Ph. D. Dissertation in Engineering

Job Quality in Gig Economy: Platforms' Power Versus Gig Workers' Resisting Strategies

- The Unheard Voice of Gig Workers (Case of Algerian Ride-Hailing Platforms)-

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Wahiba Mellaoui

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지도교수 **Jörn Altmann**

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Wahiba Mellaoui

Wahiba Mellaoui 의 공학박사학위 논문을 인준함

2023 년 8 월

위 원 장 __**Jeong Dong Lee**__ (인)

부위원장 __**Jörn Altmann**__ (인)

위　원 __**Yoonmo Koo**__ (인)

위　원 __**Heike Schröder**__ (인)

위　원 __**Almas Heshmati**__ (인)

This work is wholeheartedly dedicated to Professor Jörn Altmann

for the priceless knowledge he gave me.

To my Parents for their endless love,

support and encouragement,

To my lovely son Rached.

Abstract

Job Quality in Gig Economy: Platforms' Power Versus Gig Workers' Resisting Strategies

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Wahiba Mellaoui

Technology Management, Economics and Policy

The Graduate School

Seoul National University

The gig economy may be seen as the most recent stage in the evolution of unconventional types of work. In 2019, it produced around $204 billion in gross volume worldwide, with 58% generated from transportation-based services. It also represents a new junction in capitalist production, whose effects must be treated seriously by regulators, researchers, workers, and other key parties. There is increasing apprehension worldwide about the social, economic, and political consequences of the deterioration of the quality of jobs, consequently impacting work conditions. The deterioration of the quality of work is mainly

linked to the labor market being reshaped worldwide. The gig economy is considered an essential factor that causes this reshape due to its significant and fast expansion while providing fewer rights than the ones enjoyed by traditional workers.

This research is motivated by the growing concerns related to the decline in job standards and aggravation of social inequalities accelerated by gig work, which may lead to failures in the labor market due to unequal power distribution between platforms and gig workers. Moreover, when work conditions are unfair, yet workers withdraw their voices, we should ask why.

Additionally, this research is also motivated by policymakers' challenges when designing adequate policies to guarantee equitable jobs in the gig economy. One major issue is that gig work is quite different from traditional employment, and the mechanisms of gig work quality are not fully known, and research examining the quality of work quality and workers' voices in the gig economy is still in its infancy. This gap mainly results from adopting a simplistic approach to modeling quality of jobs, which lacks a concurrent and comprehensive view integrating platforms' power and gig workers' resistance while designing the mechanisms that rule the quality of work. This research comprises two studies, a systematic literature review and an empirical study.

In the first study, we explore and analyze comprehensibly how academic research addressed the quality of gig work by performing a systematic literature review.

A fair work lens was adopted through its eight fair work principles (contract, communication, management, governance, use of data, pay, representation, and work

conditions) to guide data extraction. A narrative synthesis is utilized for analysis, where different concepts were set out and inductively put into relation, and a conceptualization of them was provided. The adopted method is operationalized using a panoply of guidelines and tools to conduct this research. Based on the inclusion and exclusion criteria and the quality appraisal process, 45 studies were retained. Most examined primary studies show that the gig economy barely complies with fair work according to the tool we utilize, which accentuates our concerns.

Additionally, the inducted cause-effect relationships among the eight fair work principles are constant across studies with diversified contexts, displaying various settings and empirical methods. The primary studies gave consistent results, proving that the proposed relationships are robust and transferable. Therefore, we were able to build a conceptual model that depicts the interrelations among the job quality determinants, where the work conditions fairness is a potential proxy for gig work quality, as it is the ultimate output of the proposed causal model. Contract fairness is found to be a cornerstone root cause that shapes the rest of job quality determinants.

The identified cause-effect relationships revealed exciting results that confirm, on the one hand, the dominating role of platforms in shaping the quality of gig work through having control over the contract design, algorithmic management, communication, governance, use of data, pay, right to representation, and therefore, gig workers' work conditions as a result. On the other hand, we found evidence in the literature that workers' resistance, mainly their collective voice, contributes to shaping management, communication, pay, and

work conditions. However, the gig economy is currently beyond the scope of traditional collective bargaining and unionization.

Additionally, some gig workers perform workarounds to attenuate the exerted platforms' controlling power through algorithmic management to enhance their pay and working conditions. Based on these findings, we confirmed that gig workers' resistance shapes the quality of their work. Nevertheless, the literature lacks a deep understanding of what shapes gig workers' voices and resistance in general. Most examined publications have provided descriptive studies, interpreting occurrences of the successful realization of group action while disregarding the far more frequent lack of collective protest in comparable circumstances. Moreover, the literature lacks comprehensive and holistic analyses that focus on the interrelations of platforms' power and gig workers' resistance and do not simultaneously capture this interplay. Our systematic literature review stimulates and endorses our empirical study to uncover the interplay between platforms' power and gig workers' resisting strategies, focusing on voice mechanisms.

The second research uses a deductive approach and a quantitative empirical method. It addresses the lack of voice theorization due to the scarcity of comprehensive studies on the interplay between platforms' power and gig workers' resistance. Examining the quality phenomenon through concurrently using both lenses, power, and resistance, may further strengthen the theorization and conceptualization of voice and the quality of gig work.

Previous research has had a tendency to clarify episodes of successfully realized collective mobilization while neglecting the far more frequent shortage of collective protest

in comparable situations. It is problematic because it focuses exclusively on instances where workers raised their collective voice. Nevertheless, the gig economy voice research is still in its infancy, and the voice theory is underdeveloped. Researchers still did not develop and tested robust conceptual models that explain the mechanisms shaping the gig worker's voice. While adopting a robust theoretical approach, our study proposes an integrative research model confronting platforms' power to gig workers' resistance. Additionally, we utilize the concept of anger to manifest the drivers' feelings towards the unfairness of the job quality determinants resulting from the exerted power by platforms on them.

Through this study, we aim (1) to examine the role of platforms' power in shaping gig workers' anger; (2) to explore the extent to which platforms' power, as well as gig workers' anger, play in stimulating covert and/or overt gig workers resistance strategies; (3) to reveal the role of platforms' power in hindering angry gig workers from raising their voice.

We utilize the original model of Hirschman (1970) exit, voice, and loyalty as an overarching model for this research. However, we propose a different conceptualization by using gig workers' anger as a predictor instead of dissatisfaction and by adding a new outcome; the workarounds. Based on our SLR, we predict the gig workers' workaround as one of the expected behavioral outcomes. Additionally, we consider communication among gig workers as a mediator of the relationship between the proxy of gig workers' anger and gig workers' voice and workarounds. As a moderator, we tested the platforms' ideological power.

We use the lens of power theory to explain the control exerted by the platforms on the gig workers, shaping their anger. Additionally, we adapt the anger concept based on prior literature presenting the gig workers' anger as being linked to unfair pay, management, and work conditions. We extend its components to include unfair contracts, as the multifaceted nature of platforms' control generates diversified sources of anger. Also, we integrate psychological contract violation, as it is considered a significant source of anger based on prior literature.

Afterward, we attempt to see workers' anger components through a power lens, where we consider the unfairness of contract and pay as the platforms' decision-making power, and management and communication unfairness mirrors the platforms' non-decision-making power exerted on the gig workers, as asserted by prior literature. The workers' perception of the exerted platforms' power, through the perceived unfairness resulting from it, reveals the degree of gig workers' anger. At this stage, we develop anger interplay based on the conceptual model developed in the SLR, which provides an insightful conception of the interplay among the job quality determinants based on their fairness.

Knowing that power and resistance are intricately intertwined in a complicated and usually paradoxical way. We proceed with integrating the power lens with the resistance lens to reach our target, which is developing a model where we can concurrently test the action and reaction, and how platforms' control triggers and even shape the resistance of gig workers.

We use survey data collected from 339 Algerian ride-hailing drivers and apply PLS-SEM

to evaluate the proposed research model and test the hypotheses and beyond.

The results deliver the following significant findings: (1) platforms' decision and non-decision-making powers, as well as manipulation power, raise drivers' anger's proxy (work conditions fairness), whereas the platforms' ideological power decreases it, through its indirect negative impact (mediated by the drivers' psychological contract violation), on drivers' perception of the fairness of their work conditions; (2) the total effect of platforms' decision and non-decision-making powers, as well as manipulation power is insignificant to drivers' participation in collective actions. Paradoxically, platform ideological power significantly negatively impacts drivers' participation in collective actions.

Additionally, on the one hand, the total effect of platforms' decisions and non-decision-making powers and manipulation power raise communication, workarounds, and the intention to exit, while decreasing the direct appeal and loyalty. On the other hand, platforms' ideological power hinders the drivers' communication and collective voice, raises their loyalty, as well as their direct appeal to the platform, and decreases their workarounds as well as their intention to exit platforms; (3) Anger through its proxy (work conditions fairness), does not have a significant direct relationship with drivers' participation to collective action. However, the relationship between anger and participation in collective action is mediated by communication. Based on this finding, we confirmed the crucial role of both the ideological and manipulation powers of platforms in redirecting the drivers' anger from being against platforms to becoming against themselves and each other, therefore, destroying drivers' rationale behind raising their voices.

Additionally, we could see the critical role of communication in redirecting the drivers' anger back again towards platforms, therefore stimulating collective action. However, the results statistically demonstrated that the role of communication tends to be less significant than the role of platforms' ideological power.

In a nutshell, platforms exert power by imposing unfair contracts generating unfair pay, unfair algorithmic management, potential violations of drivers' psychological contracts, and unfair work conditions. This unfairness stimulates drivers' anger; however, this anger is not necessarily directed towards platforms (mostly, there is no direct relationship between anger's components and voice). This fact impacts the drivers' resisting strategies and hinders their voice, rendering their suffering silent. We believe this empirical study helps academicians and practitioners hear the unheard voice of a particular category of gig workers before it becomes late.

Upon the findings of the SLR and the empirical study, several implications are derived and presented in this research to inspire academicians and policymakers when designing their initiatives to clarify further and rebalance the relationships among the different stakeholders of the ride-hailing ecosystem.

This work adds to the existing body of research by combining power theory and resistance theoretical concepts. We use Hirschman (1970) exit, voice, and loyalty as the overarching framework of the phenomena, where we extend the model by adding workarounds as one of the main adopted resistance strategies by the gig workers. Additionally, we contribute to the theory by adding antecedents that lead to the workaround phenomena, which have not

been examined by prior research. Furthermore, we extend the dynamic model of the psychological contract theory by demonstrating that platform manipulation power, "platforms' decision, and non-decision-making powers" through unfair contracts and algorithmic management raise its dynamicity, increasing the probability of more frequent PC violations. In contrast, ideological power decreases PC violation frequency.

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1.1 Background and Motivation

1.1.1 Gig Economy

Gig economy can be seen as the most recent stage in the evolution of unconventional types of work. According to Goods et al. (2019), the gig economy represents a new junction in capitalist production, whose effects must be treated seriously by regulators, researchers, workers, and other key parties. Although there is no generally accepted definition of the gig economy, the terminology is often used to refer to an economic system made up of platforms that operate online and leverage technology to construct multisided markets, linking employers with on-demand gig workers across many sectors (Duggan et al. 2020; Meijerink & Keegan, 2019; Harris, 2017; Meijerink et al. 2021).

The short-term activities arranged by digital platforms are known as "gig work," and they represent a significantly new kind of labor that has evolved in recent years. This labor has become a subject of policy and scholarly attention (Heeks et al. 2021). Estimates of its size are highly variable since gig workers are not included in most official statistics. However, it is generally agreed that the gig economy employs tens of millions of people globally, and its growth rates are significant (Schwellnus et al. 2019).

This significant expansion of novel forms of work has had both intended and unintended repercussions for workers, consumers, businesses, and other economic players. These effects include the increased availability, convenience, and value of new digital transactions for clients, as well as more independence, flexibility, and precarious work for some platform economy workers (Scully-Russ & Torraco, 2020).

Currently, the worldwide gig economy produces $204 billion in gross volume, with 58% of this value coming from transportation-based services (Mastercard & Kaiser, 2019). However, the lack of security and safety mechanisms for accommodation-sharing and ride-sharing businesses has raised several doubts about the economy's potential for growth (Kim et al. 2018).

The increasing rates of digitalization in emerging economies are expected to result in a 17% compound annual growth rate increase, with a gross volume of $455 billion in gig economy transactions by 2023 (Mastercard & Kaiser, 2019). This explains governments' support for online platforms, despite the precariousness they impose on gig workers.

Interest in the gig economy has spread beyond academic circles to include policymakers and society (McDonnell et al. 2021). However, gig economy-related academic research is still in its early stages (McDonnell et al. 2021; Kaine & Josserand, 2019; Kalleberg & Dunn, 2016). Yet, there is a growing body of literature that reflects the rising popularity of gig work as an alternative work paradigm.

Previous research findings highlight many advantages of the gig economy. There is evidence that gig labor generates new livelihoods, such as by creating paid work that would

not have existed before and providing employment opportunities for the formerly jobless.

(Agrawal et al. 2015; Codagnone et al. 2016; Dreyer et al. 2017). Moreover, gig work has

been shown to provide workers with increased freedom and independence (Berger et al.

2019; D'Cruz & Noronha, 2016). However, there is also considerable evidence of issues

with gig work and its quality.

1.1.2 Job Quality in the Gig Economy

Job quality is central to human resource management and is closely linked to employee

satisfaction and motivation. It is also of fundamental importance in discussions around

employment, policy, and growth. The improvement of the quality of work can be part of

debates aimed at enhancing national competitiveness, leading to increased engagement and

productivity (Porter, 1998).

