on work performance, making the relationship increasingly transactional (Duggan et al., 2020). The focus on Algorithmic Management arguably creates a lack of interest in human beings, which reflects a critique of Scientific Management (Blomberg, 2020), and has been proven to cause lower motivation and commitment (Jabagi et al., 2019).

In contrast to industrial-era jobs, most app workers work part-time, which together with the limited onboarding processes has been shown to discourage long-term commitment (Healy et al., 2017; Jabagi et al., 2019). Commonplace onboarding consists of shorter information sessions or online tutorials, which are the only socialization processes (Duggan et al., 2022). Several studies have discovered that app workers seek remedy for this lack of social interaction through unofficial channels online, such as on WhatsApp or UberPeople.net, or simply by chatting with each other in between jobs (Curchod et al., 2020; Lee et al., 2015; Möhlmann et al., 2021). These are clear signs of weak connections between platforms and workers, which arguably weakens indirect managerial control.

The heavily controlled work environment that constantly tracks, measures, and evaluates workers may lead to worse relationships and lower trust levels since there is a constant fear of disciplinarian in the form of bad performance scores (Wood et al., 2019). While similar performance management

practices also exist in traditional jobs, the Algorithmic Manager in app jobs demises the two-way relationship between worker and employer that exists in traditional job settings (Duggan et al., 2020). This is again a sign of how Algorithmic Management affects workers.

Although depicted by the app companies as highly free and flexible jobs, which they in many senses are, the platform design creates power asymmetries that enable both soft and hard control (Rosenblat & Stark, 2016). For example, the platform collects large amounts of data and constantly tracks the worker's location, even in-between tasks. Such surveillance levels increase the platforms' control and set them apart from more traditional workplaces (Jarrahi et al., 2021).

2.3. Research Gap

The research literature on Algorithmic Management is currently in its early development and has been spread across several research disciplines such as management, communication, computer sciences, psychology, and sociology. Much of the previous research on Algorithmic Management has been focused on aspects of working conditions or psychology (e.g., Bucher et al., 2019; Glavin et al., 2021; Jabagi et al., 2019; Wood et al., 2019), power asymmetries between platforms and workers (e.g., de Cremer & McGuire, 2022; Curchod et al., 2020; Jarrahi et al., 2021; Rosenblat & Stark, 2016; Shanahan & Smith, 2021; Woodside et al., 2021), and on understanding how Algorithmic Management works (e.g., Altenried, 2019, 2020; Duggan et al., 2020; Kenney & Zysman, 2016; Lee et al., 2015; Wesche & Sonderegger, 2019; Woodcock & Johnson, 2018).

Some literature, however, has focused more specifically on the worker-employer relationship or worker-employer dynamics in terms of control in Algorithmically Managed organizations (Heiland, 2022; Jeronimo et al., 2022; Kellogg et al., 2020; Möhlmann et al., 2021; Veen et al., 2020). This study continues the research on control under Algorithmic Management but takes a new focus when suggesting that control might both increase *and* decrease. The authors claim that neither the platform companies' view of free and flexible jobs nor the critics' view of Digital Taylorism tells the whole story about Algorithmic Management control. Previous research has shown that control is high in some aspects, although there are visible clues of low control in other aspects.

3. Theoretical Framework

Relating to the debate on Digital Taylorism and Scientific Management, the authors consider Mintzberg's Machine Bureaucracy appropriate when analyzing intentions, functions, and implications of Algorithmic Management in the food delivery platforms. However, since the emergence of

Scientific Management, it has been gradually abandoned by both researchers and practitioners. Already in the nineteen-thirties, development of Human Relations theory began influencing how management and organizational studies considered human needs and psychology (e.g., Barnard, 1938; Follet, 1927; Mayo, 1945). Therefore, when exploring managerial control, including theories on motivation and commitment helps make the analysis more relevant, especially given the signs of low motivation and commitment in the food delivery platforms (e.g., Bucher & Fieseler, 2019; Jabagi et al., 2019).

3.1. The Machine Bureaucracy

Food delivery platforms use both technology and organizational design to drive efficiency. According to Mintzberg (1980; 1984), different ways of organizing have implications for the efficiency of organizations. “Structural Configurations” (Mintzberg, 1980; 1984) explain how companies coordinate and divide labor. Mintzberg considers organizations as made up of five basic parts: (1) The Operating Core, which includes front-line personnel, the couriers in food delivery platforms. (2) The Strategic Apex, top management. (3) The Middle Line, a link between the Strategic Apex and the Operating Core. (4) The Technostructure, an element outside of the formal line that controls or advises, the app in food delivery platforms. (5) The Support Staff, which provides indirect support or services to the rest of the organization, the dispatchers in the food delivery platforms (Mintzberg, 1980; 1984).

In the Machine Bureaucratic configuration, labor division has been taken as far as possible, work processes are standardized to reach the highest efficiency level, and the tasks are done almost autonomously (Mintzberg, 1980; 1984). To be able to run such an organization, the technostructure plays a key part in supporting and advising, producing guidelines, and adapting implementations. In the setting of food delivery platforms, this could be considered Algorithmic Management’s role. Control is exerted vertically, through directives from the strategic apex or in the form of formal structures designed by management. Other characteristics of the Machine Bureaucracy are the many formal and specialized roles and routines controlled vertically through many hierarchical levels (Mintzberg, 1980). Such hierarchical levels are potentially eliminated in the food delivery platforms as Algorithmic Management replaces them. As such, the similarities between the Machine Bureaucracy and food delivery platforms are apparent, although the middle line may not play the same role as traditionally.

3.2. The 6 Rs of Algorithmic Control

Kellogg et al. (2020) identified six controlling mechanisms of Algorithmic Management, which they categorized into *directing*, *evaluating*, and *disciplining* in line with Edward's (1979) ideas of managers' ways of exerting control. The "6 Rs" (Table 1) that Algorithmic Management practices are to *recommend and restrict* (directing), *record and rate* (evaluating), and *reward and replace* (disciplining). The 6 Rs in the context of this study are used to categorize control mechanisms of Algorithmic Management in the empirics. This will facilitate the exploration of Algorithmic Management's effects on managerial control in food delivery platforms.

