How is fair pay perceived? Qualitative research into gig workers working for online labor platforms.

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ABSTRACT,

The traditional workplace is undergoing a transformation with the emergence of the gig economy and Online Labor Platforms (OLPs). Workers performing "gigs" for these platforms are not managed by human managers, but rather by algorithms. This study addresses how gig workers perceive fairness in the context of these OLPs working with algorithms as managers and categorizes their user experiences along different types of organizational justices. Doing so, by utilizing qualitative data gathered from direct experiences shared by gig workers on forums and supported online articles. Resulting in a framework which links settled organizational justifications, distributive, procedural an interactional justice, with real user experiences. Therefore, broadening our view on fairness in the gig economy. Despite limitations, the research contributes valuable insights to the discourse on fairness in the gig economy, emphasizing the ongoing relevance of organizational justification.

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1. INTRODUCTION

The change in the traditional workplace is an everlasting process. Access to the internet, automation of jobs and less specified, more differentiated jobs are taking over. Shifts in employments paradigms are continual, the concept of “fair pay” is becoming increasingly more complex. Fair pay is more than just a monetary transaction, because who is paying who? (In this study the concept of fairness, just and justification are used interchangeably).

New business trends are right around the corner. Think of businesses as Uber-eats, Fiverr or Upwork where businesses employ no “real employees”. Instead, a so called “Gig”-economy is emerging. Roy and Srivastava use the term from TechTarget (2020) to describe this Gig-economy as following: “Gig economy is a free-market system where organizations contract with independent workers for a short-term project or service engagement”. The tradition which was having only a full-time job seems to be rather conservative. For example, sixteen percent of surveyed U.S. adults in 2021 earned money through digital gig platforms (Pew Research Center, 2021). More workers are shifting towards joining contractual jobs as an independent worker. These jobs are described as “independent workers”, “Gig workers” or “freelancers” (Roy & Shrivastava, 2020). Platforms that allow such jobs to be existing are called “Online Labor Platforms” (OLPs). OLPs allow one another to work for someone else requesting a service. According to Kuhn and Maleki (2017) “Labor platform firms portray themselves as technology companies that provide opportunities for micro-entrepreneurs to have their own small service business with minimal start-up costs, acting as middlemen facilitating immediate short-term service needs for consumers and business clients. In this case a gig worker performing a task he or she agrees on performing in exchange for monetary rewards”. OLPs are often called digital labor platforms and mostly exist in the form of websites or applications that can be accessed from all around the world with access to the internet. Performed work or tasks done by gig workers via OLPs are often referred to as ‘crowd work’. The examples Uber-eats, Fiverr and Upwork which are mentioned above, all fall under the same category of OLPs. For the sake of this study OLPs are studied via user experiences of gig workers, working for such platforms.

Just like the change in the traditional workplace, the modern approach to employment has undergone significant changes as well. New institutions and technologies have made it simpler for self-employed individuals to do work for firms and peers that could have previously only been done in an employment relationship (Collins, et al. 2019). These self-employed individuals are often referred to as “gig workers”, “crowd workers” or the “1099 workforce”. For the sake of this study, only the term gig worker is being used.

Recent studies are diving deep into the responsibilities and challenges faced by gig workers in the gig economy. These workers typically take on tasks one at a time, often dealing with low-cost labor issues. They heavily depend on digital rating systems through web platforms or smartphone apps and are almost always controlled by algorithms (Myhill, Richards, Sang, 2021). This research primarily focuses on the aspect mentioned earlier—being 'controlled by algorithms'—which will be discussed later in this study.

Qualitative research suggests that gig workers face predictable challenges that differ in nature or intensity from those confronted in organizations (Caza, et al. 2022). In an organization, for example, employees are hired to do a series of tasks specifically allocated to their job. Workers finish their tasks after each other without many difficulties. However, for gig workers, tasks are disintermediated and the must bear the full economic risk of their work (Kalleberg, 2000;2009). Furthermore, the challenges gig workers face in comparison to that of organizational employees. Selecting day-to-day tasks or gigs is something that is not often seen in organizations. This process by which gig workers select their gigs is directly linked to the framework of algorithmic management. As gig workers navigate online platforms and job-matching services, their choices are shaped by algorithmic mechanisms that prioritize available opportunities. Think of available food deliveries or more creative gigs on websites like ‘Upwork”. These algorithms are designed to recommend gigs bases on the workers’ historical preferences, metrics and ratings.

At the core of algorithmic management is the concept of algorithms, as defined by Barocas and Selbst (2016, P5): "a formally specified sequence of logical operations that provides step-by-step instructions for computers to act on data and thus automate decisions." This definition lays the groundwork for understanding how algorithmic management significantly shapes pricing and compensation structures within gig economy platforms, consequently influencing the perceived fairness of compensation for gig workers.

Algorithmic management, as a driving force, impacts fairness through various mechanisms. Notably, dynamic pricing algorithms, algorithm-driven performance evaluations, and wage determination are key examples. These three dimensions of algorithmic management exemplify how it plays a crucial role in shaping fair pay and conditions in the realm of gig work.

Having established the definition of the term "algorithm," one can now proceed to further explore the concept of “algorithmic management (AM).”; AM automates HR-related duties and functions traditionally undertaken by human managers. (Duggan, Sherman, Carbery, McDonnell. 2020). An example of such an HR-related function is that of compensation. In this study referred to as “Algorithmic-driven compensation systems”; Algorithmic-driven compensation systems in OLPs utilize automated processes and algorithms to determine payment for tasks performed by gig workers. These systems consider factors such as task complexity, time and performance to calculate compensation.

The focus on gig workers is of importance because it is them who are controlled and matched by these automated HR-related duties such as compensation. Besides, gig workers are in the end the people who perceive pay as being just or fair. However, before diving deeper into the aim of this study, it is important to introduce the concept of fairness and fair pay in OLPs.

Just like people, algorithms are vulnerable to biases that render their decisions “unfair” (Mehrabi, et al. 2019). Mehrabi describes fairness as “the absence of any prejudice or favoritism toward an induvial or a group based on their inherent or acquired characteristics”. For the sake of this study, this definition of fairness will be used only. In other words, an unfair algorithm can be described as one whose decisions are skewed toward a particular group of people (Mehrabi, et al., 2019). Within this fair-decision-making processes, three types of justices play a role in this realm: distributive justice, procedural justice and interactional justice (Greenberg, 1990). These three types of justice are of great importance for understanding the decision-making process in OLPs utilizing AM. They will be discussed more thoroughly in the theoretical framework.