However, at the organizational level, a conflict arises between the goal of enhancing

work quality and labor utilization tactics (Burgess & Connell, 2008a). In situations where

contingent employment arrangements better serve organizational strategic goals, these

arrangements often result in jobs of poor quality (Burgess & Connell, 2008).Such

arrangements are frequently associated with unfavorable work conditions, including job

instability, lack of benefits, and high turnover rates (Felstead & Jewson, 1999).

At a higher level, the global impact of the gig economy, particularly in the transportation

sector, is widely recognized, which explains why governments support online platforms

despite the precariousness experienced by gig workers. This situation creates a dilemma

when attempting to enhance gig workers' quality of work within the business model of

platforms. However, improving workers' conditions to enhance job quality remains an essential aspect of labor market regulation, serving multiple purposes, such as addressing power imbalances and correcting market failures (McCrystal, 2014). The quality of work is also crucial for employment, policy discussions, and growth (Burgess & Connell, 2008), as it has the potential to influence individuals, organizations, and social welfare (Findlay et al. 2013). Nevertheless, scholars must avoid being naive when drawing implications for policymakers regarding the enhancement of job quality for gig workers through regulatory power.

1.1.3 Gig Workers' Voice versus Traditional Employees' Voice

Workers' voices are central to the recommendations for improving work quality. (Johnston & Land-Kazlauskas, 2018; Vandaele, 2018), as it is through voice that workers have the power to shape the quality of their work. Strengthening worker representation and voice would be the first step toward enhancing the work quality and avoiding market failure (Collins, 2001; Davidov & Langille, 2006). However, historically, the scope of the right to collective bargaining has been limited to traditional employees (Tassinari & Maccarrone, 2020; Chen et al. 2020; Karanović et al. 2021).

In the platform economy, scholars have observed the emergence of worker activity and solidarity (e.g., Tassinari & Maccarrone (2020), Cini & Goldmann (2021), Aslam & Woodcock (2020), Cant (2019), Lei (2021) and, Cant & Woodcock (2020)). This context raises the need to understand the factors that influence gig workers' resistance in terms of

raising or withdrawing their voice.

A growing number of people rely on gig economies but are not considered employees (McCrystal, 2014). This, however, is no longer sustainable due to the influx of non-traditional workers into the labor market, including gig workers (Pecinovsky, 2022), who do not readily fulfill the traditional profile of an employee. These nonstandard workers are often considered independent contractors despite their reliance on platforms (Pecinovsky, 2022). In the platform economy, work is distributed to independent contractors, similar to conventional firms with control mechanisms (Ravenelle, 2019; Ahsan, 2020; Ravenelle, 2017). However, gig workers may also lack flexibility and independence in accepting or rejecting work. In many cases, gig workers consider themselves employees (Wood et al. 2018) rather than entrepreneurs (Ahsan, 2020). As a result, platforms and gig workers often disagree on work arrangements (Duggan et al. 2020), and gig workers' terms and conditions are usually set in a way that does not cover social security and work stability, negatively impacting their conditions (Chen et al. 2020; Tassinari & Maccarrone, 2020; Karanović et al. 2021; Nilsen et al. 2022; Beckman et al. 2021; Moisander et al. 2018).

In traditional employment, one of the significant contributions and advancements in the field of voice has been the study of employee silence, which is the antithesis of voice Donaghey et al. (2011). Despite the emphasis on various voice structures such as unions, non-unions, formal, informal, direct, indirect, and combinations thereof (Gomez et al. 2010), there has been a tendency to overlook employees who have limited avenues to express their voice or who believe they cannot freely do so. Therefore, it is important to

investigate the topic of unheard voices in organizations, which may be due to deficiencies in voice structures or a scarcity of opportunities for people to share their opinions (Wilkinson et al. 2015).

For instance, Syed (2014) contends that traditional forms of representation, such as trade unions or employee committees, are inadequate for meeting the requirements of diverse categories, such as women and members of ethnic minorities. Bell et al. (2011) found in their research that LGBT people commonly choose to remain silent at work, either to avoid retaliation or because they believe it would be pointless to speak up. Others have argued that organizations actively foster an atmosphere of silence by preventing employees from discussing sensitive topics within the company (Donaghey et al. 2011).

Studies conducted in developing economies have captured a variety of employee voices. Jackson (1999) highlighted that post-apartheid South Africa has adopted more inclusive paradigms, combining collective bargaining with direct forms of expression, which has replaced the authoritarian racial Fordism. Similarly, like the United States, China has established a hybrid HR model that incorporates both local customs and international best practices (Warner, 2004).

However, the conceptual understanding of employee silence has flaws, as argued by Donaghey et al. (2011). These flaws stem from the categories of questions posed and the dominant ideas that have shaped most of the discussion. Their main point is that previous initiatives have tended to treat employees' silence as a matter of personal choice rather than recognizing the significant limits imposed by management. According to Donaghey et al.

(2011), the literature on employee silence displays significant conceptual limitations. In traditional employment, there is an unrelenting unitary bias that tends to ignore the capacity of management to consciously create a climate of silence within organizations.

1.1.4 The Algerian Context

Recently, the Algerian government has established a ministry dedicated to promoting the knowledge economy and startups. This ministry aims to provide funding and support to startups, recognizing their significant contribution to the social and economic development of the country. Among the impactful startups in Algeria, ride-hailing platforms have gained prominence, involving various national and international actors. In December 2020, the first incubator for startups in the transportation sector was inaugurated, an initiative led by the Algerian Ministry of Transport. While ride-hailing platforms have been tolerated by Algerian authorities since their introduction in 2017, they do not possess a license to carry out transportation activities in Algeria. These platforms are registered as businesses, allowing them to engage in networking activities authorized under e-commerce regulations. In other words, the platforms' activities are tolerated, while drivers themselves do not have any legal status. As a result, platforms treat drivers as an invisible workforce (Prassl, 2018).

They exploit information asymmetries and transaction costs, taking advantage of gig workers' reliance on labor to meet their basic needs. This situation limits workers' ability to establish or negotiate terms and conditions that would provide them with better returns. The power imbalance between platforms and gig workers persists throughout the working

relationship, with employers having a stronger position under contract law and property rights (Collins, 1986).

Algerian labor law currently does not recognize gig workers as employees due to the lack of consistency in how gig work is defined. This absence of recognition leaves gig workers without the benefits and protections provided to traditional employees, such as social insurance, healthcare, and parental leave programs, making them vulnerable to various risks and challenges. However, the Algerian government supports the growth of platform businesses for two main reasons. Firstly, the government aims to promote innovation and technological advancement in general, and the gig economy is considered a part of that trend. Secondly, gig work is seen as a significant source of labor demand in the urban service economy, which is particularly important in the context of declining economic growth rates. The government perceives the gig economy as a means to maintain societal stability and healthy social interactions by absorbing excess labor supply. It is understandable that the government is cautious about designating gig workers as employees, as doing so would increase labor expenses and potentially hinder the expansion of platform businesses. However, it is still crucial to recognize the existence of gig workers and improve the quality of their work by enhancing their working conditions. This is an important aspect of labor market regulation, serving purposes such as addressing labor market failures and rectifying unequal power distribution (McCrystal, 2014).

Given the rapid growth of gig workers globally and the significant expansion of the gig economy, it is necessary to evaluate the actual conditions of this invisible category of

workers in Algeria. Unfortunately, there is a lack of academic research on the gig economy and gig workers' job quality specifically in Algeria. In fact, informal economies in developing nations are generally under-studied (Cieslik et al. 2022). Therefore, it is an opportune time to investigate the Algerian context to increase awareness and understanding of job quality among policymakers and society in the gig economy context.

1.2 Problem Description and Research Gaps

Despite the apparent simplicity of determining whether gig labor is good or poor, there is no widely recognized definition of job quality. As a result, little is understood about what constitutes a good job (Burgess & Connell, 2008; Myhill et al. 2021). This lack of consensus is partly due to the multidisciplinary nature of job quality research, which spans various academic fields, including economics, sociology, and psychology (Findlay et al. 2013). Each field has its own theoretical perspectives, practical interpretations, descriptions, and measures of job quality.

While gig work has been embraced by gig workers, it is also indicative of a broader trend toward precarious work (Duggan et al. 2020). This trend raises concerns that gig work may contribute to a decline in job standards and exacerbate social inequalities (Graham et al. 2017; Krzywdzinski & Gerber, 2020). Although gig work provides income and opportunities for many individuals, it is often associated with low-quality jobs and discriminatory or unfair practices (Heeks et al. 2021; Myhill et al. 2021; Graham et al. 2020). These concerns necessitate a critical examination of the long-term viability of gig work and the equity of its working conditions. The concept of "job quality" remains a topic

of debate, despite the growing consensus that improved job quality may lead to several potential benefits (Batt et al. 2003; Appelbaum et al. 2003; Findlay et al. 2013; Clark, 2005; Handel, 2005; Kalleberg, 2011; Osterman & Shulman, 2011). Gig labor notably differs from traditional employment, which presents a considerable concern (Duggan et al. 2020). Furthermore, the mechanisms of gig work quality are not yet well understood, which also presents a barrier. Myhill et al. (2021) The research investigating the connection between work quality and gig work is yet in its early stages.

Pereira et al. (2019) asserted in their recently published systematic review that research on the definition of fair work is still in its early stages. However, the increasing emphasis on job quality underscores the need for a robust conceptualization of this phenomenon (Myhill et al. 2021; Findlay et al. 2013; Ashford et al. 2007; Holman, 2013; Green et al. 2010).

The rise of digital platforms has further intensified the focus on defining good work, yet there is a scarcity of research on the quality of gig labor (Myhill et al. 2021). This growing attention to job quality emphasizes the necessity for a strong conceptual framework (Myhill et al. 2021; Findlay et al. 2013; Ashford et al. 2007; Holman, 2013; Green et al. 2010). While numerous scholars have studied the gig economy with a particular focus on work quality (e.g. Berg et al. 2018; Goods et al. 2019; Heeks et al. 2021; Myhill et al. 2021; Wood et al. 2019a), the mechanisms of gig work quality remain largely unknown, and research exploring the relationship linking work quality to gig work is still in its early stages (Myhill et al. 2021). Consequently, there is a lack of a robust

conceptualization of job quality (Myhill et al. 2021; Findlay et al. 2013; Ashford et al. 2007; Holman, 2013; Green et al. 2010), which hampers policy initiatives aimed at influencing job quality to generate better jobs or improve existing ones (Bustillo et al. 2011; Myhill et al. 2021). This gap primarily arises from the adoption of a simplistic approach to modeling job quality, lacking a comprehensive and concurrent perspective when designing mechanisms for job quality in the gig economy.

When assessing job quality, workers' voice holds significant importance and represents a uniquely accessible form of power for them to shape the quality of their jobs.

Research on new forms of organizing has mostly excluded workers' voices (Curchod et al. 2020; Karanović et al. 2021). Voice theory has limitations (Wilkinson et al. 2018; Kaufman, 2014), especially when conceptualizing the voice of unconventional workers (Oyetunde et al. 2022). Wilkinson et al. (2018)urged researchers to keep looking for underrepresented and unheard voices and advocated for more theoretical exploration of the factors that affect workers' voices when confronted with plurality. Additionally, Wilkinson & Barry (2016) argued that influential disciplines like organizational behavior view employee voice as a discretionary individual behavior and aim to understand the factors that contribute to the choice to speak up or remain silent. However, organizational behavior fails to consider how organizations create cultures of either voice or silence that act as constraints on the supply side (Wilkinson et al. 2018).

In the context of the gig economy, there is a lack of understanding regarding the role of platform power in shaping gig workers' choice to express or withhold their voice.

Furthermore, the literature has not thoroughly investigated the extent to which gig workers' anger and its components stimulate covert and overt resistance strategies among gig workers.

Existing studies have primarily focused on cases where workers' collective mobilization has occurred (Wood et al. 2021). However, this approach poses a problem as it tends to explain instances of successful collective actions while overlooking the more common absence of collective protest in similar circumstances (e.g., Tassinari & Maccarrone (2020) and Maffie (2020)). This narrow focus on successful cases limits our understanding of the broader dynamics at play.

Karanović et al. (2021) contended that power and inter-dependence affect the relationship between platforms and gig workers. In most cases, platforms hold more significant sway since they set the standards by which workers must abide to get paid (Casciaro & Piskorski, 2005), previous research has not explored how platform power influences gig workers' resistance strategies.

It is crucial to capture gig workers' perception of the power exerted by platforms, how it shapes their satisfaction, dissatisfaction, anger, and subsequent reactions and interactions. This understanding is essential for gaining a concrete and clearer comprehension of the mechanisms that determine the quality of gig work. The identification of the antecedents of gig workers' voice or silence necessitates an examination of the confrontation between platform power and gig workers' resistance, which is currently missing in the existing body of research. Figure 1 illustrates the research gaps and the research problem.

By addressing these gaps above, this study aims to contribute to rebalancing the power dynamics between platforms and drivers, which can enhance drivers' quality of work and help prevent market failures (Collins, 2001; Davidov & Langille, 2006). However, scholars must exercise caution when drawing implications for policymakers regarding the enhancement of gig workers quality of work through regulatory power, as it should not harm the business models of platforms.