Control Mechanism		Example
Directing	Recommending	Incentivizing workers to perform certain actions
	Restricting	Restricting worker behaviors or information availability
Evaluating	Recording	Collecting data on workers
	Rating	Giving performance scores to workers
Disciplining	Rewarding	Rewarding good performance
	Replacing	Punishing bad performance

Table 1: The 6 Rs of Algorithmic Control (Kellogg et al., 2020)

3.3. The Job Characteristics Model

A critique of Machine Bureaucratic organizations and Tayloristic job design has been that they create dissatisfied and low-performing employees (Blomberg, 2020). Previous researchers of app jobs have found such signs, and Hackman & Oldhams' (1975; 1980) Job Characteristics Model seeks to explain how the design of labor impacts job satisfaction and performance. The Job Characteristics Model proposes that five core characteristics affect outcomes such as work motivation and job satisfaction: (1) Skill Variety, the degree of variation in the work tasks. (2) Task Identity, the ability to identify with work tasks and see their outcomes. (3) Task Significance, the degree of importance the job has for other people. (4) Autonomy, the degree of freedom over planning and performing work tasks. (5) Feedback, the degree of available information on results and efficiency (Hackman & Oldham, 1976; 1980).

Food delivery platform jobs are similar to jobs in the Machine Bureaucracy, with job design characteristics that should have implications according to the Job Characteristics Model. The courier jobs are made up of simple, highly repetitive, tasks and autonomy is especially low since the app controls exactly how tasks are performed and when (Curchod et al., 2020; Lee et al., 2015). The characteristics affect whether or not employees feel meaningfulness and responsibility and if they can see how their work contributes to the organization at large. The proposed organizational outcomes are that employees get motivated, perform higher quality work, and are generally more satisfied. Further, research has shown that organizational commitment is affected by job satisfaction (Dirani & Kuchinke, 2011; Lincoln & Kalleberg, 1990).

3.4. Organizational Commitment

Organizational commitment can be described as an individual's attachment to an organization (Bartlett, 2001). It has been proposed that organizational commitment depends on various factors such as job satisfaction (Dirani & Kuchinke, 2011; Lincoln & Kalleberg, 1990), managerial support (Hulpia et al., 2009), and job insecurity and employability (de Cuyper, 2009), all of which seem to be limited in the food delivery platform jobs due to Algorithmic Management. Scholars have also shown a correlation between job satisfaction and organizational commitment, and that the former is a good predictor of the latter (Dirani & Kuchinke, 2011; Iverson & Maguire, 2000; Lincoln & Kalleberg, 1990; Mowday et al., 1982).

Organizational commitment can be used to predict organizational citizenship behaviors (Kacmar et al., 1999), which include employees going 'above and beyond' and being generally more compliant. These behaviors could take the form of employees engaging in tasks that are not clearly within their job description or doing tasks better than they are formally required to (Organ, 1988). In the case of the food delivery platforms, this could mean adhering to rules or protocols that are difficult for the platforms to enforce, or engaging in service levels beyond formal requirements. The authors argue that since organizational commitment and citizenship behaviors correlate with job satisfaction (Organ, 1988), which can be determined by job design (Hackman & Oldham, 1976; 1980), implications of the job design should be considered a type of indirect managerial control.

3.3. Theory Discussion

The authors propose that the traditional Machine Bureaucracy has been replaced by a more modern App Bureaucracy, where Algorithmic Management has taken the place of the middle line. This is believed to have several implications:

- (1) Firstly, the prominent app technostructure (Algorithmic Management) exerts high control over couriers, which should affect job autonomy since tasks are precisely decided. Together with the repetitive and simple tasks, this implies low job satisfaction according to the Job Characteristics Model (Hackman & Oldham, 1976; 1980).
- (2) Secondly, the replacement of the middle line has made it unclear who or what manages the couriers in the food delivery platforms, which could imply lower managerial support and, according to theory, lower organizational commitment (Hulpia et al., 2009; Organ, 1988).
- (3) Thirdly, couriers in the App Bureaucracy are detached from the platform companies in the sense that they have little human contact with both colleagues and managers, which together with the Job Characteristics could also affect organizational commitment (Dirani & Kuchinke, 2011; Lincoln & Kalleberg, 1990; Organ, 1988).

These implications together, should mean both lower *and* higher managerial control, as Algorithmic Management increases control while also leading to lower job satisfaction and organizational commitment, which decrease control. By doing this, theoretical frameworks within organizational and motivational theory are intertwined to explain how Algorithmic Management affects managerial control in food delivery platforms. This should contribute with nuance to the currently polarized view of App Jobs as *either* free and flexible alternatives to traditional jobs *or* as Digitally Tayloristic jobs.

Although a critique of the theoretical framework could be that the Machine Bureaucracy and Tayloristic job design are outdated in today's work environments, the authors argue that the current debate on Digital Taylorism renders them critical concepts in understanding app jobs and Algorithmic Management. Further, Hackman & Oldham, who first introduced the Job Characteristics Model (1976; 1980), have themselves claimed that the very phenomenon of 'a job' has been changing with modern ways of employment and that job design research therefore might have to change too (Oldham & Hackman, 2010). However, they also argue that in the future, attention has to be given to the relationships between people and their work activities. This is accounted for by the study's theoretical framework when discussing how people's commitment relates to job design and Algorithmic Control.

4. Methodology

4.1. Method of Choice

4.1.1. Research Paradigm

The authors adopted a social constructionist ontological perspective when making observations for the study, meaning that the experiences of the authors and the interviewees were considered social constructs in a continuously ongoing process. From a constructivist perspective, social entities are constructs of human interaction that do not exist independently (Saunders et al., 2019). Following this view, food platform companies are societal and economic constructs. As the study concerned how couriers and management interact with and through the platforms, this perspective was deemed suitable to answer the research question.