This study aims to investigate the different types of justification gig workers perceive while working for online labor platforms regarding fair pay. The goal is to categorize gig workers personal user experiences into different sub-categories not yet used in the

gig-economy literature and go beyond the work that was already available for workers in the traditional organizational literature.

To achieve this, the study will connect established theories on organizational justification and the future of work in the gig economy. The primary goal is to improve our understanding of how fair pay is perceived and implemented in Online Labor Platforms (OLPs). Through qualitative research, the study aims to bridge the knowledge gap regarding the types of justifications gig workers consider as fair pay and, more importantly, the reasons behind these perceptions. The ultimate objective is to address the following research question:

"What perceptions do gig workers have on distributive, procedural and interactional justice concerning algorithmic management of online labor platforms."

2. THEORETICAL FRAMEWORK

2.1 Types of justification

The theoretical framework revolves around the concept of "perceived fairness" within Online Labor Platforms (OLPs). In the context of this study, we explore three types of justifications closely linked to fairness: Distributive, procedural, and interactional justification. Each of these theories will be introduced and tied to OLPs, shedding light on the role gig workers play in shaping perceptions of these justices. Moreover, the framework emphasizes the influence of Algorithmic Management (AM) on these perceptions. Ultimately, it outlines various scenarios where gig workers may encounter these three types of justice.

The concepts of distributive, procedural, and interactional justice remain useful and important today, proving their relevance in understanding fairness in various organizational settings, including the modern landscape of Online Labor Platforms (OLPs). The goal of this research is to take these well-established theories and apply them to real-world situations, providing practical insights. This work aims to benefit both businesses, helping them understand how pay is perceived, and gig workers who might be unaware by why they feel their pay is unfair. Essentially, by using these traditional theories, the study seeks to shed light on aspects of perceived fairness that are not yet well understood in the context of OLPs.

2.1.1 Distributive justice

Distributive justice has been discussed for over six centuries and can be seen as the first of three types of justice in this study. Distributive justice is quite self-explanatory, it means how resources are distributed among members of society (Stanford. 1996). Throughout history many definitions of distributive justice have been introduced. Distributive justice refers to the perceived fairness of an allocation or, more broadly, to how people judge what they receive (Cropanzano, Molina. 2015). According to Deutsch (1975) people usually follow three rules in deciding if their distribution is fair; equity, equality and need. Discussing equity, the most prominent work was written by Adams. Called the equity theory. According to Adams equity is calculated by comparing two ratios: outcome and input. If a person is putting X amount of input for a job, this person is expected to receive X amount of output as well. Linking this to distributive justice; This input versus outcome ratio should also be the same for any other person. Adams also describes that, if person A would be paid more than person B, for performing the same task in the same amount of time (getting overpaid). Person A would feel guilty. Whereas, in contrast, person B would feel angry. (Adams 1965).

Distributive justice can directly be linked to OLPs with the example given above. Is distributive justice perceived by gig workers, working for OLPs? For example, do OLPs ensure fair distribution of compensation among gig workers performing the same task, thus scoring similar when comparing equity theory. One approach to address this is by implementing transparent and standardized compensation structures within OLPs. This ensures that individuals making similar contributions receive comparable rewards, fostering a sense of fairness among gig workers.

2.1.1.1 Impact AM on distributive justice

AM, as described in the introduction in this study, the automation of HR-related duties and functions traditionally undertaken by human managers (Duggan, Sherman, Carbery, McDonnell. 2020), directly impacts distributive justice in dealing with the fair distribution of rewards and compensation. Its implications mainly rest on fair pay determination. Where algorithms or AM play a crucial role in determining how much compensation each worker receives for their work on OLPs. To determine such fair compensation. AM takes into account multiple factors which differ from one platform to another. Common are task complexity, demand and worker performance. It is important that these algorithms used for AM are designed and implemented in a way that promotes fair distribution of compensation among gig workers. These algorithms used in AM considering distributive justice can be defined as "fair division algorithms" (Lee, M. K. et al. 2019).

2.1.1.2 Potential encounters gig workers with distributive justice

According to Schultze, et al. (2023). AM practices, in general, are of a procedural nature. However, some practices concern the distribution of rewards and compensation. Which is very closely related to distributive justice as mentioned above. However, if we take Leventhal (1976) and Deutsch (1975) descriptions of distributive justice: "Distributive justice exists to the extent that the allocation of an outcome is consistent with the goals of a particular situation, such as maximizing productivity or improving cooperation". The most important factor is that its focus lays on "outcomes". To put it into other words. Does your (outcome) reflect the effort you have put into your work? (Leventhal 1976, Colquitt 2001). Linking this theory to the research question of this study, some possible encounters for gig workers concerning distributive justice this study identified are firstly, inequitable compensation based on outcomes may pose a challenge for gig workers. They could experience the frustration of receiving compensation that does not align with the effort and dedication they invest in their tasks. This mismatch between effort and rewards may result in feelings of dissatisfaction and injustice, especially if the compensation is perceived as inadequate or disproportionate to the work performed.

Secondly, the lack of transparency in reward distribution within the algorithmic management system can create uncertainties about how rewards are allocated. The absence of clear mechanisms may foster perceptions of injustice and erode trust between gig workers and online labor platforms. This becomes particularly problematic when workers struggle to comprehend the rationale behind their compensation or discern whether the distribution aligns with the specific situation's objectives.

Lastly, potential biases in outcome allocation may arise from algorithmic management practices. These practices could inadvertently introduce biases into the distribution of rewards, impacting the perceived fairness of outcomes. If the algorithms incorporate inherent biases or fail to account for contextual nuances, gig workers may experience inconsistencies in reward allocation, raising concerns about the impartiality and objectivity of the system. These biases could contribute to heightened

feelings of injustice and a sense of unfair treatment among gig workers.

2.1.2 Procedural justice

Oxford bibliographies refers to procedural justice as following: “Procedural justice (or procedural fairness) is defined as the fairness of processes used by those in positions of authority to reach specific outcomes or decisions” (Oxford bibliographies. 2018). As mentioned in this definition, justice and fairness are interchangeable subjects. Not only in this definition does the interchange of these words occur, but it is also commonly accepted in the literature. Konovosky (2000) describes Procedural justice as: “Procedural Justice refers most generally to how an allocation decision is made. Procedural Justice is contrasted with Distributive Justice, which refers to the fairness of the decision outcome.

Procedural Justice can refer to objective or subjective circumstances” (Konovsky. 2000). Objective procedural justice refers to actual or factual justice, as seen in legal proceedings such as a criminal trial. On the other hand, subjective procedural justice refers to "perceptions of objective procedures or to the capacity of an objective procedure to enhance fairness judgments," as proposed by Konovsky.