Furthermore, by addressing the ideological and manipulative power of platforms, policymakers can reduce drivers' acceptance of unfair treatment by platforms, thereby allowing them to confront the real situation before it deteriorates further.
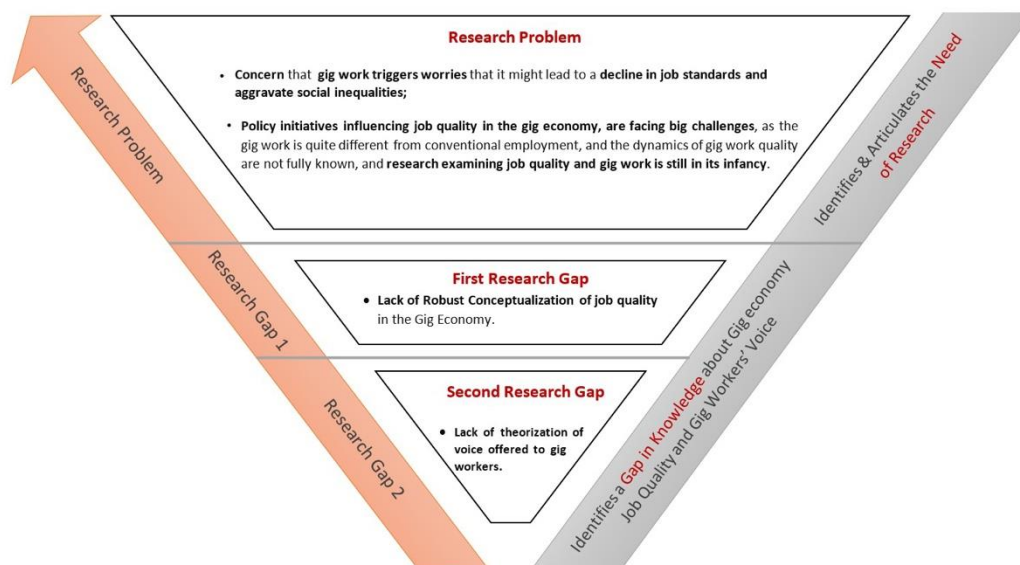
Figure 1. Research Problem and Gaps

1.3 Research Objective and Research Questions

The ultimate objective of this work is to raise further the control over job quality in the gig economy phenomenon, for both academicians and practitioners. This can be realized by contributing to revealing the mechanisms of gig work quality.

First Objective: At the first stage, we aim to provide an understanding of the quality of gig work by developing a comprehensive job quality causal model, adopting a systematic analysis of existing literature. This provides a foundational and conceptual model for work quality in the gig economy. In addition to that, it helps to identify the research gaps that represent a priority to be explored in this body of research.

To accomplish the first objective, a systematic literature review is conducted in which the following four queries are posed:

➔ RQ1. Are there any cause-effect relationships among the job quality determinants in the gig economy?

➔ RQ2. What are the cornerstone root causes generated by the gig labor platforms that impact the quality of work in the gig economy?

➔ RQ3. What are the main exogenous factors that influence job quality in the gig economy?

➔ RQ4. What job quality does the gig economy generate?

Second Objective: To reveal the interplay between platforms' power and gig workers' resistance, to understand the mechanisms of ride-hailing drivers' voice, as it's the major factor, allowing gig workers to contribute to shaping the quality their work. Accordingly,

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an empirical study is performed to achieve the second objective of this dissertation, where the following three questions are posed:

➔ RQ5. What shapes the platform drivers' anger?

➔ RQ6. What is the role of platforms' power in shaping the driver's resistance strategies?

➔ RQ7: What hinders angry platform drivers from raising their voice collectively?

1.4 Research Philosophy

Our cultural background and social circle can influence our perception of the world and shape our paradigm positioning to some extent. To establish a clear philosophical standpoint, it is essential to articulate an integrated and consistent set of beliefs encompassing the four subfields of philosophy: ontology, epistemology, methodology, and axiology (Haigh et al. 2019). These perspectives form the foundation for how we understand knowledge and the process of knowing.

To simplify, ontology refers to our understanding of reality and the knowledge that can be attained about it, while epistemology focuses on the nature of knowledge itself, the process of acquiring knowledge, the relationship between the seeker and the knowledge they create, and the criteria for evaluating knowledge claims. Methodology can be viewed as a strategy for constructing knowledge, and axiology concerns the influence of values on what and how we learn. Methodology pertains to the approach taken in creating knowledge, while axiology examines the impact of values on acquired knowledge and the way it is

obtained.

A paradigm stance consists of a coherent set of perspectives encompassing these four components. Figure 2 illustrates the four interrelated categories of views that underpin the conceptions of knowledge and knowing.

Ontology
Understanding of reality's nature and what may be known about it

Epistemology
Understanding of the essence of knowledge, the "getting to know" process, and the interaction between the seeker of information and the knowledge they produce.

Methodology
The approach to constructing and producing the knowledge;

Axiology
Influence of values on knowledge that is acquired and how it is acquired.

Figure 2. Components of the Research Paradigm Stance

1.4.1 Critical Realism Research Paradigm (Key Features and Relevance to Job Quality in the Gig Economy)

Critical realism (CR) can be viewed as bridging two distinct yet complementary philosophical traditions (Bisman, 2001). The first tradition is the school of thought known as American CR, which had a brief but influential presence (Warren, 1965). The second tradition is a more recent and likely more critical philosophical school, also known as CR,

which is primarily associated with the works of Bhaskar (1978, 1979, 2010) and Collier (1994).

The paradigm shift toward CR has occurred relatively recently, representing a synthesis of positivist and interpretivist perspectives that challenges their conventional positions (Bhaskar, 2013; Haigh et al. 2019).

Critical realists value interpretivist approaches that focus on speech, people's perceptions, and motivation because they recognize that human justifications can serve as explanations for causality (Bhaskar, 1979). However, critical realists also critique interpretivism for its failure to connect discourses to the underlying social systems that can enable or hinder individual actions, as well as the social networks in which social actors are embedded (Granovetter, 2011; Williams, 2003).

Furthermore, critical realists acknowledge the possibility that researchers' reports may be inaccurate or incomplete (Potter & López, 2001).

Critical realists identify two primary issues with positivistic approaches. First, positivism struggles to fully account for the extent to which observable events are influenced by previous theoretical frameworks (Olsen, 2002). Second, positivism tends to examine the interrelationships among components of social systems in isolation, neglecting the interactions between mechanisms and their environments (Collier, 1994).

When applying the critical realist lens, researchers should focus on individuals or micro societies that experience alienation from society due to actions, inactions, or individual characteristics that create disparities (Looker et al. 2021). Additionally, the layered

worldview of critical realist philosophers prompts them to question which aspect of reality influenced the actions of individuals or groups (Looker et al. 2021). For example, in the context of our empirical study (Chapter 3), we aim to investigate the aspects of reality that lead drivers to withdraw their voice despite feeling angry.

Another important aspect of CR is its concern not only with understanding and conforming to the world but also with critiquing and altering it (Collier, 1994; Gerhart, 1988). In our attempt to develop a conceptual model for our empirical study, we modify and expand Hirschman's (1970) exit, voice, and loyalty theory by incorporating new outcomes, mediators, moderators, and antecedents.

In summary, the primary objective of critical realist research is to identify and substantiate the inherent structural mechanisms that give rise to empirically observable actions and events (Wollin, 1996). Generalizations drawn from critical realist studies are probabilistic in nature, focusing on probabilistic truth rather than absolute truth (Bisman, 2010).

1.4.2 Our Philosophical Stance

Ontology: Sayer (1999) argued that although observations might increase our certainty about what exists, this does not mean that observation is necessary for existence. For example, gig workers have the legal right to a fair contract even if they are unaware of this fact.

Our perception of reality, whether acquired through learning or created as new knowledge, is not infallible (Haigh et al. 2019). Additionally, reality can be categorized

into three domains: empirical, actual, and real. Firstly, the real domain encompasses objects or structures with properties that can trigger mechanisms influencing other structures (i.e., causal mechanisms). Secondly, the actual domain consists of events and their impacts resulting from the activation of causal mechanisms. Thirdly, the empirical domain represents actual events and their observable or experiential effects (Haigh et al. 2019). In our empirical research, for instance, the power of platforms can be considered part of the real domain. When exerted on drivers, it may trigger causal mechanisms that influence their strategies of resistance. The actual level involves examining the outcomes when platforms exert their power, determining whether gig workers' right to fair work is fulfilled or neglected, and observing workers' reactions. This observable and measurable experience of gig workers represents the empirical level, which is the third component of reality. However, understanding the effects of events requires considering the real level, where subtle elements such as the manipulation power and ideological power of platforms act as invisible causal forces.

In simple terms, the entities that constitute our world possess attributes that give them power and responsibilities. When one or more entities utilize their power, events occur. Due to the layered structure of reality, entities can be either hidden or visible, encompassing both tangible and subtle beings. In the social realm, invisibility is a common characteristic of entities (e.g., platform manipulation and ideological power can be considered subtle forms of power (Lukes, 2004)). These invisible entities are not directly observable at the empirical level, but the effects of their activated powers or mechanisms can be observed.

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For instance, the effect of ideological power on gig workers can be observed through their degree of enthusiastic or reluctant acceptance of the unfair conditions imposed by platforms (Scott, 1985).

From a critical realist perspective, the absence of components is seen as causally effective. The belief that only present objects exist, known as "ontological monovalence," is criticized by CR (Bhaskar, 2013; Sayer, 1992). The absence of rainfall may lead to a drought, and the absence of voice from drivers does not always indicate a pleasant working environment for them; it may signify a calm period before a storm.

Epistemology: It is not difficult to conceive of a world quite similar to our own, filled with identical elements of scientific knowledge as in our own (Bhaskar, 2013). Even though things exist independently of our ability to detect and conceptualize them, we still use our brains to generate knowledge about them. In this world, reality may be unspoken, but objects would continue to act and interact in various forms.

Our understanding of the world is dynamic because it is impossible to build knowledge without making mistakes (Haigh et al. 2019). Therefore, by adopting a critical realist epistemological stance, we acknowledge that, despite our efforts to ensure the reliability and practicality of the theory we have developed about gig workers' voice and the quality of their job, the theory may be expanded, revised, or even discarded in the future. Unlike reality, a theory is neither unchanging nor flawless. It can be challenged and modified, as we aim to do in our empirical study (Chapter 3), by extending Lukes' (2004) power theory, incorporating the concept of anger from Wood et al. (2021), and modifying Hirschman

(1970) voice, exit, and loyalty model.

The social world consists of numerous interconnected components. There are different types of components in this system, each capable of absorbing or being absorbed by others, and a multitude of mechanisms associated with these components can be operational at any given moment. Certain actors may play multiple roles. For example, in our empirical study (Chapter 3), the platforms' power reveals two paradoxical roles: increasing and decreasing drivers' anger through its respective aspects of decision-making power and ideological power.

In many cases, the mechanism of one entity relies on the mechanism of another entity to be activated. For instance, when platforms exercise their power to control drivers, the drivers respond with their latent resisting mechanisms (such as voice, exit, or workaround). In simpler terms, the drivers' resistance mechanisms were triggered when the platforms' power activated those mechanisms.

Methodology: CR was determined to be the most suitable paradigm for conducting this type of investigation as it openly relies on multiple methods to capture as much of reality as possible (Denzin & Lincoln, 1998 p.9).

When it comes to theorizing this complexity, critical realists adopt a pragmatic and pluralist position regarding methodologies, including the potential use of multidisciplinary, interdisciplinary, and transdisciplinary views and approaches. They aim to avoid being confined within the boundaries of single discipline perspectives (Haigh et al. 2019). Furthermore, when theories rooted in different paradigmatic stances and fields are utilized,

they are reinterpreted through a critical realist ontological prism (Haigh et al. 2019).

While CR maintains scientific rigor and acknowledges the importance of complexity and context, it also recognizes the need for generalizability (Bisman, 2001).

Axiology: While advocating for social critique as part of the research process, emancipation is the ultimate goal of CR. It is seen as a step toward achieving a fair and equitable distribution of social welfare.

According to Bhaskar (1978, 1986), the aim is to elevate humanity from its current state of "demi-reality" to the vast expanse of the universe. Demi-reality, as described by Bhaskar (2002), is characterized by oppression, exploitation, conflict, and isolation, while the cosmic envelope lacks these characteristics.

It is stated that the overarching goal of a critical realist researcher should be to facilitate social liberation (Belfrage & Hauf, 2017). According to Danermark et al. (2001), a critical science is typically founded on the belief that society can be improved.

The ultimate goal of our work is to take another step toward achieving a fair and balanced distribution of social welfare among the actors in the ride-hailing ecosystem. We consider our work as an attempt to contribute to enhancing the quality of gig work within its ecosystem. To reach this goal, we try to understand the process of job quality and uncover the distribution of power, particularly between gig workers and online platforms. Figure 3 illustrates our research onion, which encompasses the systematic literature review (SLR) and the structural equation modeling (SEM) research in this dissertation.