Regarding epistemology, the study explored the views of platforms and couriers and sought to understand human behavior in the forms of perceptions and actions of the interviewees. To achieve this, an interpretivist approach (Saunders et al., 2019), where the authors subjectively interpreted empirical data, was used.

4.1.2. Research Method

The study was conducted with a qualitative method using semi-structured interviews. The choice of method was based on the intention of giving respondents room to express themselves freely (Fossey et al., 2002) and for the authors to get a more comprehensive understanding of what themes might explain the role of Algorithmic Management (Saunders et al., 2019) in food delivery platforms. This proved to uncover interesting aspects relating to the research question that the authors had not considered from the beginning. As the study's objective was primarily exploratory, an abductive approach was chosen to allow for incremental additions and revisions to the theoretical framework as new insights were discovered in the empirical material (Saunders et al., 2019). As theoretical and empirical research was carried out in parallel, it was possible to continuously adapt the interviews according to new findings in the theory and the theoretical research according to new findings in the interviews.

4.2. Data Collection

4.2.1. Sample

The population of interest was food delivery couriers and company representatives of the major food delivery platform companies in Stockholm: Foodora, Wolt, Uber Eats, and Bolt food. The sample group companies were selected based on data from Apple's App Store and Google Play, by taking the four most downloaded apps in the category for home food delivery in Sweden. In terms of finding the right participants from the different companies, a non-probability sampling method was used, where members of the population were sought out and contacted via LinkedIn and on the street. The final sample consisted of 13 respondents, of which ten were couriers and three were platform company executives. As platform executives have a more comprehensive understanding of how the platforms function, they were considered to represent the entirety of each platform, which is why the sample is skewed towards couriers. The reasoning behind including both couriers and company representatives was to be able to explore the interactions between couriers, platforms, and Algorithmic Management. Thus, intentions, functions, and implications of Algorithmic Management could be understood. Respondents and platforms were anonymized and labeled with the letters A through M and the numbers 1 through 4, respectively. For a more detailed overview of the sample, see Appendix A. For interview guides, see appendices B, C, and D.

4.2.2. Interview Process

In advance of the interviews, three interview guides were prepared (one for couriers and two for platform representatives, one in English and one in Swedish) with questions linked to the different aspects of food delivery platforms. Throughout the interviews, follow-up questions or further descriptions of the questions were used to get more comprehensive answers. Out of the 13 interviews, eight were conducted through video calls due to respondents' preferences; the other interviews were conducted in person. All interviews were conducted with both authors present, one posing the questions and the other taking notes. The interviews were on average 36 minutes long.

4.3. Data Analysis

In accordance with Saunders et al. (2019), the empirical data were analyzed thematically as this was considered to be a flexible although orderly and systematic approach. As explained, the thematic procedure occurred in a recursive fashion, where analysis of the data happened throughout the whole process, from the interview to the conclusion. Therefore, interview transcripts got simple coding right at the point of transcription, all to simplify the revision of transcripts throughout the period of

interviews. After interviews, patterns occurring across the dataset were thoroughly investigated in consideration of the theoretical framework. Findings were coded into themes with an abductive approach, where theory was first used to derive themes that were later added to after analyzing the findings and discovering new themes. Themes were then divided into explanatory factors of the themes (Table 2).

Themes	Explanatory factors
Increased control	App Control
	Dispatchers
Decreased control	Unclear Managerial Roles
	Lower Motivation and Commitment

Table 2: Thematic Coding of the Empirical Material

4.4. Method Discussion

It could be discussed whether 13 respondents were enough to answer the research question and argued that a larger sample could have granted a more reliable result. It could also be argued that semi-structured interviews lower the comparability between interviews (Saunders et al., 2019). During the interview process, however, the authors experienced saturation in the answers from couriers and platforms, discovering much of the same themes in several interviews. Thus, the sample was considered to be large enough, especially given that this saturation was reached via semi-structured interviews, which meant that respondents discussed the same themes even though not being specifically asked about all of them.

Moreover, language limitations could have affected the reliability of the study (Saunders et al., 2019). A clear majority of the interviews were conducted in English, which was the language preferred by most respondents. However, the ability to elaborate on questions varied together with English proficiency within the sample. To ensure that the data collection was as fair as possible and that the respondents gave the most accurate picture, the authors did their best to create a safe and interview climate (Saunders et al., 2019) where all participants felt free to speak and think less of language correctness. To further limit the risks of language errors, follow-up questions were called when answers were unclear or questions misinterpreted.

Another possible liability of the study is that not all respondents allowed recording of the interviews. Some couriers displayed worry and were suspicious about notes being taken. Without strictly accurate transcripts from these interviews, using longer quotations was challenging. To mitigate this, and to

ensure accuracy in the empirics, quotations were made based on careful note-taking directly after interviews were conducted.

Lastly, the geographical scope might limit the transferability of the study, since local labor regulation might affect how couriers are managed. However, the study did not delimit based on legal employment types or other regulatory criteria, which likely makes such differences between jurisdictions lower and transferability higher.

4.4.1. Ethical considerations and implications

Ethical issues have been considered mainly regarding interviews and data collection. A majority of the respondents were contacted through LinkedIn direct messages in a considerate, informative manner. All respondents participated voluntarily and were informed about their right to withdraw. However, the main ethical concern was the search for respondents in the street. Due to GDPR, no platform company would provide contact details to couriers. Therefore, potential respondents were asked in the street to participate in an interview. Ethically, it could be argued that asking someone during a work shift could be problematic, perhaps disturbing or intruding. When deciding to seek respondents in the street, the aim was mainly to gather personal contacts rather than to perform interviews directly. The authors strived not to make anyone insecure or forced to answer questions. At the beginning of the interviews, it was explained that all personal information would be deleted and that every respondent would be anonymous in the study's data set. The data were handled according to GDPR.

5. Empirics

Respondents and platforms were anonymized and labeled with the letters A through M and the numbers 1 through 4, respectively. For a more detailed overview of the sample, see Appendix A.