When delving into procedural justice within the literature, it is often segmented into two crucial components: "process control" and "decision control." For the purpose of this study, we will focus solely on these two components, utilizing examples that demonstrate their relevance in Online Labor Platforms (OLPs) and their direct impact on gig work.

Procedural justice is intricately linked to the active involvement of gig workers in decision-making processes on OLPs. When gig workers actively participate in the decision-making process, encompassing both process control and decision control, it significantly enhances their perception of procedural fairness. For instance, platforms that actively seek input from gig workers on policy changes or algorithms, contribute to a sense of control and fairness in the procedural aspects of decision-making.

2.1.2.1 Process control

Process control refers to the extent to which individuals perceive that they have control and influence over the procedures and processes that affect them (Tyler, Rasinski, Spodick. 1985) It involves giving individuals, in the case of this study gig worker, a voice and allowing them to participate in the decision-making process that directly impact them. For example, fair pay. When individuals have a sense of process control, they perceive that their opinions matter, and that their input is valued. It is important for individuals to have the opportunity to provide feedback, raise concerns or contribute to the decision-making process of an organization.

To give an example regarding the gig economy and OLPs: Process control can be shown by gig platforms that seek input and feedback from gig workers on matters that affect their working conditions, change of policies and fees or even changes in algorithms. Platforms may conduct surveys; some platforms work with feedback systems that ensure that workers have a voice and are actively participating in the OLP’s they perform gigs for.

2.1.2.2 Decision control

decision control is defined by Thibaut & Walker (1978) as: “the degree to which any one of the participants may unilaterally determine the outcome of the dispute”. A rather vague definition which can be understood as the degree of influence individuals, or gig workers, perceive they have over the outcome or decision made within a process. Focusing on fair compensation in this study. It involves providing individuals with a fair opportunity to present their insights, work experiences and have their opinions considered in the decision-making process. When workers perceive that they have decision control, they believe that their inputs are taken into account. Both process control and decision control involve listening to the opinions of individuals or gig workers. However, the difference lies in how this opinion is utilized: in the process (process control) or in determining the output (decision control).

In the context of gig work and fair pay, the component decision control involves providing gig workers with the opportunity to participate in the decision-making process that determines their compensation. For example, an OLP may allow gig workers to have an opinion on their rates, influencing factors that affect their pay or engaging in negotiations concerning their compensation.

2.1.2.3 Impact AM on procedural justice

Within the scope of procedural justice algorithmic management impacts fairness in two ways. Transparency and control. (Lee, M. K. et al. 2029)

First transparency, transparency enables individuals to see and evaluate how decisions are made and to draw conclusions about the decision outcomes and the decision maker. Algorithmic transparency and its importance have been highlighted by numerous research already (Annany, Crawford. 2018). Fairness through AM emphasizes four key aspects considering transparency. One; standards clarity, which refers to the communication of rules and methods used by algorithms. Two; standards validity, which concerns whether rules used in algorithmic decision making are perceived as fair and just. Three; information representativeness, this is the extent of which AM-used information reflects values of individuals. At last, explanation of decision outcomes, emphasizes how the results are explained by AM to individuals and if they are perceived fair.

Control, as mentioned above, can be divided into two aspects. Process and decision ‘outcome’ control. Considering AM process control may include allowing individuals, in this case gig workers, to determine input data or giving gig workers the ability to influence the roles and logics of the algorithm used in AM themselves. (Lee, M. K. et al. 2019). On the other hand, decision control or outcome control will enable individuals or gig workers to reject algorithmic outcomes. By finding alternative outcomes.

2.1.2.4 Potential encounters gig workers with procedural justice

Nagtegaal (2021) adds to this: Procedural justice concerns the extent to which the process underlying decision-making is perceived as being fair. Therefore, procedural justice does not necessarily correspond with one’s assessment of the outcome, as with distributive justice. An outcome, such as monetary rewards or compensation, can be viewed as unfair, while the process with which the outcome was obtained is viewed as fair (Colquitt, 2001; Lind & Tyler, 1988; Binns et al., 2018). From the perspective of gig workers. Encounters with procedural justice concerning perceived fairness are primarily related to the decision-making process in the implementation and design of algorithmic management of OLPs. This study proposed three potential encounters gig workers may experience.

The first encounter with procedural justice concerning algorithmic management for gig workers is that of transparency. Platforms ensuring transparency in the decision-making process are crucial. This involves providing clear explanations of the criteria employed by algorithms to make decisions and ensuring

that gig workers comprehend the underlying processes leading to outcomes.

Secondly, facilitating gig workers' participation in the feedback mechanism is vital. Establishing platforms that enable workers to express their viewpoints and recommendations regarding algorithmic management approaches fosters a sense of inclusion and acknowledgment. An exemplar platform that embodies such participation is the Fiverr Community website.

Thirdly, gig workers might encounter ethical guidelines for algorithm usage implemented by OLPs. According to Möhlmann (2021), companies can design algorithmic management more ethically by overcoming challenges such as (1) algorithmic opacity, (2) automation and limited human interaction, as well as (3) algorithmic nudging[1] (Möhlmann, 2021).

2.1.3 Interactional justice

While procedural justice focuses on the fairness of procedures in the decision-making process, interactional justice extends beyond, emphasizing fairness in interactions between individuals or between individuals and organizations. This study specifically examines the interaction between gig workers and OLPs.

Bies and Moag (1986) discovered that "people were quite concerned with the fairness of the interpersonal treatment they received from corporate recruiters," which they labelled as "interactional justice." Throughout the literature, interactional justice is often divided into two core concepts, known as the "two-factor" theory, which includes "interpersonal justice" and "informational justice."

Fieseler, Bucher, and Hoffmann (2019) describe interpersonal justice, based on Colquitt's work (2001), as the dignity and respect workers receive from others. Informational justice encompasses the level and quality of information and explanations, as well as the accountability of authorities, as experienced in the workplace (Colquitt, 2001; Fieseler, Bucher, Hoffmann, 2019).

2.1.3.1 Interpersonal justice

As mentioned before interpersonal justice is referred to as the quality of interpersonal treatment that individuals experience (Colquitt, 2001). Taking a gig worker as the subject, this regards interactions with platform administrators, such as managers and designers of algorithms, clients and peers or reviewers. Taking into account the feelings and perspectives of gig workers involves considerations for their respect and dignity. Examples of interpersonal justice in the gig economy include respectful communication, unbiased and fair treatment, and the absence of discrimination.