The paradigmatic viewpoint of a researcher can be either explicit, as communicated in

published work, or implicit (Haigh et al. 2019). By conducting our systematic literature review, we were able to identify the general philosophical position by analyzing the approaches, methodologies, and strategies used. This exercise yielded two important results. Firstly, it revealed a gradual paradigm shift from an exploratory, interpretivism paradigm toward CR. Secondly, it confirmed that our research (thesis) is potentially at the forefront of the recent contributions to this paradigm shift, as we employ robust and structured strategies aligned with our philosophical stance of "CR."
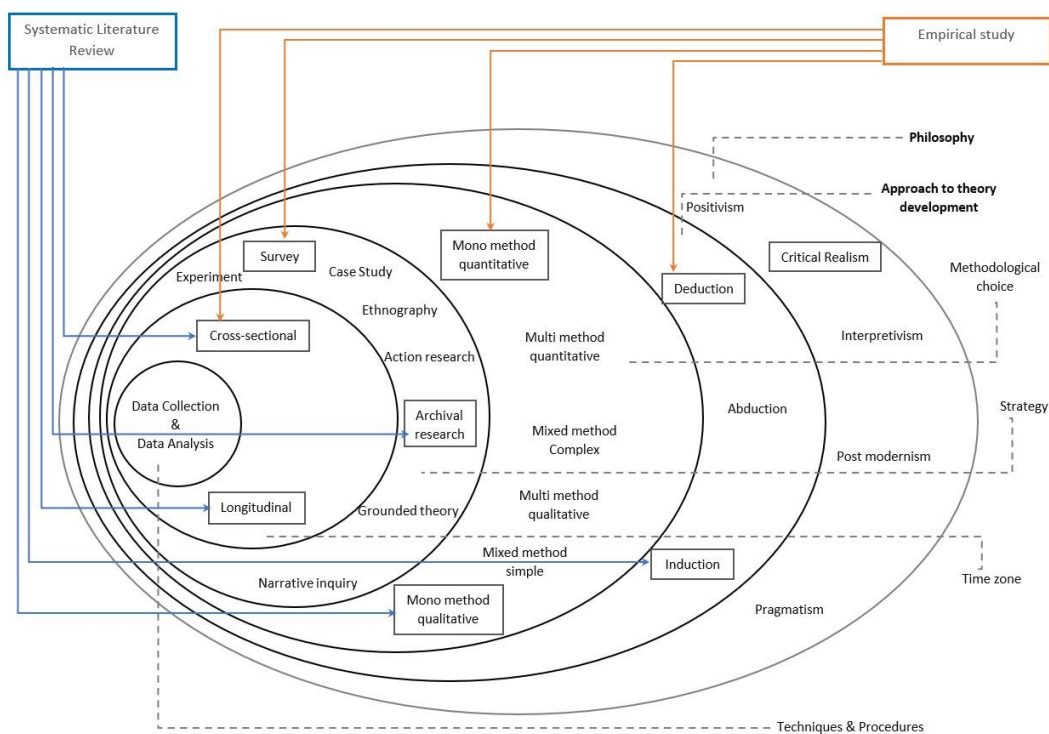
Figure 3. Research Philosophy, Approach, Methodology and Strategy

Figure 4 Shows our philosophical position, with respect to the current position of the

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job quality in the gig economy body of research. It is adapted from Bisman (2010), with the addition of projection of the job quality in the gig economy body of research based on our systematic literature review.
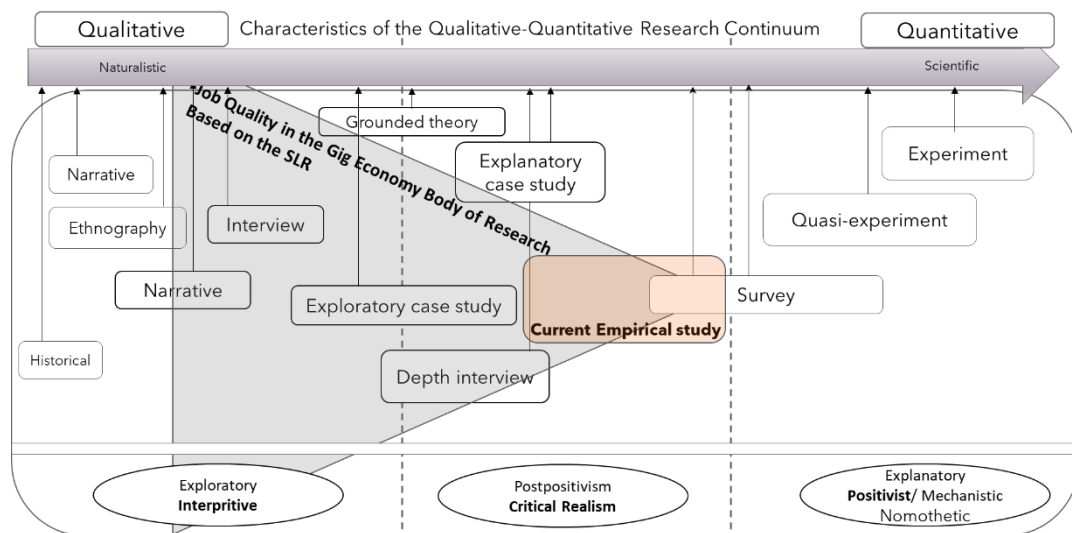
Figure 4. Paradigm Positioning of the Current Research (Adapted from Bisman (2010) with Addition of Job Quality in the Gig Economy Body of Research & Thesis Philosophical Stance)

1.5 Research Methodology Overview

In this section, we provide a high-level description of the adopted methodologies in the two studies, and we reveal the rationale behind our choice in terms of research strategies. Parallelly to that, we describe and justify how the two studies are interconnected.

1.5.1 First Study (SLR): Methodology Description and Justification

A literature review is a systematic way of collecting and synthesizing previous research, ranging from weak to very systematic (Baumeister & Leary, 1997; Tranfield et al.

2003). In addition, producing theoretical frameworks and developing conceptual models rely heavily on literature reviews since they synthesize study results to provide evidence on a meta-level and reveal areas where further investigation is required (Snyder, 2019). Traditional methods of summarizing and depicting the literature, on the other hand, are typically fragmentary and not carried out systematically (Tranfield et al. 2003). According to Webster & Watson (2002), the goal of doing a review is to provide a solid groundwork upon which novel knowledge may be built and theories can be advanced. In fact, a literature review may answer research problems more effectively than a single investigation does, by combining results and viewpoints from several empirical studies (Snyder, 2019).

While adhering to transparency and bias diminution, a systematic literature review gives an in-depth review of literature linked to a research issue and synthesizes past work to build the basis of knowledge on the subject at hand (Williams et al. 2021), allowing for solid evidence upon which to base judgements and choices (Moher et al. 2009). It offers one of the most powerful ways for investigating theoretical foundations which is the feasibility of replication to some extent.

Rules for the systematic review's application in the social sciences have been established, despite the method's origins in medicine (Palmatier et al. 2018; Davis et al. 2014; Tranfield et al. 2003), and beyond, allowing researchers to "stand on the shoulders of giants" (Keele, 2007), instead of "reinventing the wheel" in every field. In fact, science is meant to be cumulative, not a near-endless repetition of the same things (Hamming, 1968).

Through our first research (Chapter 2), we try to investigate the prior work and constitute a comprehensive view and a deep diagnosis of the topic of job quality in the gig economy by performing a systematic literature review "SLR" on the topic.

A systematic review can provide several benefits alongside potential contributions. In our case, we were able to ascertain whether or not cause-and-effect relationships hold true across research with varying contexts, empirical methods, and settings (Davis et al. 2014). Indeed, the observed consistency across analyzed research indicates that the relationships under scrutiny are robust and generalizable (Keele, 2007). This method along with an inductive approach, helped us to build a high-level conceptual model of job quality in the gig economy, ready to be challenged and empirically tested, within stable contexts.

Our SLR mainly follows the methodology proposed by Okoli (2015) to conduct a standalone systematic literature review, which includes eight steps. Before starting the SLR, we confirmed whether any review articles from our queries are related to the research's topic. The main objective of this step was to verify the relevance of the research, refining research questions, and further clarifying the current research contribution, by connecting the proposed questions to the explored field.

We started by extracting data from the primary studies, guided by a fair work framework adapted to the gig work specifications. After that, we proceeded with shaping concepts, classifying, and organizing, while using trivial quantitative tools at this stage of qualitative research. The cause-effect relationships were obvious among the determinants of job quality, which pushed us to dig more, while leveraging an inductive approach in order to

see where it could lead.

The main outputs of the SLR are: (1) a conceptual model describing the cause effect relations among the different job quality determinants. Helping the policy makers, as well as the scholars to see the root cause which might give further control on the phenomena of job quality within the context of gig economy. A nice contribution to theory yet needs to be strengthened empirically and tested in stable contexts. Additionally, (2) the systematic literature review revealed that most contributions on online platform Most articles about online platform businesses have only provided descriptive studies of power mechanisms in the gig economy. Notably lacking are comprehensive and integrated studies of job quality grounded on solid theoretical frameworks that can concurrently capture the interplay between platforms' power and workers' resistance.

1.5.2 Second Study (SEM): Methodology Description and Justification

Platforms create an imbalanced power distribution, where a capital can monitor what a worker is doing but the worker cannot see the capital's plans (Chai & Scully, 2019, p. 948). In this relationship, workers are in the least beneficial position (Chen et al. 2020; Myhill et al. 2021), although gig workers can be active actors when it comes to voice and can influence the quality of work in case they succeed in raising their voice. Several academic studies (e.g., Aslam & Woodcock (2020), Cant (2019), Cant & Woodcock (2020), Cini & Goldmann (2021), Lei (2021) and Tassinari & Maccarrone (2020)) show that labor action and solidarity are rising in the platform economy.

Paradoxically, preliminary observations showed that gig workers' voice is unheard in the Algerian context. In fact, scholars neglected to explore what makes the gig workers withdraw or raise their voice although living in the same circumstances and conditions. In other words, there is a lack of theorization of voice offered to non-standard workers (Oyetunde et al. 2022). In addition to that, the systematic literature review (First study), revealed the scarcity of comprehensive job quality studies, based on robust theoretical approaches which concurrently capture the interaction of platforms' power and gig workers' resistance. For the abovementioned reasons, we judged it opportune to design a comprehensive quantitative study that answers this need, by proposing a comprehensive model that allows a better understanding of the major forces that shape the drivers' voice and how they interact. We further deepen our exploration of literature related mainly to voice, power, and resistance, fair work, psychological contract, and anger. The second study (Chapter 3), plays a great role in giving a more precise explanation related to the job quality phenomena, where we try to understand the mechanisms of voice, which is an important factor that contributes to actively shaping the work quality (Tassinari & Maccarrone, 2020). We propose an integrative study of job quality, which focus on the interdependencies of platforms' power and gig workers' resistance based on a robust theoretical approach. We capture the interaction between platforms' power, and gig workers' covert and overt resistance. In that, we use Structural Equation Modeling (SEM), to prove significance of relationships, and explain the mechanisms that shape the gig workers' resistance, based on exploring the interaction among platform different types of exerted power on the gig

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workers, shaping gig workers' resistance whether covert or overt.

1.6 Research Outline

Table 1 presents a summary of the overall dissertation. We present key points that each chapter discusses. The table consists of three columns, the structure which contains the title of the chapter, sections, which contain the key points, and the third column contains more details.

Table 1. Thesis Summary

Structure	Section	Details
Chapter 1. **Overall Introduction**	Background	• Increasing digitalization rates in emerging economies are expected to result in a 17% of the compound annual growth rate (CAGR) increase with a gross volume of $455B of the size of gig economy transactions by 2023. • The worldwide gig economy presently produces $204 billion in gross volume, with 58% of this value coming from transportation-based services.
	Problem Description	• Concerns that gig work leads to a decline in job standards, aggravation of social inequalities, and provoking potential market failures. • Policy initiatives influencing the quality of gig work, are facing big challenges, as the gig work is quite different from conventional employment, and the mechanisms of gig work quality are not fully known, and research examining job quality and gig work is still in its infancy.
	Research Objectives	• Developing a job quality comprehensive causal-model, through systematically analyzing existing literature. Therefore, identifying the research gaps that represent a

Structure	Section	Details
		priority for scholars, in order to raise further the control over gig work quality.
		• Revealing the interplay between platforms' power and gig workers' resistance, to understand the mechanisms of workers' voice, as it's the major factor, allowing gig workers to contribute into shaping the quality of their work.
	Philosophy	Critical Realism
Chapter 2. "An Analytical Approach for Addressing the Complexity and Heterogeneity of Job Quality in the Gig Economy Using a Systematic Literature Review"	Research Questions	**RQ1.** Are there any cause-effect relationships among the job quality determinants in the gig economy? **RQ2.** What are the cornerstone root causes generated by the gig labor platforms that impact the quality of work in the gig economy? **RQ3.** What are the main exogenous factors that influence the job quality on the gig economy? **RQ4.** What job quality does the gig economy generate?
	Methodology	Systematic literature review method adapted from Okoli (2015): • Identifying the purpose and setting preliminary research questions, and review protocol. • Analyzing the main existing review articles, refining the objective and research questions. • Executing the protocol (i.e., searching, screening, inclusion/inclusion, analyzing, and reporting). • Answer research questions, highlight major findings and important gaps.
	Key Findings	• Unfair contract is the cornerstone root cause that give way to several issues or effects impacting the quality of work in the gig economy.