5.1. Increased Control

5.1.1. App Control

The app exerts managerial control in multiple ways. In accordance with the 6 Rs framework, app control has been categorized into *directing*, *evaluating*, and *disciplining* (Kellogg et al., 2020).

Directing by *Restricting* and *Recommending*

Firstly, the app controls its users by restricting actions to direct them in desired directions. One example is removing the couriers' ability to decline deliveries, as Platform 1 does. To decline or cancel a delivery, the couriers need to contact a dispatcher via chat or telephone and give a valid reason, such as feeling sick. Respondents A and B described it as follows:

"We have to contact the dispatch and tell them 'I want to decline this delivery', or 'I don't want to work now' or 'I don't feel good'. There are many options that we can say. However you need to have a valid reason." (Respondent A)

"Actually we can't decline it. If you decline, then why are you at work?" (Respondent B)

Another restricting measure is the different payment structures. Most companies use a compensation model based on the number of deliveries carried out. Respondents D and L described pay structure on Platform 4 and 2 respectively:

"Couriers only get paid per order delivered, based on the fact that [they] sometimes only perform one order and then go home. There is a base pay per delivered order and then additional pay depending on the distance from pickup to dropoff." (Respondent D)

"We don't get paid for the hours, we are getting paid for the deliveries. If we don't work, then we will not get paid. If we don't deliver any food we will not get any money." (Respondent L)

The algorithm also directs its users by recommending certain actions. One example is the use of digital training. Platform 4 has created a knowledge base to educate couriers and Platform 1 uses educational texts and videos sent out via the app. Respondent A at Platform 1 and Respondent K at platform 4 described it as follows:

"From time to time they (Platform 1) send us videos on like 'how we should deliver food', time to time they send us the procedure. They send us videos and writings so that we can watch them and practice ourselves." (Respondent A)

"Yes we have a knowledge site in the application. It's just to go in when I wonder something, but it's not that often now." (Respondent K)

Pay is another way to direct couriers by recommending. In Platform 3, there are multiple ways for couriers to increase their income. When asking Platform 3, a representative described their compensation model:

“Yes, you get more money to deliver during rush hours, weekends, late hours and on days with bad weather. There are also different bonuses and discounts you learn about during the introduction training.” (Respondent F)

Also in Platform 4, it is clear that Pay is a way to incentivize couriers: For example, to get them to work in areas with high demand. A Platform 4 representative described it as follows:

“Since we don’t ever punish or measure riders’ performance, using incentives is what we can do to influence our riders. Since the only compensation our riders get is pay, that is our main tool to create incentives. When there’s a low supply in an area, we boost it, send a notification, and then the riders get more paid in that area.” (Respondent D)

Evaluating by Recording and Rating

The second way of controlling is evaluating, which is done by recording data and rating according to it. The platform companies use different metrics; some use data recording from the couriers themselves (e.g., speed and location), while other platforms also let the customers evaluate the couriers and make the score available to the couriers. Platform 1 is one example of a platform engaging in recording to a large extent. A Platform 1 executive said about their recording of data:

“We [the Algorithmic Management] look at many different things, so indeed the number of orders that a courier did in a certain hour [...] Orders per hour, acceptance rates [...] we check how long they spend at the customer [...] we look into no shows [...] and if you don’t show up on time.” (Respondent E)

When asking a courier at Platform 1 about performance measurements and tracking the response was:

“Yes, they [Platform 1] monitor everything. The performance actually depends on everything, there is a time limit given, already that I can arrive in 10 minutes. If I take 15-20 minutes my performance will decrease. So everything is monitored, A to point B, when I take the food from the customer, when I reach the customer and how much time I’m taking to do it. So every point is monitored. And the app shows us and them [the platform] how much time I have taken for this order. If it takes too much time, my performance will decrease.” (Respondent A)

Other couriers witnessed how they were being measured on their respective platforms:

“[Platform 1] calls you if you take another route than the app shows [...] They control everything.” (Respondent M)

“I don’t like [Platform 3], They call us all the time. Like ‘what is happening’ ‘why are you not in that place?’” (Respondent I)

Most platforms also rate the couriers. Platform 2 lets customers evaluate the couriers in terms of customer service, speed, and care. Platform 1 works differently, rating their couriers themselves and sending out weekly performance scores. Two couriers at Platform 1 described how the performance scores work:

“Yes, Every week we get performance scores. We get scores for all our shifts and we get performance scores for every week. Examples are how many hours we promised we would work and how many we did work.” (Respondent B)

“There is a level of performance quality, so it’s from 1-8, 8 levels [...] Which will impact the number of shifts available to me.” (Respondent A)

Disciplining by *Rewarding* and *Replacing*

Rewarding happens mostly by monetary transfers. Higher pay as a rewarding mechanism can be seen in connection to the directive use of higher pay. The promise of higher pay functions as an incentive to work at certain times, and the actual higher pay functions as a reward. All platforms use piecework pay and different pay at different times. Replacing and rewarding can also take other forms than monetary. For example, on Platform 1, where scheduling is used, performance scores are related to the number of shifts available. The better the score, the more shifts, and conversely:

“If your level decreases, the available shifts will decrease. Let’s say: in this week I can take two to five shifts, it is available, I can take them. The more my level decreases, the fewer available shifts for me. There is a consequence here.” (Respondent A)

On Platforms 2, 3, and 4, it remains unclear in what ways disciplining is used. While couriers are evaluated, it seems like evaluations do not have obvious outcomes. For example, a Platform 4 executive said:

“We don’t punish any of the couriers, the only time we ban someone is if a customer reaches out to us and there has been an incident.” (Respondent D)

5.1.2. Dispatchers

Besides the algorithm controlling the couriers, there is also a dispatching function that the couriers contact when any issues arise. The dispatchers handle the managerial tasks that Algorithmic Management cannot, such as giving more advanced help. One example could be when the courier cannot find a restaurant or a customer.