In terms of fair pay for gig workers, this could entail addressing concerns about their pay rate for a specific task. In such instances, a platform should listen to these concerns with respect, providing clear and respectful communication to the gig worker regarding their pay rate.

2.1.3.2 Informational justice

Informational justice in the gig economy involves providing gig workers with clear and accountable information. Specifically, regarding the topic of fair pay, it includes offering comprehensive details on how payments are calculated and how rates per task are determined. This encompasses transparency in payment policies, such as understanding how payments are structured and scheduled.

For example, gig workers should have clear information on how they are compensated — whether it's per task or per hour. Additionally, it is crucial to specify the service through which they are paid and the timing of payments. Instances where informational justice must be upheld in OLPs include transparent payment structures, clear pay schedules, and accurate earning records.

2.1.3.3 Impact AM on interactional justice

As mentioned earlier, examples of interpersonal justice in the gig economy include respectful communication, unbiased and fair treatment, and the absence of discrimination. AM has the potential to contribute positively to all these examples. For instance, it can reduce biases and facilitate clear communication by utilizing non-discriminatory algorithms. However, there is a downside to AM in the context of interpersonal justice. It can lead to a loss of personal interaction between gig workers and human managers or designers of such algorithms. For gig workers, this may result in a perceived lack of the interpersonal aspect of discussing pay and rewards, which an algorithm cannot achieve through AM.

As earlier discussed, informational justice in the gig economy regards providing gig workers with clear and accountable information. Especially considering fair pay, this includes giving details in how payments are calculated. AM has the potential to enhance informational justice by providing even clearer information and transparent criteria for determining fair pay in OLPs. However, if companies decide to not give insights in how compensation is calculated for gig workers, thus resulting in less transparency, gig workers may not fully understand how their pay is determined, which eventually can lead to perceptions of unfairness. (Schultze, Trenz, Cai, Tan, 2023).

2.1.3.4 Potential encounters gig workers with interactional justice

This study sets out three possible encounters for gig workers regarding AM in the context of interactional justice, divided into interpersonal justice and informational justice.

Firstly, concerning interpersonal justice; gig workers may encounter OLPs which emphasize the role of AM in promoting respectful communication an unbiased treatment. For example, highlighting the use of non-discriminatory algorithms in AM for a certain OLP. This contributes to perceived fairness among gig workers. Additionally, OLPs could strike a balance between algorithmic decision making and maintaining a personalized “human” approach. Possible approaches to strike this balance may be personalized feedback and human-centric communication channels, contrary to often seen “chatbots”.

Regarding informational justice, gig workers may encounter OLPs working with AM that enhance transparency, for example providing clear and detailed information about payment structures. Including payrates and input data. This transparency can also be linked to distributive justice, mentioned above.

3. METHODOLOGY

This study aims to answer the following research question: “What perceptions do gig workers have on distributive, procedural and interactional justice concerning algorithmic management of online labor platforms”. Addressing this question was only feasible when the focus was solely on Online Labor Platforms (OLPs) and not on the perceived justification in other labor markets. The decision to exclusively concentrate on Online

[1] Algorithmic nudging: the strategy of changing users’ behavior based on how apparently free choices are presented to them (Möhlmann, 2021)

Labor Platforms (OLPs) and gig work is supported by the fact that the gig economy represents an entirely novel realm of employment (McGovern, 2017). For instance, Uber, a frequently cited OLP, was only established in 2009.

Additionally, research into OLPs and gig work is something only existing since the last 10 years, with more research output appearing every day. Besides the huge potential the gig economy has, there is also an uncertain future of OLPs. Arising questions such as: “Can platforms be designed to be more attractive in the near future for workers and requesters?” (Kittur, et al 2013). Adding to this, another factor that makes the gig economy interesting. Is the significant number of individuals working on gig platforms. According to Pew Research Center, sixteen percent of surveyed U.S. adults earned money through digital gig platforms in 2021 (Lutkevich, TechTarget, 2023). Furthermore, thirty percent of young adults aged 18-29 are earning income through Online Labor Platforms.

To address the research question introduced in the first paragraph of the methodology, the collection of qualitative data was deemed essential. The choice to focus solely on qualitative data aligns with the research question's nature, which involves understanding the perceived fairness experienced by gig workers and categorizing this fairness within organizational justifications. This process delves into complex and nuanced factors that go beyond simple numerical measurements. Opting for quantitative data would not have been suitable for effectively addressing the research question.

Moreover, this study aimed to explore the research question from multiple perspectives, considering both direct experiences shared by gig workers on forums and those supported by articles online. The decision to use qualitative data instead of quantitative data was a better fit for this multi-perspective. The data was collected by Milan te Velde, the writer of this study. Studying at the University of Twente.

All user experiences were selected matching the following criteria: 1, person is working for an OLP, or person has worked for an OLP. as their insights provide a firsthand perspective on the environment under exploration. 2, User has shared his or her personal experience online. As it indicates not only a readiness to participate but also serves as a tangible source of qualitative data. 3, user experience is perceived viable to, firstly, deductive coding and, secondly, inductive coding. Furthermore, the selection of user experiences was not selected on 1; Age, 2: gender, 3; country of origin,4: user experience and 5; type of gig work. These variables were deemed irrelevant to the specific focus of categorizing justification types. By eliminating these factors, the study seeks to ensure a more concentrated and unbiased analysis of the core elements related to justification in the context of OLPs and gig work. Adding to this, the personal user experiences were kept anonymously.

Data collected regarding organizational justice was mainly derived from articles and Reddit forums on OLPs. The chosen OLPs were Fiverr, Uber, Doordash and Upwork. These three OLPs share the idea of performing a ‘gig’ and are of reasonable size and familiarity around the world. This caused the reddit forums surrounding these OLPs to be of reasonable size (number of active members and amount of recent data).

The decision to solely focus on these platforms, including their corresponding forums, Reddit discussions, and articles, was motivated by the share of information accessible on the internet. This approach was particularly relevant given the nature of OLPs, such as Fiverr, Uber, Doordash and Upwork, which were chosen for their global recognition, reasonable size, and the prevalence of 'gig' work. The Reddit forums associated with these OLPs, being of reasonable size with active members and recent data, proved to be valuable sources for capturing shared experiences and understanding the nuances of organizational justice within the gig economy landscape.