Structure	Section	Details
		• Work conditions fairness is a potential proxy of the gig work fairness, and its quality.
		• Domination of platforms into shaping the gig work quality, whereas gig workers intervene mainly through voice.
		• Lack of deep understanding of what shapes gig workers' voice, through exploring the mechanisms of both platforms' power, and workers' resistance in a concurrent manner.
		• Lack of studies covering the use of data in gig work.
Chapter 3. "Platforms' Power versus Gig Workers' Resisting Strategies: The Unheard Voice of Gig Workers"	Research Questions	**RQ5**. What shapes the platform drivers' anger? **RQ6.** What is the role of platforms' power in shaping the drivers' resistance strategies? **RQ7:** What hinders angry platform drivers from raising their voice collectively?
	Methodology	Empirical study focusing on the unheard voice of the Algerian ride-haling drivers: • Literature review and identification of the research gap. • Theoretical research model development: (1) theories review and extension, (2) factors' definition; and (3) relationships development. • Design, validate and translate the measurement instrument into Arabic and French • Data collection • Use of PLS-SEM to test hypothesis, indirect relationships, mediating effect, moderation effect, control effect, as well as models' predictive power. • Report findings and discuss the implications

Structure	Section	Details
	Key Findings	• Platforms' decision and non-decision-making power, as well as manipulation power, raise drivers' anger, whereas the platforms' ideological power decreases it.
		• Total effects of platforms' decision and non-decision-making power, and manipulation power, have insignificant effect on drivers' voice, however, they raise drivers' communication, workarounds, as well as intention to exit, whereas they decrease the direct appeal and loyalty.
		• Platform ideological power hinders the drivers' communication and collective voice, raises their loyalty, as well as their direct appeal to the platform, and decreases their workarounds, as well as their intention to exit platforms.
		• The relationship between anger through its proxy (work conditions fairness), and drivers' collective voice is fully mediated by communication.
		• Platform ideological and manipulation powers redirect drivers' anger away from platforms.
Chapter 4. **Overall Conclusion**	Summary of Results	• Platforms exert power through imposing unfair contracts generating unfair pay, unfair algorithmic management, generating potential violations of drivers' psychological contract, and unfair work conditions.
		• Unfairness stimulates drivers' anger; however, this anger is not systematically directed towards platforms (no direct relationship between anger's components and voice). This fact impacts the drivers' resisting strategies and hinder their voice, therefore renders their suffering silent.
	Implications	Theoretical

Structure	Section	Details
		• The interplay between contract fairness, pay fairness and psychological contract lifecycle deserves scholars' focus.
		• Ideological power leading to decreasing psychological contract violations, leaves room for potential extension of psychological contract theory.
		• Communication among drivers has a significant attenuating effect on platform ideological power, hence, future studies should focus on understanding this phenomenon.
		• By shedding light on the subtle role of platform manipulation and ideological power in redirecting anger away from platforms, we believe, we gave a plausible answer to why angry drivers do not systematically raise their voices collectively. Nevertheless, platforms' subtle types of power deserve further exploration, as belief systems have never readily succumbed to empirical investigation or measurement.
		• Different conceptualizations can lead to testing other factors, replacing anger, extending moderators, and/or workers' resisting strategies.
		• Benchmarked models, proposing slightly different combinations deserve to be evaluated theoretically.
		Practical (implications for policymakers)
		• Decreasing platforms' ideological and manipulation power (e.g., oversighting the dominance of ride-hailing platforms, limiting the use of gaming and nudging techniques by platforms).
		• Legislators and policymakers should seriously consider regulatory measures that restrict the interplay between

Structure	Section	Details
		government agencies and the platform economy, in order to challenge the ideological dominance of these platforms and promote a more equitable and democratic economy.
		• Enhancing the quality of work by decreasing the driver's anger while preserving a viable business model for platforms (e.g., increasing contracts and pay fairness, ensuring the representation right).
		• Fostering innovation by the government, through supporting research and development of new technologies and business models that promote fair work and workers' protections.
	Research Contribution	• Extend understanding of job quality and voice in the context of the gig economy.
		• Integrating and extending theories and concepts, (mainly: power, resistance, psychological contract violation, anger) to further explain the voice phenomenon.
		• Conceptually and empirically revealing the importance of subtle platforms' powers, such as platforms' ideological and manipulation powers' role into biasing the reality in relation with the gig work fairness.

The remaining chapters of the thesis are structured as follows: In the second chapter, we discuss the first research, which is "An analytical Approach for Addressing the Complexity and Heterogeneity of Job Quality in the Gig Economy Using a Systematic Literature Review". Afterward, in the second chapter, we present the second research, which is "Platforms' Power Versus Gig Workers' Resisting Strategies: The Unheard Voice

of Gig Workers". The thesis concludes with chapter four, where a discussion of implications for theory and practice is presented. Figure 5 depicts the outline of the present thesis along with the connections among the four chapters.
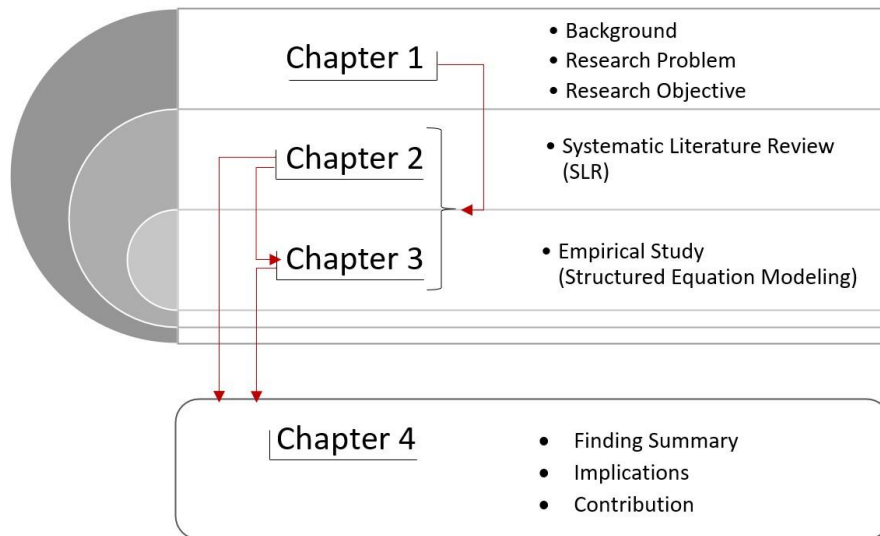
Figure 5. Thesis Outline

Chapter 2.   An Analytical Approach for Addressing the Complexity and Heterogeneity of Job Quality in the Gig Economy Using a Systematic Literature Review

2.1 Introduction

There is growing concern worldwide about the social, economic, and political consequences of the deterioration of employment protection and its impact on working conditions. The deterioration of employment protection is mainly linked to labor market changes. The gig economy is considered to be an essential change factor in this respect due to its economic significance and speed of expansion (Tan et al. 2021). There is also an indication that workers working in gig economy settings do not have the employment rights and protection enjoyed by workers in more traditional employment settings (Brou et al. 2021). Indeed, the terms and conditions for gig workers often do not address social security and job stability (Chen et al. 2020; Tassinari & Maccarrone, 2020; Karanović et al. 2021; Nilsen et al. 2022; Beckman et al. 2021; Moisander et al. 2018). Whereas flexibility offered to gig workers may obscure the drawbacks of losing vital employment protection rights (Chen et al. 2020).

Casualized task-based recruitment is nothing new and accounts for a higher percentage of work than conventional pay employment in multiple countries. Accordingly, including

online platforms is implicit when discussing the "gig economy" in the context of technological advancement.

Even though gig workers are often not captured by official labor market statistics, there is widespread agreement that tens of millions of individuals globally work in the gig economy and that growth rates are reasonably fast (Heeks et al. 2021). Therefore, the gig economy's effect interests policymakers and the wider society (McDonnell et al. 2021). However, academic research is still in its infancy (McDonnell et al. 2021; Kaine & Josserand, 2019).

Although there is no generally accepted definition of the gig economy, the terminology is often used to refer to an economic system made up of platforms that operate online and leverage technology to construct multisided markets, linking employers with on-demand gig workers across many sectors (Duggan et al. 2020; Meijerink & Keegan, 2019; Harris, 2017; Meijerink et al. 2021).

In their review study, Watson et al. (2021) describe gig work by proposing three primary characteristics: compensation is project-based, gig work is temporary, and gig work is flexible regarding time, place, amount, and continuity of tasks. This definition focuses on gig workers who use a technological network to connect with consumers (Watson et al. 2021). However, rather than exhibiting a unified set of features, the gig economy takes on various forms. (e.g., labor-based platforms, namely crowd-sourced and work-on-demand platforms (De Stefano, 2016; Kaine & Josserand, 2019).

In addition, the lack of clarity surrounding the precarious employment status of some

gig workers around the globe means that platforms do not always have a duty of care for these individuals (McDonnell et al. 2021). There has been a lack of debate around the nuances of gig work (Kalleberg & Dunn, 2016; Myhill et al. 2021), but gig work already begins to gain critical evaluations (McDonnell et al. 2021; Duggan et al. 2020; Howcroft & Bergvall-Kåreborn, 2019).

Concerns arise regarding the gig economy's future impact on work (Warhurst et al. 2012) and gig work's long-term viability (Wood et al. 2019a). The extent to which the gig economy model benefits all stakeholders is already under investigation (McDonnell et al. 2021; Ashford et al. 2018), and there is broad consensus that the gig work model releases platforms from their responsibilities toward gig workers. Gig workers offer services while using their resources (Wingfield, 2021). In context, gig labor is a tradeoff. It offers workers work and flexibility but at the cost of potentially precarious working conditions that may contribute to social inequality (Heeks et al. 2021).

Web-based IT platforms facilitate remote gig work but have also been criticized for heightening the fragmentation, commodification, casualization, and precarisation of work (De Stefano, 2015; Bergvall-Kåreborn & Howcroft, 2014). Gig workers are in limbo regarding their legal employment status (De Stefano, 2015), and gig work heavily constrains workers' career developmental abilities (Duggan et al. 2021).

Gig economy platforms have increased interest in job quality and fair work. Since gig workers often lack formal employment protection and belong to heterogenous environments, it is relevant to understand their working conditions. Moreover, job quality

and gig work research are in their infancy (Myhill et al. 2021). Therefore, it is opportune to explore how academia has addressed the challenges the gig economy inflicts on gig workers. Therefore, this SLR aims to explore job quality in the gig economy and understand the working circumstances of gig workers by developing a job quality conceptual model. We pose the following questions to achieve this research's objectives:

➜ RQ1. Are there any cause-effect relationships among the job quality determinants in the gig economy?

➜ RQ2. What are the cornerstone root causes generated by the gig labor platforms that impact the quality of work in the gig economy?

➜ RQ3. What are the main exogenous factors that influence job quality in the gig economy?

➜ RQ4. What job quality does the gig economy generate?

This article is structured as follows. First, it describes the conceptual background of fair work in the gig economy and its eight relevant themes adopted in this research. Then, we display the state-of-the-art review papers related to this topic. Next, the methodology for executing this SLR is specified. The following sections of chapter 2 describe the results, analysis, discussion, and conclusion.

2.2 Background

2.2.1 Gig Economy and Gig Work

Gig economy refers to a variety of digital online platforms that connect online and offline employees with jobs in digital markets (Minter, 2017). Due to a lack of conceptual

clarity, "gig work" has become a catch-all term for non-standard labor (Myhill et al. 2021). However, there are significant contrasts among platforms' work and other types of nonconventional employment, for instance agency work, involving lack of a material work place, and the use of technology (Duggan et al. 2020). In addition, the expansion of platforms, that manage remote gig workers, threatens conventional views of job relationships (Duggan et al. 2020). Indeed, despite the fact that digital platform companies often portray themselves as app providers, acting only as a neutral technological platform to link workers with clients (Prassl, 2018; Kuhn & Maleki, 2017; Stanford, 2017; Veen et al. 2020), the majority of platforms serve as digital labor intermediaries in the business of closely controlling a vast, invisible workforce (Prassl, 2018).

As labor through digital platforms and other aspects of the gig economy become increasingly prevalent, an increasing proportion of gig workers experience deteriorated working conditions, job instability, and pay that others would deem undesirable (Stewart & Stanford, 2017). This might cause tension between gig workers and their employers over concerns of control, reliance, and working conditions (Meijerink & Keegan, 2019).

2.2.2 Job Quality

In general: Despite extensive research, there is no unanimity on the definition and concept of a good work (Findlay et al. 2013). This has resulted in a variety of ways to analyze and measure job quality. The subjective approach is criticized for downplaying the significance of major extrinsic indicators, such like pay and advantages (Rose, 2003). As a result, a prevalent strategy incorporating both elements, objective characteristics of work,

and subjective worker assessments capturing individual experience, is becoming more widely used (Kalleberg & Vaisey, 2005) .

The literature on the job quality, according to Monteith & Giesbert (2017), is dominated by rights-based methods, lacking subjective and contextual components. While it may be naive view and problematic to rely on subjective evaluations through the utilization of job-satisfaction as a proxy for job quality, the individual experience of workers plays an essential role in (1) acknowledging how individual disparities affect the interaction between predictors and outcomes of job quality, and therefore how they frame the job quality as a whole (Myhill et al. 2021), (2) informing and refining the job quality fair work principles, by linking them to the real world precarious conditions lived by the workers.

The initial needs-satisfaction models, which suggested pretty obvious relationships between job characteristics that satisfied needs and favorable worker attitudes (job satisfaction), have been undermined (Herzberg, 1966). Subsequent models have highlighted either the individual characteristics of the worker or the characteristics of the larger organizational, or contextual setting at the origin of variance in views (Glisson & Durick, 1988). In other words, there is no straightforward correlation between fair work principles and job satisfaction. This relationship is influenced by a number of variables, including but not limited to worker expectations (Muñoz de Bustillo Llorente & Fernández Macías, 2005), and dependence on the platform (Myhill et al. 2021; Schor et al. 2020).

The International Labor Organization[1] defines decent work as "sums up the aspirations

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[1] https://www.ilo.org/global/topics/decent-work/lang--en/index.htm (accessed on December 17, 2022)

of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for all, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men." (ILO, 2022).

Additionally, research scholars, think tanks, and governments across many developed economies are becoming more aware of how important job quality is (Knox et al. 2015; Osterman, 2008).