On platform 1, couriers contact the dispatchers if in need of a break or if wanting to change work shifts. Respondents on all of the platforms had comments about the dispatchers, one of them said:

“The dispatch is in the app, there is a button for dispatch [...] If we need a break, if there is an issue for picking up the order, or if I'm not reaching the customer. In the app there is a function so we can [...] talk to the dispatcher and write to them, ‘I have this problem, what should I do?’ Within 1,2,3 minutes. they will answer and say ‘you should do this’, or they will contact the customers themselves.” (Respondent A)

How the dispatchers are reached differs, but their tasks are common across platforms: solving problems and helping couriers.

“We always have 70 people in the support [dispatchers] and you get an answer within 60 seconds. [...] It is always a human behind the phone, but yeah you can also reach the support by the chat in the application or call directly.” (Respondent D)

Dispatchers also sometimes follow up on the Algorithmic Management's work by reaching out to couriers that the algorithm has flagged as lost or inactive for some time.

5.2. Decreased Control

5.2.1. Unclear Managerial Roles

Although the app does most of the managerial tasks in the app jobs, interviews revealed that a number of functions are handled separately. For example, the dispatch center complements the in-app support pages or Q&As. Traditional managerial training and problem-solving roles are widespread between support functions and the algorithm.

Also during the training process, human management takes on important tasks. Sign-up and screening are commonly a mix between online forms, and sometimes quizzes, and human interaction such as a phone interview. After the screening, the app jobs provide some sort of training. Although some of the training comes in the form of videos and information material in the app, the app companies also have shorter training sessions where workers get taught how the app works and get answers to common questions.

“There was a guy who showed us the application. How to use it, how to accept the deliveries. They went with me to the restaurant, picked up the order, and we delivered it to the customer. So every single step they did with me in the beginning.” (Respondent B)

“We don’t really need training, the app is so easy and the job is not really that difficult. You just go there.” (Respondent H)

On some platforms, an HR function sometimes has contact with couriers. For example, they reach out if performance scores drop below a certain level. Courier C explained as follows:

“HR will call you directly. Like, do you have problems? Your performance is going down.”
(Respondent C)

The performance follow-up is in one of the companies organized via team captains, who have responsibility for weekly performance calls. They also share tips and tricks and forward information of different sorts. Although these captains have some managerial responsibilities, none of the interviewees considered them to be their manager, but a coworker on their own level. Whether this is a manager, or if anyone else is, seems unclear.

“So they divide us into groups and all the groups have a group captain. So he is our immediate, I would not say boss, but he is the one we reach out to. So the group captain is maintaining us. In a way he is our boss, but he is a [courier] like us as well. (...) I don’t really know how my boss is. to be honest. (...) I don’t think they have appointed a boss.”
(Respondent A)

An executive at company A also hesitates to call the captain a manager or boss, but prefers *“supervisor, maybe you can call it”* (Respondent E). The same executive also said that their couriers do not really have any managers in the traditional sense.

Others think of the dispatch centers as their manager, as they are the ones always on call, ready to answer questions, help with issues, and offer support.

“During my shift, I would consider my dispatcher my manager, because if I have any problem, like not finding an address, I have to contact my boss in a normal job, but at [Platform 1] that’s the dispatcher.” (Respondent B)

Although the respondents revealed no unified view on what or who their manager is, common for most of them was that they had no clear or direct answer on who it was.

5.2.2. Lower Motivation and Commitment

Although workers are rated and performance scores are issued, the respondents do not seem to bother. As stated above, some find it annoying that they are being monitored and followed up on too often,

but with regards to the scores and ratings above labeled as “evaluating”, the story is different. One of the respondents at Platform 2 said that:

“I see the ratings by the customer, but I don’t care. It doesn’t mean anything to me.”
(Respondent J)

And another, who was simultaneously working for platform 4, that:

“It doesn’t mean anything to me.” (Respondent K)

When asked why, it was both discovered that they did not see any clear implications of the ratings, and that they had little interest in achieving high ratings only for the sake of it. As one respondent working for both Platform 2 and Platform 4 put it:

“Why would I care? I’m not an employee.” (Respondent H)

Relating to this, the respondents further indicated that they have a vague relationship with the platform companies. This comes partially from the fact that many are not employees formally, but more prominently because the contact with the companies is scarce and purely transactional. Some have never met any representative of their company, not even when they started working. However, views on whether this type of relationship is positive or negative differ. Respondent I said positively that:

“[Platform 2] is great, they send everything home to my address. the kit, helmet and bag. And all the signing is done online, I have never met anyone from [Platform 2] actually.”
(Respondent I)

Respondent G describes his relationship with the platform as:

“I don’t look at [myself] as a [Platform 4] employee, Because there is no type of community and no contact with the company. I mean everything is done in the app, all contact is there.”
(Respondent G)

A third, more critical respondent M, said about Platform 1 and Platform 2 respectively:

“[Platform 1] doesn’t care about anything, if the food gets damaged or nothing.”
(Respondent M)

“[Platform 2] cares about getting the food delivered, but not about the people.” (Respondent M)

The scarce contact is not only visible vertically, between workers and the platform companies, but also horizontally between workers. Platform 1 has a practice of putting together their couriers in

WhatsApp Groups to spread information and create a community of sorts. In most of the companies however, such communities are reportedly non-existent. Respondent H said that:

“No if there was any community I would know about it.” (Respondent H)

Finally, also relating to couriers not being loyal to or feeling connected to their platform companies is the finding that couriers talk badly about the companies and that some even steal food instead of delivering it to customers. Respondent G witnessed that this was common but that he had never done it himself:

“[Platform 3] pays bad and the app is bad. Sometimes it does not work. [...] Easy to steal food from [Platform 3] and [Platform 2]. [Platform 2] is the easiest.” (Respondent G)

“You pick it up from the restaurant and put it in your bag, then you cancel. The restaurant doesn't notice. A lot of people do it all the time, but I don't.” (Respondent G)

6. Analysis

6.1. Increased Control

6.1.1. Comprehensive Technostructure and App Dependence Increase Control

The empirical data confirm that in the App Bureaucracy the technostructure, in the form of the app, handles functions that the middle line would in a Machine Bureaucracy. This is seen in the empirics, as couriers say that the app tracks, measures, restricts, and gives scores to them. As one platform executive described evaluation: *“We [the Algorithmic Management] look at many different things, so indeed the number of orders that a rider did in a certain hour [...] Orders per hour, acceptance rates [...] we check how long they spend at the customer [...] we look into no shows [...] and if you don't show up on time”*. These types of managerial tasks would traditionally be done by the middle line. Further, standardization is high and jobs are simple, which makes it possible for the app to act as a middle line. Unlike human managers, Algorithmic Management has the capabilities to manage a large, independent, and geographically spread out workforce. A traditional middle line would not be able to have as tight control as the Algorithmic Management, as it could not be everywhere at once and measure and evaluate nearly as many parameters. With the Algorithmic Management technostructure replacing the middle line, there is no stop to how many data points can be gathered or how detailed instructions can be. This shows that technology can increase managerial control.