To ensure credibility, reliability and transparency the sources of which the personal experience derived from have been put into a scheme which can be found in the appendix. This scheme sets out each individual experience and where it had been posted. For example, reddit.com, Upwork forum or online articles

The user experiences were both deductive and inductive coded. Deductive coding in this study relies on pre-existing theories found in the theoretical framework. In other words, in involves applying predetermined categories concerning organizational justification to the data, in this case user experiences. After this, inductive coding occurred, which might seem contrary. But this inductive coding suggest that codes or categories emerged from the data itself without predefined categories. An example of inductive coding in this study is that of Algorithmic Wage Discrimination, which was not a predetermined category, but rather, emerged from the user experiences.

Firstly, inductive coding involved downloading complete Reddit discussions into coding software. Subsequently, the text was segmented into distinct subcodes, such as "matching" or “compensation”. User experiences assigned this subcode were further categorized into more specific codes, such as “compensation systems” or "Job evaluation". Following this step, user experiences gathered from Reddit forums and discussions were systematically organized and linked to specific codes.

Secondly, specific patterns of codes underwent deductive coding. For instance, user experiences initially coded with "bad support" were then subjected to inductive coding using the predefined concept of "procedural justice theory."

The use of both deductive and inductive coding in this study serves two critical purposes. Firstly, it enables a comprehensive understanding of the research question by adopting a structured approach based on existing theoretical frameworks concerning organizational justification. Simultaneously, it allows for the identification of emerging themes and nuanced patterns that may not have been initially considered.

Secondly, this dual coding strategy ensures a balanced analysis, where predefined organizational justifications are examined alongside new factors that may influence gig workers' perceptions of fair pay. Thus, it captures the complex dynamics of the evolving gig economy. This approach enhances the study's strengths and its ability to explore both established and emerging theories related to fair pay in the context of gig work.

3.1 Findings part 1: Distributive Justice

As mentioned before, distributive justice is concerned with how resources are distributed. As mentioned in the methodology section, information pertaining to distributive justice was primarily gathered from articles and Reddit discussions and forums on OLPs. The selected OLPs for this investigation were Fiverr, Uber, Doordash, and Upwork. These platforms all center around the concept of performing a ‘gig’. An important source of data concerning distributive was a column shared on reddit called ‘If you work for Uber or Amazon, you may be a victim of algorithmic wage discrimination’ (Merchant. 2023). The main focus for collecting data was to focus on those who perceive decisions made by managers and algorithmic designers working for these platforms. In this case Uber drivers or freelancers working for Fiverr or Upwork.

3.1.1 Algorithmic Wage Discrimination

Merchant (2023) uses work from Veena Dubal (2023) to describe Algorithmic wage Discrimination (AWD). Merchant uses the following example to describe AWD:

"If the algorithm can predict that one worker in the region with a higher acceptance rate will take that sushi delivery for $4 instead of $5 — they've been waiting for what seems like forever at this point — it may, according to the research, offer them a lower rate. If the algorithm can predict that a given worker will keep going until he or she hits a daily goal of $200, Dubal says, it might lower rates on offer, making that goal harder to hit, to keep them working longer."

This example is related to distributive justice because it contradicts distributive justice. Resources are not equally distributed from worker A to worker B working in another region performing the same task. In this case delivering the same order. Instead of treating workers equally and distributing resources equal. The algorithm itself offers lower rates to one individual instead of offering equal pay to workers. In the networks combined model, it can be seen that AWG can be split into the upfront pricing model and gender inequality.

Upfront pricing is introduced by Uber in 2014. Ubers upfront pricing is a system where passengers are provided with a fixed fare before confirming their ride. Passengers can choose from a pool of fixed fares to choose the driver and price they favor. This upfront pricing system is based on factors such as distance, time and demand. It seemed like a good and fair innovative idea. Riders were given more information before agreeing to a ride. But in reality, it amounted to an across-the-board pay cut (Merchant. 2023). Drivers don't get paid when trips take longer, due to traffic or obstacles. And trips do not go further than the algorithm had predicted it in advance. Hence Upfront pricing being a part of AWD, resulting in unfair pricing. In what way the gender gap or gender inequality is caused by AWD is best explained by the following quotation.

"Indeed. Thanks in part to algorithmic wage discrimination, a lot of workers for Uber and other on-demand app platforms don't even make minimum wage after gas, maintenance and time spent waiting between rides are factored in. And women and minorities, who already see imbalances in pay, are likely to feel the effects even more acutely. Uber's own internal study, for instance, found that women drivers made 7% less than men did."

Besides gender inequality, AWD has the power to also worsen racial and gender discrimination from outside OLPs like Uber and Amazon. According to Dubal (2023):

However, both the organizational and the worker/individual side need to be taken into consideration when discussing distributive justice. Besides user reviews from column and forums, two interviews have also been conducted to collect data. In one of the interviews a company's policy regarding discrimination is also discussed. In this case an individual using the company's provided service uses the company's service wrongfully, by deciding on the basis of discriminatory features. The R&D lead manager of this company states the following:

"If the recruiter would decide to kind of basis choice the on those discriminatory features, as far as he can maybe deduce them from the profile, then he could be held accountable as to why he didn't choose the top candidates over someone who is lower in the list."

This quotation might not suggest fair pay. However, it does illustrate distributive justice from the company's side. As it suggests that wrongfully using their service, making use of discriminatory features, can be held accountable. Discrimination contradicts distributive justice, so tackling discriminatory processes implies protecting and thriving for distributive justice from inside the company.

3.2 Findings part 2: Procedural Justice

Data collection through the scope of procedural justice existed of doing qualitative research on user reviews doing gig work for OLPs. Mainly user reviews from Uber were used in this data collection. As well as an open discussion on the Reddit Forum concerning incorrectly charging riders in the Vancouver district. Intentionally, both positive and negative reviews should be taken into consideration in this chapter, but after collecting and comparing reviews, the majority of reviews implied negative feedback for uber. And were written with a negative experience as cause. These bad user reviews from Uber drivers on Reddit forums often highlight concerns regarding unfair treatment, lack of transparency, bad support and lack of being heard when providing feedback, which are key aspects procedural justice in OLPs. These reviews provide insights into the potential procedural justice shortcomings within OLPs and the need for improvements to address user, in this case drives, perceived unfairness and enhance their experiences when working with OLPs such as Uber. The coded network regarding procedural justice is divided into many segments. In the coded network as seen below we separate procedural justice into 'process control' and 'decision control'.