Findlay et al. (2013) highlighted that the research on job quality spans numerous academic domains, such as economics, sociology, and psychology, with each field having its own theoretical and practical interpretations, descriptions, and measures. Increasing agreement exists that job quality should be seen as a multidimensional concept (Findlay et al. 2013; Kalleberg & Vaisey, 2005). In other words, the objective "pay" and subjective "physical exertion" elements and evaluations of job quality provide significant challenges (Green & Mostafa, 2012).

Job quality improvements might be included in debates around strengthening national competitiveness, in order to increase engagement and productivity (Porter, 1998). Although job quality is fundamentally important for employment, policy discussion, and growth, little is understood about what makes a job good (Burgess & Connell, 2008).

The definition of Job quality covers a panoply of subjective and objective aspects, such as pay, conditions, workload, and social conditions of work, among a range of other

elements that may affect the experience as a whole (Burgess & Connell, 2008; Findlay et al. 2013). Additionally, job quality may be a factor in employee retention (Bond et al. 1997), and it may apply to all employees, from the well paid to the lowly paid, from permanent employees, to those employed outside of regular working arrangements, and to those with short term contracts and part-time job (Rubery et al. 2005).

Job quality is central to human resource management, and is linked to employee satisfaction and motivation (Grote & Guest, 2017). However, once it is acknowledged that the enhancement of work quality is a vital function of human resource management, a conflict arises between this goal and labor utilization tactics (Burgess & Connell, 2008). Specifically, when organizational strategic goals might be better met via contingent employment arrangements. Such arrangements often result in jobs with poor quality (Burgess & Connell, 2008), and in many instances correlate with worse work conditions, such as job instability, exclusion from benefits, and excessive turnover (Felstead & Jewson, 1999).

Most of the job quality research accepts the multi-dimensional approach (Graham et al. 2020; Myhill et al. 2021; Heeks et al. 2021; Findlay et al. 2013; Burgess & Connell, 2008; Clark, 2005), which means that it identifies the key elements that contribute to job quality and examines these elements against specific jobs (Burgess & Connell, 2008). Similarly, Job quality is viewed as a collection of attributes whose relevance may be determined by combining statistical with subjective well-being such as job satisfaction (Hunter, 2000; Kalleberg & Vaisey, 2005). Evaluating job quality may help to increase policymakers'

awareness in order to prevent market failure by improving job quality for this vulnerable and marginalized group of workers (Collins, 2001; Davidov & Langille, 2006).

In the gig economy: According to a recent systematic review by Pereira et al. (2019), the irregular economies of low-development nations are notably understudied, and research on what makes a decent job is still in its infancy.

Despite the fact that work quality is inherently crucial to employment policy discussion and policy development, little is known about what determines job quality in gig economy (Myhill et al. 2021). Job quality is more than job satisfaction and job security. It includes both subjective and objective characteristics of a job and might include incomes, conditions, work intensity, social circumstances of work, and a variety of other possible factors that can influence the experience of a job (Findlay et al. 2013; Burgess & Connell, 2008).

The advent of digital platforms has reinvigorated interest in what defines job quality or "good" work, although research on the quality of gig work remains limited (Myhill et al. 2021). This growing attention, emphasizes the necessity for a comprehensive definition of job quality (Findlay et al. 2013; Myhill et al. 2021).

While gig workers frequently perceive themselves as operating independently (Möhlmann & Zalmanson, 2017), and consider gig work as good work, especially by individuals not seeking permanent or steady employment (Myhill et al. 2021), platforms' algorithms closely monitor, reward, and penalize gig workers, which is considered to be company control by other gig workers (Marquis et al. 2018; Norlander et al. 2021).

Policy interventions to influence job quality, often to generate excellent jobs or improve

poor ones, are hindered by the need for a clear definition of job quality, and a solid understanding of its mechanisms (Bustillo et al. 2011). Moreover, there is a lack of theoretical models of job quality in the gig economy (Myhill et al. 2021). Evaluating job quality can help raise policymakers' awareness and, in turn, prevent market failure by improving employment quality for vulnerable and disenfranchised group of employees (Collins, 2001; Davidov & Langille, 2006).

The most prevalent approach in the literature on job quality in the gig economy endorses the multidimensional components of job quality (Graham et al. 2020; Myhill et al. 2021; Heeks et al. 2021) .

D'Cruz (2017), and Hunt & Machingura (2016), among others, examined the concept of fair work as an instrument for evaluating gig work quality. However, Heeks et al. (2021) answered calls made by Norton (2017), for a systematic frameworks for decent gig work.

2.2.3 Fair Work Framework for the Gig Economy

Individuals' working conditions and the nature of their jobs are affected by technological advancement, particularly through online platforms that are transforming both local and remote labor markets (Norton, 2017). The online platforms promoted a dispersed and fragmented nature of work, which can be considered as a sign of a drastic reinvention of labor. This is shown by a major shift towards new management instruments made possible by technology (Jabagi et al. 2019), while the nature of application work context can be seen as a radical perspective on the individualization of career management (Duggan et al. 2021).

Platforms call gig workers freelancers, entrepreneurs, micro-entrepreneurs, self-employed, or independent contractors in order to externalize duties relating labor rights and social security to the workers themselves (Ahsan, 2020; Chen et al. 2020; Wood et al. 2019b; Tassinari & Maccarrone, 2020). However, platforms distribute the work to the independent contractors like in conventional firms with control mechanisms (Ravenelle, 2019; Ahsan, 2020; Ravenelle, 2017); and workers may also lack of flexibility and independence in accepting or rejecting work. Workers' misclassification is a significant profitability driver for certain platforms (Tassinari & Maccarrone, 2020); in fact, platforms decrease labor expenses by using independent contractors (Veen et al. 2020). This shows the importance of the misclassification in the platforms business models. Although legal challenges to the connection between platforms and their users are rising in number, there is still no consensus on how to categorize the relationship between platforms and their users (Rahman, 2021).

According to De Stefano (2015), platforms undermine the standard employment relationship, leading to a rise in casualization. This has a negative impact on working norms, altering established and accepted practices (Graham et al. 2020). In order to construct the "Fair work framework" of decent work standards against which gig work may be evaluated, Heeks et al. (2021) began with the eleven fair work principles (ILO, 2013; Anker et al. 2003; Ghai, 2003), which were codified based on ILO's definition of decent labor.

Numerous academics see Job quality as a multidimensional phenomenon, impacted by numerous elements and forces functioning on various levels (Graham et al. 2020; Myhill

et al. 2021; Heeks et al. 2021; Findlay et al. 2013; Burgess & Connell, 2008; Clark, 2005). Likewise, Heeks et al. (2021) applied a multidimensional approach and provided a structured framework for evaluating gig labor with respect to decent work norms.

Due to two key concerns, Heeks et al. (2021) amended the ILO eleven standards indicators:

First, the ILO standards have a wide scope and are often seen as complicated and difficult to apply and envision (Burchell et al. 2014). *Second*, the ILO norms pertain to conventional forms of employment, since they were created before digital technologies substantially impact the nature of work, as well as the nature of core impactful variables, shaping job quality.

The proposed framework accommodates platform work and its new challenges, including (1) algorithmic instead of human-led management, (2) the use of data, and (3) employment status, which did not easily fit into the eleven ILO standards (Heeks et al. 2021).

In that, Heeks et al. (2021) proposed the following eight themes (determinants), to evaluate job quality in the gig economy: pay, conditions, contracts, communication, management, governance, use of data, and representation (see appendix A):

- *Pay*: Gig workers, no matter what kind of job they have, should earn at least the minimum wage in their home country after work-related costs are taken into account (Heeks et al. 2021).

- ***Work Conditions***: Platforms should have policies to safeguard workers from

inherent workplace risks and take preventative measures to ensure workers stay healthy and safe while performing their work. (Heeks et al. 2021).

- *Contracts*: The terms and conditions should be clear, succinct, and readily available to workers. Contracts with workers should identify the party governed by local law with whom the worker agrees. There should be no stipulations in terms of service that unjustly eliminate obligation on platforms if workers are truly independent contractors.(Heeks et al. 2021).

- *Communication*: Gig workers should be able to contact employers, contact coworkers and participate in constructive feedback in a two-way and open communication. Also, they must have a clear communication mechanism for appealing management decisions or deactivation (Heeks et al. 2021).

- *Management*: There should be written procedures for workers to be heard, to challenge judgments, and to comprehend those conclusions. The application of algorithms must be fair and transparent to workers. It should be possible to identify and publish a policy that assures equality in the management of workers on a platform. Also, no harsh disciplinary procedures must be permitted (Heeks et al. 2021).

- *Governance*: Governance relates to reporting, transparency, and accountability (Heeks et al. 2021).

- *Use of data*: The use of data refers to data collection, access, use, protection, and privacy (Heeks et al. 2021).

- ***Representation***: Worker input is essential, so platforms should give a formal channel. Platforms should be willing to interact and negotiate with workers' organizations regardless of their legal status or classification (Heeks et al. 2021). We extended the definition of the representation concept by Heeks et al. (2021), to not only cover the right to representation but also, the status of performed formal or unformal representation. We consider the successfully performed representations as a positive indicator of job quality.

The fair work framework of Heeks et al. (2021) is valuable due to two reasons: First, there is a literature consensus on the multidimensional nature of the job quality; Second, the framework coincides with the ILO principles, platform work, and its challenges. Additionally, the diversified nature of the fair work principles proposed by Heeks et al. (2021) gives room to consider the interrelated nature of fair work principles, for example whether a controlling algorithmic management generates unfair work conditions (Wood et al. 2019a; Deng et al. 2016; Chen et al. 2020).

2.2.4 Research Gap in Gig Economy and Labor

Before conducting our review, we examine existing reviews to analyze the research gap and enhance and refine our research questions. Figure 6 shows the executed steps. (1) identify the purpose and set preliminary research questions, (2) develop the protocol and train the team, (3) develop the query, (4) identify review articles, (5) analyze review articles, and (6) refine research questions.
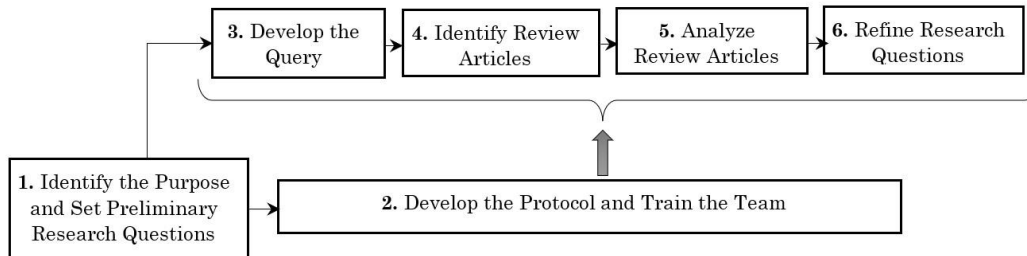
Figure 6. Followed Steps to Identify the Research Gap and Refine the Research Questions

In this section, we compare existing review articles on the research topic to identify the research gaps (and the research questions addressing them) as well as the relevance of the research. We investigate how fair work in the gig economy has been explored in previous systematic literature reviews.

The relevant literature reviews were the following: Brou et al. (2021) studied the relationship between corporate governance and the unequal distribution and reallocation of wealth and income. Scully-Russ & Torraco (2020) explored the factors that give rise to new work structures and examined the new opportunities they offer for employment and income. Tan et al. (2021) studied the main ethical challenges caused by the gig economy in terms of the new organization of work, the new nature of work and the new status of workers focused on the Global North. Aroles et al. (2019) synthesized the main directions and insights of existing research related to the new world of work. Patulny et al. (2020) explored the role of emotional economies in labor due to technological changes. Wright et al. (2019) reviewed the institutional experimentation for protecting non-standard workers in response

to the limitations of the traditional employment regulations in the new world of work. Khan et al. (2021) studied how self-employees manage and experience their health issues. Using text mining, Kaine and Josserand (2019) explored the relevant themes within the gig economy. The review explored job quality as one of the impacts of gig work. Although the main objective of Kaine and Josserand (2019) study was to systematically review relevant literature to identify central themes in gig economy, the authors ended up building the concept of job quality, facet by facet. A detailed comparison of those literature review articles is given in the following Table 2. Table 2 represents a projection of the aforementioned prior eight review research, in addition to the current SLR, using the multidimensional lens of the eight fair work principles. The aim of Table 2 is to identify the gap in terms of theory and concept, as well as in terms of adopted methodology approach, by comparing between the nine studies.