Strengthening the Algorithmic Manager's importance is the fact that the couriers neither have colleagues nor a physical manager to turn to for advice. Empirics both stated that couriers lacked colleagues and had weak connections to any manager. With the application as the primary way for the couriers to reach out for help, the dependence on the algorithm increases further, contributing to the high managerial control within the organization. However, the disciplining actions of Algorithmic Management do not seem to have much control, as only a few rewarding or replacing features were found in the food delivery platforms.

6.1.2. Support Functions Have the Possibility to Increase Control

In the App Bureaucracy, where the technostructure has taken over many managerial tasks, complementing support functions (the dispatchers) handle tasks that cannot yet be run fully algorithmically. The dispatchers are considered a support function, although empirics show that it both controls and supports the couriers. One sign of this is that dispatchers interfere when a courier takes a different route than the app suggests. Supposedly being a helpful support action, some couriers describe it as controlling rather than helpful.

Just like a support function in Mintzberg's (1980, 1984) Machine Bureaucracy, the dispatchers are outside of the middle line, meaning that they are not a clear link between couriers and top management. Theoretically, this neither implies more nor less control in the food platforms. However, with the amount of data collection, the support functions have the possibility to become more controlling. Some aspects, like the example with the dispatchers calling couriers, might point towards such a control increase having already taken place to some extent.

Sub-conclusion

Food delivery platforms have replaced the middle line with a controlling technostructure and certain support functions that have technological possibilities to control more than a middle line. Thus, the authors conclude that some aspects of Algorithmic Management in food delivery platforms have increased managerial control.

6.2. Decreased Control

6.2.1. Unclear Managerial Roles Decrease Control

The empirics state that the couriers do not have a manager in a formal sense. The platform companies describe it as if workers are self-managed and free in their jobs, and many respondents essentially agree. However, the Algorithmic Management and the support functions handle managerial tasks, and

couriers have less control than if they had been self-managed (Curchod et al. 2020), making them more dependent on the app. Surely, worktime regimes are free in most platforms, and pay is closely linked to hours worked. Despite this, the dependence on the platform is high, which according to the Job Characteristics Model (Hackman & Oldham, 1976; 1980), lowers autonomy which could explain low job satisfaction among couriers, and in turn, lower commitment (Dirani & Kuchinke, 2011; Organ, 1988; Lincoln & Kalleberg, 1990), which suggests lower indirect control.

The discrepancy between the notion that the courier work is free and the reality of high managerial control makes for an unclear relationship between couriers and platform companies (Möhlmann et al., 2021). Notably, respondents were not certain that they had no manager, if they were their own manager, or if the manager was integrated into the app or support functions. Thus, as Algorithmic Management cannot handle all managerial tasks by itself, the manager role in the App Bureaucracy gets fragmented, and the Algorithmic Manager less autocratic. The fact that the managerial position is unclearly defined weakens managerial control, as it becomes difficult to manage certain aspects of app work. For example, thefts of food are occurring on multiple platforms. Regarding managerial involvement outside of the app, one platform even explicitly states that they refrain from getting too involved, as they might risk getting legal employer duties, hinting that it would otherwise have been beneficial to do so. Also, managerial support arguably gets weaker, leading to lower commitment (Hulpia et al., 2009) and thus lower control.

6.2.2. Simple, Repetitive Tasks and Low Autonomy Decrease Control

As expected, the empirics show that the App Bureaucracy has a similar job design to a Machine Bureaucracy. Theory suggests that this will lead to lower motivation (Blomberg, 2020), which seems to be true from the study. Mainly the simple, low-skill tasks and the low autonomy point towards this. The way the algorithm presents the tasks to couriers, in a strictly specified way, gives them less control and makes them less responsible for their work. Considering the Job Characteristics Model, low feelings of autonomy, such as in courier jobs, lead to low feelings of responsibility and thus motivation to decrease (Hackman & Oldham, 1976; 1980). In that way, low autonomy by design (highly specified job design) could result in platforms losing control over the quality and efficiency of the service.

6.2.3. Evaluation and Feedback do not lead to Intended Control

As stated, a substantial part of Algorithmic Management is performance measurement. Ratings in the form of performance scores or customer reviews could be considered a type of feedback, which according to the Job Characteristics Model is argued to have a positive impact on performance knowledge and thus increase internal work motivation and quality of work (Hackman & Oldham,

1976; 1980). According to platform executives, the intention of these performance measures is to have control over efficiency, which in turn reflects on service quality. However, what has been made clear in the empirics is that this control mechanism fails to control couriers: Multiple respondents declared themselves uninterested in feedback, saying without any euphemisms that they ‘don’t care’. Some couriers did understand that the scores could impact them, especially in the one platform where it affected the number of shifts available. In other companies, where the consequences were unclear, couriers cared less. The attitude towards feedback is interesting as it has almost the opposite effect than intended: more control. One possible reason could be that the feedback only includes individual data and not any on how one's performance contributes to the result of the business, which is important according to the Job Characteristics Model. Even if such aspects were added to the feedback, it could be argued that without any commitment to the company, it would not result in improved performance and thus have no effect on managerial control.