3.2.1 Process Control

In both process control and decision control, a recurring complaint is the lack of customer service or the absence of assistance through customer service. The quotation below illustrates a link between process control and the lack of customer service in the context of Uber incorrectly charging riders in the Vancouver area, resulting in perceived unfair pay. It is an example of an individual perceiving that they did not have control and influence over the procedures and processes affecting them, caused by the lack of support. This person has described it as being 'useless', indicating a lack of effective process control in addressing customer issues. Additionally, this person suggested getting in touch with Uber via different platforms, which suggests another sign of unclear customer support, highlighting the lack of perceived process control as well. In this example, the Uber driver in question is not satisfied with the support processes at Uber. One might suggest that this user experience can also be affiliated with interactional justice, specifically interpersonal justice, hence why this justification is also mentioned.

"I drive for Uber sometimes. Speaking as a rider and a driver. Their support is useless. Mindless bots or humans I've never been able to tell. You'll most likely never get this corrected by Uber support. You could try and tweet them as I've heard that sometimes works."

3.2.2 Decision control

As mentioned in the framework decision control regarding fair compensation can be achieved in OLP's by providing individuals with a fair opportunity to present their insights, work experiences and have their opinions considered in the decision-making process. The following quotation taken from a Doordash user review, is an example of the lack of decision control. Where these individual tries to have influence on the outcome of decisions made by Doordash, but is not able to do so. This individual is not provided with a fair opportunity for him being heard. Or change the outcome that was already decided. Thus, his input is not taken into consideration in the decision-making process.

"Then I realized that I had still be changed tax and they hadn't adjusted the DD (Doordash) fee. Tried them again "We can't due to policy." You're charging me tax on items you didn't delivery... you're charging me a fee for a service, you didn't provide. Dude refused / was unable to escalate it past him. I asked him "Is this worth losing me as a customer over" and he just copied and pasted a response from the TOS. Like I get that he doesn't have the power, and I get I'm being an asshole to him... and I get that all together its less than a buck and I won't even notice it... but... there's a principle."

3.3 Findings part 3: Interactional Justice

As well as distributive and procedural justice, data collection for interactional justice happened with both user reviews and online columns. Key findings concerning 'interactional justice' were derived from internet forum reddit as well as an article by Carnegie (2022). Where user experiences from several OLPs were shared and discussed. Based on these consistently negative user reviews, two dimensions of interactional justice, as previously mentioned, can be identified: informational justice and interpersonal justice. The coded network below shows these two pathways. However, it's important to understand that these two dimensions of justice differ in the nature of the interactions they involve in. Informational justice concerns the fairness of communication and information exchange, while interpersonal justice focuses on the fairness of interpersonal treatment and respect. Despite their shared vulnerability to negative reviews and the unknown or "black box" nature within platforms—referring to the lack of transparency in algorithmic processes and information sharing—the distinct aspects of interaction involved in each justice dimension contribute to their unique challenges and unique user experiences in interactions with one another of these justices.

3.3.1 Informational Justice

Informational justice is described in this study as providing gig workers with clear and accountable information. Looking at the topic of fair pay, it includes giving extensive details on how payments are calculated and how rates per task are decided. As well as changes in payment policies. The quotations below serve as an example of how information is not justified, thus contradicting informational justice. The Fiverr user quoted, had experienced an interaction with Fiverr support where no clear and accountable information was provided. Resulting in an unfair pay or compensation for his/her provided material. On top of that this individual has received a complete drop in demand for gigs, without Fiverr providing any information regarding why. The lack of transparency and inadequate information in this case undermines informational justice.

"Fiverr support said the buyer has decided they want to use the material anyways and then Fiverr support asks if I can send this buyer a custom offer for $15 so that they can compensate me. (The original project was $60) $15 for a $60 order that they lied and said was plagiarized. Now, all of a sudden, instead of getting 10+ orders and 15-20 message from new clients per day, we've had no messages and no orders."

3.3.2 Interpersonal Justice

Interpersonal justice is concerned with the quality of interpersonal treatment that individuals experience. Considering gig workers, this regards interactions with the platform. These interactions can vary from interactions with customer service, platform administrators or with managers and designers of OLP's. The quotation below is an example of the lack of interpersonal justice between customers and 'tech companies' as a whole. In this quotation tech companies are referred to as digital platforms. This quotation connects to interpersonal justice in a way that it suggests that tech companies 'should' inform customers about the use of these rating systems. It highlights the need for clear and fair communication between customer and organization which is a pilar interpersonal justice rests on. Respectful and high-quality interaction between worker and organization can only be possible when a company provides such opportunities. In an article by Carnegie (2022), a quote attributed to Alex Wood, an author and lecturer in Human Resource Management and Future of Work at Bristol Business School, emphasizes the importance of tech companies informing customers about the use of rating systems:

"He, Alex Wood, believes tech companies should make customers aware that these systems are used to meter out disciplinary actions if workers are seen to be underperforming."