Table 2. Comparison Between Review Papers in the Body of Research of Gig Economy and Labor, Including the Current SLR

		Reviews Focus	Concept/Theory												Methodology Approach			
			Gig workers Classification	Fair work Principles								Interrelations among Job quality factors	Root cause shaping job quality	Exogenous factors impacting job quality in the gig economy	Review of prior works	Systematic Review of prior works	Review of the review papers at preliminary stage of the research	Research Approach
				Work conditions	Management	Contract	Governance	Communication	Pay	Representation	Use of data							
Gig economy and labor: Review Research	Brou et al. (2021)	Corporate governance (CG) and the unequal distribution and reallocation of wealth and income							✓						✓	✓		Qualitative
	Scully-Russ & Torraco, (2020)	Factors that give rise to new work structures and examining new opportunities they offer for employment and income.		✓	✓				✓						✓	✓		Qualitative
	Tan et al. (2021a)	The main ethical challenges caused by the gig economy in terms of the new organization of work	✓	✓	✓				✓						✓			Qualitative
	Aroles et al. (2019)	The main directions and insights of existing research related to the new world of work		✓	✓	✓				✓					✓			Qualitative
	Patulny et al. (2020)	Explore the role of emotional economies in labor, due to the technological changes		✓	✓										✓	✓		Qualitative
	Wright et al. (2019)	Review of the institutional experimentation for protecting non-standard workers in response to the limitations of the traditional regulations the new world of work	✓	✓	✓				✓	✓				✓	✓			Qualitative
	Khan et al. (2021)	How self-employees manage and experience their health issues	✓	✓											✓			Qualitative
	Kaine & Josserand, (2019a)	The relevant themes within the gig economy: working conditions of gig workers, the impact of gig work and information, and technology and gig work	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓		Qualitative/ quantitative
	Current Review	Exploring the job quality in the gig economy, and understanding the working conditions of gig workers, through developing a job quality conceptual model based on prior research evidence.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Qualitative
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

52

Prior reviews focused on diverse issues related to labor in the gig economy era (Column 2 of Table 2) and did not focus on the relationships among the job quality determinants within gig economies (Column 12 of Table 2). The examined reviews gave a general overview about some of the fair work principles in a timid manner, without presenting any analysis of the interplay among them. This research gap in terms of absence of review-works that summarize the job quality conceptual works in the gig economy, motivated our first research question RQ1: *Are there any cause-effect relationships among the job quality determinants in the gig economy?* Answering this question will help the development of a robust theoretical job quality model, which can give clear future research directives and research priorities. The lack of such theoretical job quality models in the gig economy has been pointed out by Myhill et al. (2021).

The first research question motivated us to dig further through identifying what factor is most impactful into shaping the job quality phenomenon, which allows a better control. In this regard, we pose our second research question RQ2: *What are the cornerstone root causes generated by the gig labor platforms that impact the quality of work in the gig economy?* Which we consider a legitimate research question, that logically stems from the RQ1. In fact, identifying the root-cause among the job quality determinants would give a greater awareness on how to better control the job quality in the gig economy. Prior review works didn't identify the root cause that contributes most into shaping job quality (Column 13 of Table 2).

It is also important to focus on the exogenous factors that play an important role in

generating some disparities between different contexts, as well as contributing to shaping job quality in the gig economy. In this regard we pose our third research question RQ3: *What are the main exogenous factors that influence the job quality on the gig economy?* The identification of these factors might contribute to raising the scholars' awareness about the reasons behind the existing differences in terms of job quality in the gig economy among different environments and contexts. Furthermore, in case these factors show some variation they could be impacting the job quality in different manners, through moderating, mediating, or even direct impact. Most prior review works didn't identify the exogenous factors impacting job quality (Column 14 of Table 2).

After investigating the prior review and primary works, we found it relevant to give a general point of view in terms of evaluation of the job quality in the gig economy. In line with that, we formed our research question RQ4: *What job quality does the gig economy generates?* Answering this question will contribute to a better understanding of job quality in the gig economy and its challenges. Previous literature reviews show content limitations related to job quality evaluation and do not directly answer this question. In fact, answering this question in a precise manner is impossible from our point of view. Nonetheless, it might be beneficial to explain why we cannot answer this question with high precision, by highlighting the complexity and the heterogeneity of the environments and the different components that might impact or shape the phenomenon of job quality in this new era of gig work.

Gig economy-related academic research is still in its infancy (McDonnell et al. 2021;

Kaine & Josserand, 2019; Kalleberg & Dunn, 2016). In addition to that, the mechanisms of gig work quality are not fully known, and research examining job quality and gig work is still in its early stages (Myhill et al. 2021). Therefore, further conceptual, and empirical efforts need to be spent on this body of research. Accordingly, we consider the current research as a first step, that helps pave the road towards a solid conceptualization of job quality in the gig economy. Through (1) offering a strong theoretical foundation, allowing to develop and test robust job quality model, (2) showing the weaknesses in terms of adopted methods while conceptualizing job quality, as well as uncovering the narrowed perception of the job quality phenomenon in terms of forces' interaction. Accordingly, this study helps both academicians and policy makers in dealing with the challenges related to this phenomenon.

2.3 Methodology

The method applied mainly follows the systematic literature review methodology proposed by Okoli (2015). This technique employs a method that is transparent, systematic, and repeatable for determining, assessing, and synthesizing the existing corpus of documented investigations. Alternatively, other methods can also be applied to conduct this research, for instance meta-analysis. Sections 2.4 and 2.5 focus on extracting, analyzing, and discussing results (Steps 7 to 12 of Figure 7). (7) search databases, (8) perform preliminary screening, (9) perform relevance screening, (10) perform the quality appraisal, (11) extract data, (12) analyze, synthesize, and discuss results (Figure 7). Finally, section 2.6 focuses on contribution, limitations, and future research directions.
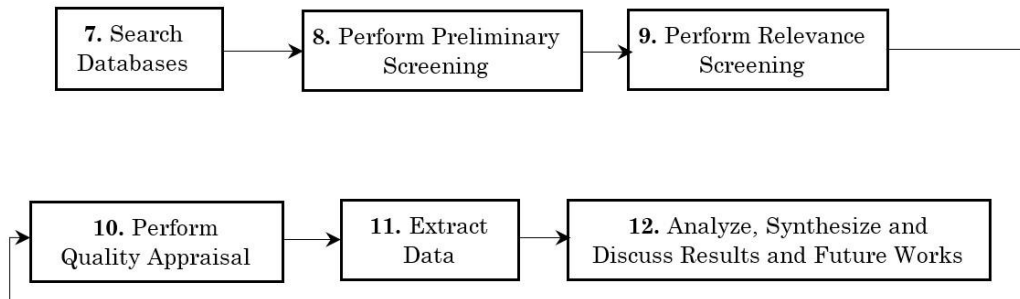
Figure 7. Followed Steps to Execute the Review

For identifying and collecting the relevant primary studies, we executed the process indicated in Figure 8. This process helps to ensure transparency, therefore reproducibility of the followed steps. The following subsections discuss in detail how the relevant primary studies were identified.

2.3.1 Research Database

To accomplish the research objectives, Web of Science (WoS) and Scopus were chosen because they constitute the main sources for scientific data covering interdisciplinary fields, which represent a significant strength for this study. WoS has been the sole tool for citations analysis until the creation of Scopus (Archambault et al. 2009). Scopus is one of the largest bibliographic, abstract, and citation database of peer-reviewed literature which contains several fields such as: science, technology, medicine, social science, arts and humanities (Ballew, 2009; Sweileh, 2018) (see step 1 of Figure. 8).

To select the keywords, firstly, the main concepts of this research topic gig economy and labor were examined, and synonyms were identified, resulting in the following keywords: 'gig econom*', 'gig work*', 'employ* platform*', 'platform econom*' in

combination with 'labor*', 'labour*', 'employ*', and 'worker*'. 1,053 documents were found after removing duplicates (see step: 3 of Figure. 8).

2.3.2 Screening

The screening criteria included the following steps for the preliminary screening: (1) All redundancy literature was cleared, (2) Only English language articles were considered, (3) Only scientific papers, conferences papers, reviews and conference reviews were considered. Other types of publications such as notes, editorials, personal opinions, or book chapters were excluded. (4) Only final publications are included. 848 papers were found after these initial filtrations. Also, our SLR examines the papers' relevancy through: (5) identifying the literature that specifically address the research questions and concepts based on the papers' title and abstract as suggested by Okoli (2015). A cross check relevance screening was performed to strength the gathering of relevant articles among all the reviewers. 51 papers resulted after screening (steps 4 and 5 of Figure. 8).

2.3.3 Quality Appraisal

In the absence of a standardized definition of the quality and the diverse types of studies resulting from the screening, the quality appraisal is challenging (Kitchenham et al. 2015). Therefore, a generic set of criteria is adapted from (Dybå & Dingsøyr, 2008b, 2008a; Kitchenham & Brereton, 2013), who propose eleven criteria developed and used for a qualitative systematic review (Greenhalgh, 2014) (See Appendix B). 45 papers resulted after quality appraisal (step 6 of Figure. 8).

1	Search Databases: Query Applied on • Title • Abstract	Research Query Scopus	Web of Science
2	All Results 1614	880	734
3	Removing Duplicates	1053	
4	Preliminary Screening	848	
5	Relevance Screening	51	
6	Quality Appraisal for Final Filtration	45 Selected Articles	
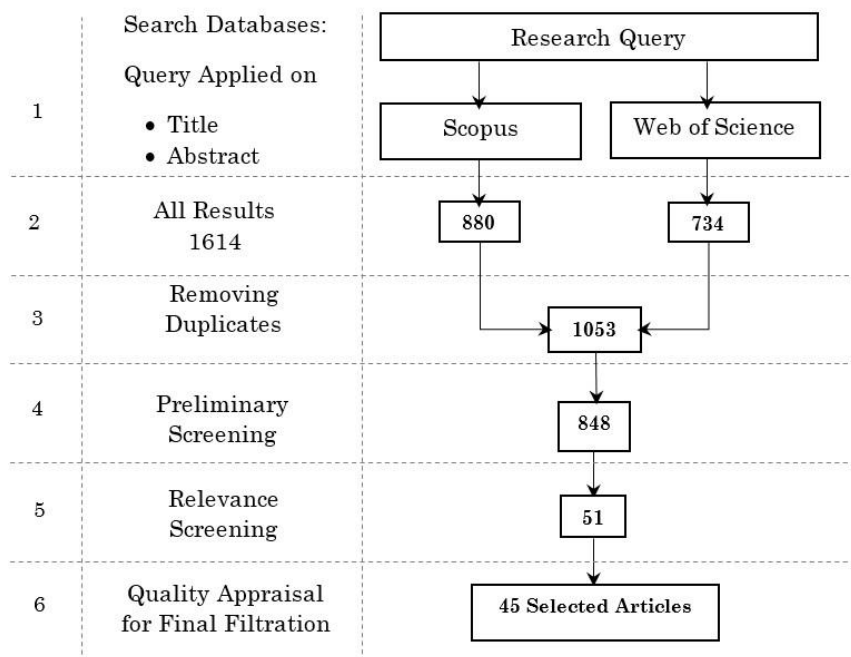
Figure 8. Process of Selection of the Most Relevant Articles for the Review

2.3.4 Data Extraction

The quality assessment process is performed simultaneously with data extraction on a study-by-study basis. The main goal of this step is to capture the specific information that will help to answer the research questions (Okoli, 2015). During this process, it is important to have a standard to extract data to avoid unstructured data extraction and confusions during the process. Therefore, the current study uses a multi-dimensional lens to extract the job quality determinants in order to cover a maximum of facets of job quality in gig economy. We mainly utilizes the eight themes to fairness of the work in the gig economy (Heeks et al. 2021). To organize and standardize the process, the important key variables are determined, six items were defined for the descriptive data, in addition to 15 Items for

the main data (table 3).

These variables were used as a frame to extract the intended information (see Appendix A).

Table 3. Data Extraction Items

Data		Extraction Items	45 Primary Studies
Main	1	Study aim	
	2	Gig workers Classification	
	3	Decent work in gig economy	
	4	Pay	
	5	Work conditions	
	6	Contract	
	7	Communication	
	8	Management	
	9	Governance	
	10	Use of data	
	11	Representation	
	12	Other issues that might impact gig work	
	13	Ideas for discussion	
	14	Limitations	
	15	Additional notes	
Descriptive	1	Year of publication	
	2	Gig Economy Category	
	3	Description of the samples	
	4	Research instrument	
	5	Adopted research strategy	
	6	Used theory	

2.3.5 Synthetizing and Analyzing

In social science systematic reviews, research is often too varied to allow for such a statistical summary, and in particular, qualitative studies need a distinct approach of synthesis. In such cases, a narrative synthesis of the investigations is recommended (Petticrew & Roberts, 2006). Accordingly, this SLR utilizes a narrative synthesis, in addition to a tool proposed by (Ishikawa, 1982; Ishikawa & Kaorulshikawa, 1976) to

analyze the results. Okoli (2015) suggest exploring the relationships across data. It should be created a visual map of the review's concepts and layout. Feature maps, tree structures, content maps, taxonomy maps, and idea maps are all potentially effective methodologies (Wu & Weld, 2008). In line with this approach, the current SLR utilizes the fishbone tool proposed by (Ishikawa, 1982; Ishikawa & Kaorulshikawa, 1976), to explore the relationships across the extracted data. The Ishikawa diagram is used to give structure to the evidence, and to help us understand and classify the identified relationships among the extracted data. The Ishikawa categories were adapted to the multidimensional fair work framework.

2.4 Results Analysis

2.4.1 Descriptive Analysis

The descriptive analysis of each of the 45 primary studies is presented in this subsection. Figure 9 illustrates the breakdown of the primary studies in terms of the years they were published, which vary from 2016 all the way up to 2022. None of the articles published earlier than 2016 has passed the screening phase.
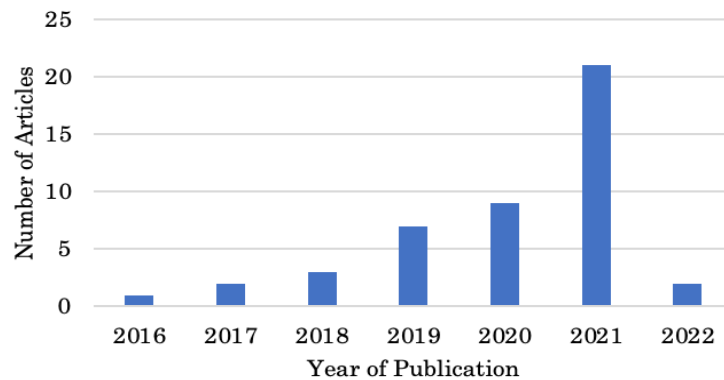
Figure 9. Distribution of Primary Studies Based on Year of Publication

Most of the articles are published in 2021. None of the articles published earlier than 2016 has passed the screening phase. Figure 9 shows a fast increase of the number of publications, which reflect that "labor in gig economy" is an emergent and hot research topic.