6.2.4. Low Commitment Leads to Less Ability to Control

Apart from not caring about performance scores, it was found that couriers feel little attachment to the platforms and that it is common to work for multiple companies simultaneously or to switch between them. The main motivator seems to be getting paid, which goes in line with pay being one of the reasons for switching between platforms. Thus, it could be assumed that this monetary motivation leads to increased platform switches, which lead to weaker courier-platform connections. Couriers seldom have contact with the platforms, apart from through the app or with dispatchers when in need of help, and lack a social context with colleagues. One respondent had never met anyone from his platform company, as they had sent his gear to his home and only contacted him electronically. This creates detachment from the organizations, which likely results in few couriers being inclined to care more than what rules and instructions require of them. Respondents also believed that the platforms care less about the people than about the work being done, or that they care little in general. As one respondent said: “[Platform 1] doesn't care about anything, if the food gets damaged or nothing.”. Low managerial support (Hulpia et al., 2009), job design that suggests low satisfaction (Lincoln & Kalleberg, 1990), and job insecurity (de Cuyper, 2009) all indicate lower commitment. One respondent confirmed this by reasoning that he did not care about performance evaluations because he was not employed. Further, another significant sign of low commitment is the thefts that couriers witnessed. This clearly shows that couriers do not care about, or feel like part of, the platform companies and that the platforms lack indirect control over the couriers despite Algorithmic Management.

Sub-conclusion

Unclear managerial responsibilities, job design, and weak courier-platform connection lead to low motivation and commitment. As this results in low care for the platforms, lower performance, and even thefts, the authors argue that some aspects of Algorithmic Management have decreased managerial control in food delivery platforms.

7. Discussion and Conclusion

7.1. Answer to the Research Question

This study has explored Algorithmic Management and its intentions, functions, and implications on managerial control in food delivery platforms in Stockholm. Through 13 qualitative interviews with couriers and platform executives, the aim has been to answer the following research question:

In what ways does Algorithmic Management in food delivery platforms affect managerial control?

The study concludes six main aspects impacting managerial control in food delivery platforms. Two factors explain increased managerial control, while four factors explain decreased managerial control.

Two main explanations for increased control

- (1) Comprehensive Technostructure and App Dependence Increase Control
- (2) Support Functions Have the Possibility to Increase Control

Four main explanations for decreased control

- (1) Unclear Managerial Roles Decrease Control
- (2) Simple, Repetitive Tasks and Low Autonomy Decrease Control
- (3) Evaluation and Feedback do not lead to Intended Control
- (4) Low Commitment Leads to Less Ability to Control

The study has found that as technology enables Algorithmic Management to standardize, coordinate couriers, and act as the primary contact channel, it has increased managerial control in the food delivery platforms. The ability to exert control has been further strengthened as couriers, without colleagues or managers, become increasingly dependent on the platform app. Further, as technology cannot yet handle everything fully digitally, dispatchers serve an important complementary function.

Some couriers witnessed that dispatchers exert control and not *only* support, meaning that support functions have the possibility to increase control.

Contradicting the common critique that the app jobs are Digitally Tayloristic, the study shows that the food delivery platforms lack control in some areas. Couriers do not care about their ratings or reviews and are able to steal food without getting noticed. This strengthens the notion that Algorithmic Management also leads to decreased managerial control. To begin with, as the algorithm replaces most managerial tasks, there is an absence of a typical manager, which creates unclarity and decreased control. Further, standardized tasks and tight control measures lead to less commitment, and thus less ability for the companies to use motivation as an indirect control measure. The same reasoning goes for the platforms' evaluations and feedback, which many couriers do not care about. This is a sign that the performance measures do not function as intended and that they affect motivation to decrease. Lastly, couriers feel little general commitment, which likely makes the companies less able to control them on issues such as wearing mixed uniforms, using equipment in poor shape, and expressing varying service-mindedness.

7.2. Contribution and Implications

As stated, previous research has focused mainly on increased control mechanisms, surveillance tendencies, and performance measurement in terms of working conditions and psychology (e.g., Bucher et al., 2019; Glavin et al., 2021; Jabagi et al., 2019; Wood et al., 2019), or power asymmetries (e.g., de Cremer & McGuire, 2022; Curchod et al., 2020; Jarrahi et al., 2021; Rosenblat & Stark, 2016; Shanahan & Smith, 2021; Woodside et al., 2021). This study aimed to give a more nuanced view of how food delivery platform companies manage couriers, and to consider the possibility that Algorithmic Management can lead to *both* increased *and* decreased control, which the results confirm. To conclude, the thesis has contributed with research to the new and largely unexplored field of Algorithmic Management. As technology progresses, Algorithmic Management could be expected to become increasingly common as a way of managing, also in other industries. Although delimited to a certain industry in a certain geography, there should be similarities to other types of app work that make the conclusions applicable elsewhere.

There are clear practical implications of the study as it uncovers control difficulties that the companies face. However, these difficulties might be difficult to resolve while choosing to keep an arm's-length distance to couriers as a way to avoid employer responsibilities. Unless either platform companies are willing to change their business models or if labor regulations change, control difficulties are likely to remain. Nonetheless, ensuring high service quality might become even more important in the future as food delivery companies move into deliveries of other kinds of goods to new types of customers

(Wolt, 2022). For example, equipment in good shape and neat uniforms might prove more important when making a dropoff at an inner-city law firm, than when making a pickup at the neighborhood Thai kiosk. Such changes in the nature of the service offerings might thus lead the food platform companies to consider control deficiencies more important to address, strengthening the importance of this study.

7.3. Suggestions for Further Research

Further research is proposed in two different directions: Firstly, control could be explored in other Algorithmically Managed organizations, such as other types of service platform companies (e.g., ride-hailing) or crowdwork platforms (e.g., online piecework). Differences could be expected across sectors where Algorithmic Management is practiced, partly because different markets might offer different legal restrictions and partly because other industries and types of work likely provide different opportunities in what ways control can be exerted.