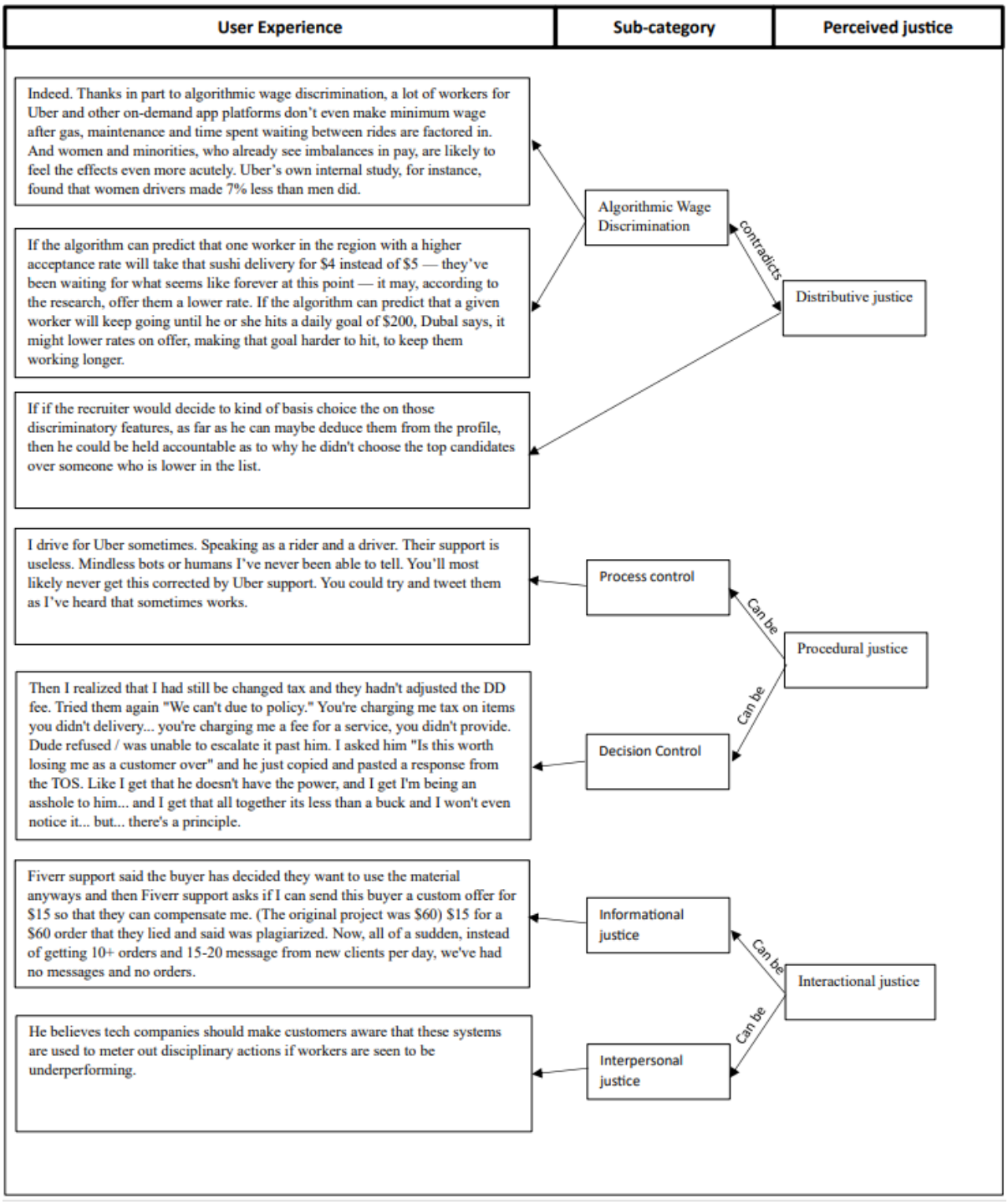

Figure 1: Networks Combined

3.4 All findings combined

In this detailed visual representation, the complex layer of the findings is explored, creating a clear and understandable guide to the coding details. The image simplified the coding output, making complex data more accessible. It revealed the subtle relationship between user experiences and organizational justice, showing how individual interactions on online labor platforms impacted perceptions of fairness. As we looked at the visual summary, the findings, carefully wrapped up, told a story that helped us understand the world of gig work and algorithmic management better. This visual representation doesn't serve as just a quick look; it allows for a deeper understanding to really get what's going on with online jobs and how gig workers experience them. It helps us see the different parts clearly. It's not just a picture; it can be seen as a key to understanding how everything fits together.

Besides this deeper understanding. this visual representation functions as a framework that enables the linking of various user experiences related to justice in OLPs with specific organizational justice types. It allows for the categorization of future user experiences by identifying similarities and comparing them to previously used criteria. This process helps determine whether these new user experiences align with the categories of distributive, procedural, or interactional justice established earlier.

4. DISCUSSION

Reflecting on the research question: *"What perceptions do gig workers have on distributive, procedural, and interactional justice concerning algorithmic management of online labor platforms?"*

This study has tried to answer this question by doing deductive and inductive coding and presenting the findings categorized to each organizational justification. Adding to this, this study aims as an exploration on fairness in pay for gig workers ranging from gig workers (user experiences) to those implementing algorithms (for example a R&D manager at an OLP). The findings highlight the challenges and shortcomings in achieving distributive, procedural and interactional justice discussed in literature (Stanford. 1996, Konovsky. 2000, Bies & Moag. 1986) within OLPs. This study identifies different concepts concerning perceived (un)fairness in OLPs such as algorithmic wage discrimination (Merchant, Dubal. 2023), unfair pricing, discrimination, and ineffective customer service.

In the first place, this study concerned the decision-making process of managers and designers in OLPs. The results, however, did not align with these variables, nor did they provide answers to the research question previously conducted. However, instead of putting the scope solely on middle managers and designers working in OLPs, gig worker user experiences were used to conduct data. The experiences of gig workers can be understood as the connection between the three types of justice and their individual perceptions of fairness. Within the gathered data, associations between gig workers' experiences and managerial decisions are identified in relation to the three types of organizational justice.

The results of this study contribute to the already existing literature on OLPs and gig economy in a way that it explores different perspectives concerning fairness and user experiences. Even more so it contains direct critique from users and gig workers on systems already in use in OLP's. It sheds light on perceived fairness and evaluates both decisions regarding fairness as well as how fairness is perceived. These ideas can be implemented in both future research on the topic of fairness and OLP's as well as in organizational structures where these user experiences might not have been heard from yet.

Continuing, one might suggest that the theories used in this study regarding justice are old-fashioned and do not apply on the gig economy anymore, this study implies that these theories can still be sensible and are not considered outdated. Combining both established theories and recent concepts on the current gig economy, sheds new light on these theories. Proving these theories are still relevant this current day and age. On its own further nuancing theory and literature concerning organizational justification gig work and OLPs.

Comparing this work to that of Schultze et al. (2023) on AM and promoting fairness, the paper by Shultze et al. suggests that with distributive, procedural, and interactional justice, AM is being used to prevent unfairness or, on the other hand, restore fairness. Using this work of categorizing perceived (un)fairness caused by AM can give a synergistic effect. This is achieved by employing both theories on perceived fairness. First, using the theory by Schultze et al. to link interactions of users with preventing unfairness or restoring fairness. Second, using the theory of this study to categorize this perceived fairness or interaction into a distinct organizational justice. By adopting this multi-theory perspective, user experiences can be categorized more specifically, resulting in a better understanding of the user experience on both the user side and the company using AM side. However, this is a mere suggestion without any proof, and besides, the paper by Schultze et al. is not concerned with OLPs.

Additionally, the paper by Schultze et al. suggests that AM is being used from a distributive justice point of view in promoting fairness. However, this study challenges this idea because, from the results section, we have seen that this is not always the case. For example, this study suggests that distributive justice concerns Algorithmic Wage Discrimination (AWD), which is in contrast to promoting fairness.

Relating this study to that of Möhlmann et al. (2021), this study continues by supporting that AM in OLPs serves as a matching and controlling factor. This is also reflected in the findings by looking at different user experiences. Some clear fall under the matching nature of AM in OLPs, for example, user experiences concerning decision control, falling under procedural justice. As well as the controlling nature of AM in OLPs, for example, the upfront pricing model falling under distributive justice. This study is also in line with the papers' implications of how AM antecedents, characterizes, and consequences relate to each other, especially concerning the consequences, which include platform workers' responses.