Secondly, this thesis only briefly touches upon the customers' role in food delivery platforms, mentioning that customers can sometimes rate couriers. Some previous research has suggested that the customer might play a more prominent role and that some app work platforms create three-party relationships between customers, platforms, and workers (Duggan et al., 2020). As the couriers in this study did not bother about reviews, and since the platform companies and the customers should have an interest in high service quality, the authors propose that this three-party relationship would be interesting to research further.

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Appendix A: Overview of Respondents

Respondent	Company	Role	Interview Date
A	Platform 1	Courier	2022-10-04
B	Platform 1	Courier	2022-10-06
C	Platform 1	Courier	2022-10-10
D	Platform 4	Executive	2022-10-13
E	Platform 1	Executive	2022-10-17
F	Platform 3	Executive	2022-11-11
G	Platform 4	Courier	2022-11-04
H	Platform 2, 4	Courier	2022-11-03
I	Platform 2, 3	Courier	2022-11-06
J	Platform 2, 3	Courier	2022-11-06
K	Platform 2, 4	Courier	2022-11-13
L	Platform 2, 3	Courier	2022-11-12
M	Platform 1, 2	Courier	2022-11-02

Appendix B: Interview Guide, Couriers, English

Background:

1. Please tell us a bit about yourself and what company you work for.
2. What made you interested in this job and how long have you worked for the company?
3. How did you get the job? How did you apply and was it any specific process?
4. How did you get your training and equipment?

Application

5. Please explain an ordinary work shift, how does it start and what happens throughout?
 - a. What roles does the app have in this?
6. How do you get drives/pick-ups? How is that signaled by the app?
7. Do you need to accept all drives/pick-ups?
 - a. What happens if you say no?
9. Is it better paid during certain times?
 - a. Do you get a notification when it's better paid?
10. Does the application measure your performance?
 - a. Are you able to see your own performance score? If yes, please explain further.
11. In what ways does the application control you?
 - a. Notifications? In a positive or negative tonality?
 - b. Force you to work more at a certain time?
12. Do any specific actions by the application motivate/incentivize you?
13. Is there anything you spontaneously think does not work in your job?

Performance Measures

14. Do you get evaluation scores/ratings? What are they based on?
 - a. What do you think of the ratings?
 - b. What happens if you get bad scores? Any kind of consequences?

View on work and employer

15. How freely do you view your job?
16. Who is your boss?
17. Who decides when you are supposed to work?
18. Where do you turn if you have an issue with something?
19. What motivates you in this job?
20. What type of relationship do you have with the company?
21. Is there any type of community among couriers? Either organized by the companies or by couriers themselves?
22. Have you had a “real person” boss before? In what ways is the app similar/different to a boss?
23. Do you enjoy your job today? What is the best thing about your job?

Appendix C: Interview Guide, Platform Executives, English

Background:

1. Please tell us a bit about yourself and what company you work for.
2. Please tell us more about the company. What kind of company is it and how would you explain it to someone who has never heard of it?

The couriers:

3. How does one get a job as a courier?
4. How do you use training and onboarding processes?
 - a. Is there additional information in the app or in any other place?
5. How do the couriers receive their equipment?

The work and the application:

6. Do you use scheduling?
7. How do couriers get their rides/tasks/drives?
 - a. Is it possible to choose what types of rides you take when you are a courier? Can you say no?
 - b. What happens if you say no?
 - c. Are there any consequences?
8. How does the payment model work?
9. Is it more paid during certain times?
 - a. What is the aim of this?
10. Do you measure workers' performance?
 - a. In that case, what metrics do you use?
 - b. What are the intentions?
11. How do notifications in the app work?
 - a. What types and when? To incentivize couriers?
12. How do you follow up on the quality of the services you provide?
13. Do you use incentives/rewards to increase motivation?
14. What is the intention with the support or the “dispatchers”?

Managerial tasks:

15. Are there any team leaders or bosses who have direct contact with the couriers?
 - a. If not: Who would you describe as the leader/boss?
16. Where do the couriers turn when they have problems with something?
17. How do you act when you find that a courier has a problem? Please explain further.
18. Do you strive for any type of community among couriers?
 - a. If yes: what is the intention of this?
 - b. If yes: do you help them with this?

Appendix D: Interview Guide, Platform Executives, Swedish

Bakgrund:

1. Berätta gärna lite om dig själv, och vilket bolag du jobbar för.
2. Berätta gärna mer om företaget. Vilken typ av företag är det och hur skulle du beskriva det för en någon som aldrig har hört talas om det?

Kurirerna:

3. Hur får man jobb som kurir?
4. Hur lär ni upp era kurirer i uppstartsfasen?
 - a. Finns det ytterligare träning/information i appen eller någon annan stans?
5. Hur får kurirerna sin utrustning?

Arbetet och applikationen:

6. Använder ni schemaläggning?
7. Hur får era kurirer uppdrag/körningar/leveranser?
 - a. Är det möjligt att själv bestämma vilka körningar man vill ta som kurir? Kan de tacka nej till en körning?
 - b. Vad händer om man säger nej?
 - c. Blir det några konsekvenser?
8. Hur fungerar er lönomodell?
9. Blir kurirerna mer betalda under vissa tider?
 - a. Vad är syftet med detta?
10. Mäter ni arbetarnas prestation?
 - a. Vilka metrics mäter ni i så fall?
 - b. Vad är syftet?
11. Hur fungerar notifikationer i appen?
 - a. Vilka sorter och när? För att skapa incitament?
12. Hur följer ni upp kvaliteten på era tjänster?
13. Använder ni incitament/belöningar för att öka motivation?
14. Vad är målet med supporten/"dispatchers"?

Ledarskapet:

15. Finns det några teamledare eller chefer som har direktkontakt med kurirena?
 - a. Om inte: vem skulle du kategorisera som kurirens ledare/chef?
16. Vart vänder sig kurirerna när de har problem med något?
17. Vad gör ni när ni upptäcker att en kurir har problem? Utveckla gärna.
18. Strävar ni efter någon typ av gemenskap bland era kurier?
 - a. Om ja: vad är syftet med detta?
 - b. Om ja: hjälper ni kurirerna med detta?