While this study sheds light on categorizing gig workers personal experiences into organizational justifications looking at OLPs, there remains a need for future research to delve into the ethical side of these OLPs. Looking into the design of the algorithms used in AM practices. Understanding the nature of these algorithms, and ethical questions arising around these algorithms could provide with some interesting, groundbreaking, findings. Additionally, conducting interviews with gig workers instead of using user experiences posted online could give more insights into perceived justification by the person in question. Thereby give a clearer picture of the type of category the experienced justified belongs to.

5. LIMITATIONS

Most data were conducted from internet sources such as forums, columns and user experiences, which can be perceived as unreliable and biased. Gathering data from user experiences was not mentioned in the proposal and research question intentionally, which limited the possibility of answering the research question in the first place.

User experiences posted online were often from a negative nature, this seemed logical because people rather post negative experiences to be heard by gig workers or companies. However, this resulted in fairly one-sided experiences. Which in fact did touch upon the organizational justification. But only when they were perceived not just, instead of being both just and not just.

Besides, in the result section only a few user experiences were being used for coding. This could lead to biases or hasty generalization based on only one experience rather than shared experiences by gig workers.

Adding to that, the conducted interviews, concerning the initial aim of this report, did not involve conducting data and information from designers nor middle managers, which was intentionally the previous goal of this research. At last, because of the lack of the middle managers and designers and the usage of user experiences as sources, the research took a 180 degree turn in conducting data and computing findings. Which on its own is a limitation, because this meant that answering the original research question was made unimaginable.

Furthermore, only three types of justice are mentioned in this study. For a broader and more comprehensive research, looking

broader than those three is recommended. For the sake of time and planning, it was not possible to dive deep into the ethical side of OLP's and its concerns regarding fairness, fair compensation and organizational justice. For future research, it is recommended to use literature on ethics in the gig economy in doing research.

6. CONCLUSION

This study successfully answers the research question, "What perceptions do gig workers have on distributive, procedural, and interactional justice concerning algorithmic management of online labor platforms?". By categorizing gig workers and their experiences, the research sheds light on distinct types of justification perceived by gig workers regarding fairness in Online Labor Platforms (OLPs), specifically focusing on distributive, procedural, and interactional justice theories (Stanford. 1996, Konovsky. 2000, Bies & Moag. 1986).

The study emphasizes the enduring relevance of the organizational justification framework, offering valuable insights into the processes and interactions shaping gig workers' fairness perceptions. Furthermore, it addresses a crucial knowledge gap by advocating for a comprehensive examination of gig work and OLPs, encouraging a nuanced exploration of distributive, procedural, and interactional justice dimensions. This multi-dimensional analysis provides a thorough understanding of fairness in the gig economy.

This exploratory study serves as a small step for future research endeavors aiming to explore the evolving landscape of gig work and its implications on perceived fairness within OLPs.

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8. APPENDIX

Item 1: user references and sources

User reference	Derived from
"If the algorithm can predict that one worker in the region with a higher acceptance rate will take that sushi delivery for $4 instead of $5 — they've been waiting for what seems like forever at this point — it may, according to the research, offer them a lower rate. If the algorithm can predict that a given worker will keep going until he or she hits a daily goal of $200, Dubal says, it might lower rates on offer, making that goal harder to hit, to keep them working longer."	Quotation of interview with Veena Dubal in column Brian Merchant: If you work for Uber or Amazon, you may be a victim of algorithmic wage discrimination. (2023) *Los Angeles Times*
"Indeed. Thanks in part to algorithmic wage discrimination, a lot of workers for Uber and other on-demand app platforms don't even make minimum wage after gas, maintenance and time spent waiting between rides are factored in. And women and minorities, who already see imbalances in pay, are likely to feel the effects even more acutely. Uber's own internal study, for instance, found that women drivers made 7% less than men did."	Column by Brian Merchant: If you work for Uber or Amazon, you may be a victim of algorithmic wage discrimination. (2023) *Los Angeles Times*
"AWD is a pernicious trend that has flown under the radar for too long. It's a phenomenon that, she says, can reduce your pay, undermine efforts to organize your workplace, and exacerbate racial and gender discrimination. And it stands to be supercharged by the rise of AI."	Quotation of interview with Veena Dubal in column Brian Merchant: If you work for Uber or Amazon, you may be a victim of algorithmic wage discrimination. (2023) *Los Angeles Times*

"If the recruiter would decide to kind of basis choice the on those discriminatory features, as far as he can maybe deduce them from the profile, then he could be held accountable as to why he didn't choose the top candidates over someone who is lower in the list."	Interview conducted with a R&D manager at an OLP
"I drive for Uber sometimes. Speaking as a rider and a driver. Their support is useless. Mindless bots or humans I've never been able to tell. You'll most likely never get this corrected by Uber support. You could try and tweet them as I've heard that sometimes works."	Quotation from reddit comment concerning Uber incorrectly charging riders for the Vancouver curbside and congestion management permit. https://www.reddit.com/r/vancouver/comments/v75pq1/comment/ibj29t7/?utm_source=share&utm_medium=web2x&context=3
"Then I realized that I had still be changed tax and they hadn't adjusted the DD (Doordash) fee. Tried them again "We can't due to policy." You're charging me tax on items you didn't delivery... you're charging me a fee for a service, you didn't provide. Dude refused / was unable to escalate it past him. I asked him "Is this worth losing me as a customer over" and he just copied and pasted a response from the TOS. Like I get that he doesn't have the power, and I get I'm being an asshole to him... and I get that all together its less than a buck and I won't even notice it... but... there's a principle."	Quotation on reddit on OLP policies concerning Doordash orders. https://www.reddit.com/r/vancouver/comments/v75pq1/comment/ibmddrt/?utm_source=share&utm_medium=web2x&context=3
"Fiverr support said the buyer has decided they want to use the material anyways and then Fiverr support asks if I can send this buyer a custom offer for $15 so that they can compensate me. (The original project was $60) $15 for a $60 order that they lied and said was plagiarized. Now, all of a sudden, instead of getting 10+ orders and 15-20 message from new clients per day, we've had no messages and no orders."	User experience with the Fiverr customer support. Quotations found on reddit. https://www.reddit.com/r/Fiverr/comments/h8llt3/discussion_as_a_seller_fiverr_customer_support_is/?utm_source=share&utm_medium=web2x&context=3
"He believes tech companies should make customers aware that these systems are used to meter out disciplinary actions if workers are seen to be underperforming."	Article by Megan Carnegie: Gig Workers Are Getting Crushed by the Review Mill. (2022) *Wired Business*