The distribution of the selected primary studies based on the adopted research strategy is presented in Figure 10. In that, we depict five groups, namely: Narrative interviews case studies, survey, mixed methodology, and experiment.
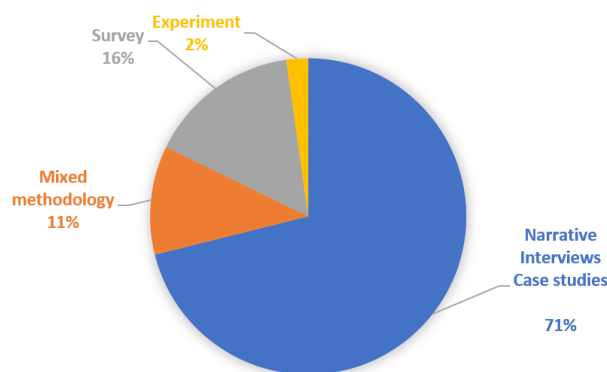
Figure 10. Distribution of Primary Studies Based on Adopted Research Strategy

In Figure 10, 71% of the primary studies are narrative interviews and case studies, 16 % used survey, 11% used mixed method, and 2% utilized experiment strategy. These observations show that the narrative style is dominant in our primary studies' sample, and few are the quantitative research attempts that have been accomplished.

With regard to distribution of the primary studies, based on categories of the gig economy, we classify them into local gig, remote gig and mixed gig (Figure 11). The local gig economy comprises of jobs like delivery and ride hailing, whereas the remote gig economy consists of online-delivered jobs like data entry, graphic design, and content creation (Wood et al. 2021).
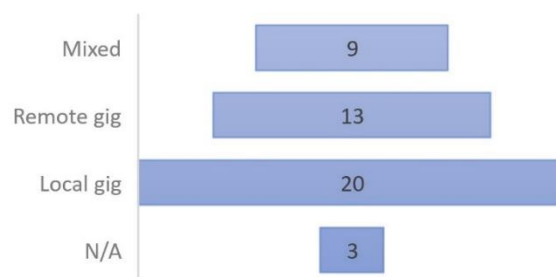
Figure 11. Distribution of the Primary Studies Based on the Studied Gig Economy

Categories

Among the selected primary studies, 20 articles focus on local gig, whereas 13 focus on remote gig, and 9 cover both, local and remote gig. Three studies did not specify the type of gig work.

In order to evaluate the commonalities and differences across the studies we chose, we also constructed a term co-occurrence of the 45 articles utilizing VOS-Viewer (Version 1.6). A minimum of one occurrence of each keyword is required as the condition for co-

occurrence. Co-occurrence describes terms present in the article's keyword lists more than once. Based on a unified clustering approach created by Van Eck and Waltman (2018), VOS-Viewer identified 122 keywords that occurred a minimum of once within the list of keywords in the selected primary articles, resulting in 13 clusters (Figure 12). The caption explains what each cluster represents.

1	Platform labor, Algorithmic control, and control
2	Motivation, job satisfaction, psychological contract, and attitudes
3	Platform economy and new form of organizing
4	Algorithmic management, technology, application work, and app works
5	Gig work, job quality, quality work
6	Human resource management, digital platform, and boundaryless career perspective
7	Collective organization, and collective action
8	Digital economy, experience, and informal employment
9	Platform work, labor relations, fair work, decent work, fairness, and power
10	Work stress, vulnerable workers
11	Covid-19, pandemics, economy, business
12	Employment, payment, salaries, gender discrimination
13	Protection, digital age, and fragility

Figure 12. VOS-Viewer Analysis of Keyword Co-occurrence Among the 45 Selected

Articles

By looking at the 13 clusters (Figure 12), through the lens of fair work principles of Heeks et al. (2021), we can make a preliminary projection of these clusters to the corresponding fair work principles. The keywords of clusters 1, 4, and 6 are potentially related to management and governance. While the keywords of cluster 12 are potentially related to pay, 7 related to representation, 10 related to work conditions. In addition to that, the keywords of cluster 5 and 9, represent decent work, fair work, and job quality. Furthermore, cluster 2 Incorporates: motivation, job satisfaction, psychological contract, and attitudes.

Figure 13 displays the top keywords, as well as their overall link strength. The number of articles in which two keywords appear together represents the overall link strength (Van Eck & Waltman, 2018). The top 15 co-occurring keywords are listed below, and their overall link strength is depicted in Figure 13: Gig economy, employment, covid-19, algorithmic management, platform economy, platform work, pandemics, uber, gig work, sharing economy, salaries, social systems, digital labor, HRM, and platform labor.
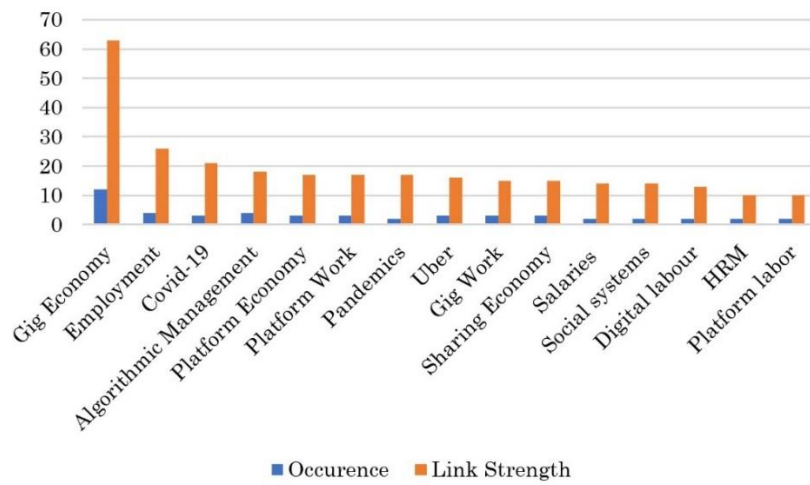
Figure 13. Top 15 Co-occurred Keywords and Their Total Link Strength

At this preliminary stage, we cannot say much about the found co-occurred keywords and their total link strength. Indeed, it is noticeable that the linkage among the used key words in our 45 primary studies, barely allows a vague interpretation of the research focus in the context of job quality in the gig economy.

The main theories and concepts used by the selected primary studies are listed in Table 4. We can notice that each theory is used only once. Additionally, 27 articles didn't use clear theory.

Table 4. Main Theories, Concepts and Frameworks, Used by Primary Studies

Theory/ Concept	Used by
Lukes' theory of power	(Shanahan & Smith, 2021)
Resource dependence theory	(Karanović et al. 2021)
Everyday resistance (Scott, 1990) and Katz's (2004) notions of everyday 'resistance', 'resilience' and 'reworking'	(Anwar & Graham, 2020)

Theory/ Concept	Used by
Theories of control	(Rahman & Valentine, 2021)
Stakeholders' theory	(Ahsan, 2020)
Theory X and Theory Y	(Ravenelle, 2019)
Labor process theory	(Tassinari & Maccarrone, 2020)
Job crafting theory	(Wong et al. 2021)
Systems psychodynamic perspective	(Petriglieri et al. 2019)
Theory of psychological contract	(Auer et al. 2021)
Theory of employee motivation	(Auer et al. 2021)
Theory of enterprise culture	(Moisander et al. 2018)
Conservation of Resources Theory	(Schlicher et al. 2021)
Henri Lefebvre's spatial triad	(Newlands, 2021)
"Factory regimes" Framework	(Chen et al. 2020)
The "ideal worker" as an archetype	(Cameron et al. 2021)
ILO 11 decent work principles	(Heeks et al. 2021)
Scotland's Fair Work	(Myhill et al. 2021)

The way of leveraging the theories shown in Table 4, reflects the low degree of maturity of the body of research, and confirms that the topic is still emergent and at its infancy, as stated by (e.g., McDonnell et al. 2021; Kaine & Josserand, 2019; Kalleberg & Dunn, 2016; Myhill et al. 2021). Additionally, identifying these theories and concepts helps bring deeper understanding of the phenomena surrounding labor in the gig economy, including the job quality. However, the complexity caused by the multidimensionality of job quality, requires a comprehensive understanding, through concurrently covering the most important

mechanisms that shape the phenomenon, while utilizing, extending, and developing the adequate theoretical base.

The distribution of the main publications in accordance with the extraction of topics that were discussed is summarized in Figures 14 and Table 5, namely: work conditions, Management, misclassification, contract, governance, communication, pay, representation, and data.

Table 5. Sample Distribution Based on the Extraction Themes

Extraction Variables	References	Total
Work conditions	(Duggan et al. 2020; Wood et al. 2019a; Myhill et al. 2021; Williams et al. 2021; Chen et al. 2020; Wood et al. 2019b; Tassinari & Maccarrone, 2020; Ravenelle, 2019; Sutherland et al. 2020; Nilsen et al. 2022; Schor et al. 2020; Lei, 2021; Anwar & Graham, 2020; Beckman et al. 2021; Rahman & Valentine, 2021; Newlands, 2021; Norlander et al. 2021; Bates et al. 2021; Cameron et al. 2021; Wang et al. 2021; Berger et al. 2019; Schlicher et al. 2021; Attoh et al. 2019; Deng et al. 2016; Kost et al. 2020; Wong et al. 2021; Schor, 2017; Wheatley, 2021; Cai et al. 2021)	29
Management	(Duggan et al. 2020; Wood et al. 2019a; Myhill et al. 2021; Williams et al. 2021; Moisander et al. 2018; Ahsan, 2020; Chen et al. 2020; Ravenelle, 2019; Sutherland et al. 2020; Ravenelle, 2017; Veen et al. 2020; Rahman, 2021; Lei, 2021; McDonnell et al. 2021; Anwar & Graham, 2020; Karanović et al. 2021; Rahman & Valentine, 2021; Petrieglieri et al. 2019; Shanahan & Smith, 2021; Newlands, 2021; Jarrahi & Sutherland, 2019; Norlander et al. 2021; Bates et al. 2021; Cook et al. 2021; Cook et al. 2021; Greenwood et al. 2022; Weinberg & Kapelner, 2018;	27

Extraction Variables	References	Total
	Cameron et al. 2021)	
Misclassification	(Duggan et al. 2020;　Wood et al. 2018; Williams et al. 2021; Moisander et al. 2018;　Ahsan, 2020;　Chen et al. 2020;　Wood et al. 2019b;　Tassinari & Maccarrone, 2020;　Ravenelle, 2019; Sutherland et al. 2020; Nilsen et al. 2022;　Ravenelle, 2017;　Schor et al. 2020;　Veen et al. 2020; Lei, 2021;　McDonnell et al. 2021; Anwar & Graham, 2020;　Karanović et al. 2021; Beckman et al. 2021)	20
Contract	(Duggan et al. 2020; Myhill et al. 2021; Williams et al. 2021; Moisander et al. 2018; Chen et al. 2020;　Wood et al. 2019b; Tassinari & Maccarrone, 2020;　Ravenelle, 2019;　Nilsen et al. 2022;　Schor et al. 2020; Rahman, 2021; Lei, 2021; McDonnell et al. 2021; Chen et al. 2020;　Karanović et al. 2021;　Beckman et al. 2021;　Rahman & Valentine, 2021; Petriglieri et al. 2019; Shanahan & Smith, 2021)	18
Governance	(Duggan et al. 2020; Myhill et al. 2021;　Nilsen et al. 2022; Williams et al. 2021; Tassinari & Maccarrone, 2020; Nilsen et al. 2022;　Veen et al. 2020;　Rahman, 2021;　Lei, 2021;　Rahman & Valentine, 2021;　Petriglieri et al. 2019; Shanahan & Smith, 2021; Newlands, 2021;　Jarrahi & Sutherland, 2019; Bates et al. 2021)	15
Communication	(Wood et al. 2019a; Chen et al. 2020; Ravenelle, 2019; Nilsen et al. 2022;　Rahman, 2021; Lei, 2021;　Beckman et al. 2021; Shanahan & Smith, 2021;　Jarrahi & Sutherland, 2019; Bates et al. 2021; Schlicher et al. 2021;　Attoh et al. 2019;　Kost et al. 2020; Ravenelle, 2019)	14
Pay	(Wood et al. 2019a; Myhill et al. 2021;　Williams et al. 2021; Ahsan, 2020;　Wood et al. 2019b;　Sutherland et al. 2020;　Lei, 2021; Rahman & Valentine, 2021;　Shanahan & Smith, 2021; Wang et al. 2021;　Berger et al. 2019; Schlicher et al. 2021; Auer et al. 2021)	13

Extraction Variables	References	Total
Representation	(Duggan et al. 2020; Wood et al. 2018; Chen et al. 2020; Tassinari & Maccarrone, 2020; Nilsen et al. 2022; Lei, 2021;　Anwar & Graham, 2020;　Karanović et al. 2021;　Beckman et al. 2021; Attoh et al. 2019;　Kost et al. 2020;　Wong et al. 2021)	12
Data	(Duggan et al. 2020;　Myhill et al. 2021; Veen et al. 2020; Newlands, 2021; Bates et al. 2021;　Attoh et al. 2019)	6

Figure 14. Sample Distribution Based on the Extraction Themes

With regard to our 45 selected primary studies, most of the literature describes the working conditions, followed by management, misclassification, contract, governance, communication, and pay. Finally, less literature describes representation and data.

In the following section, we try to build the relationships among the job quality determinants, based on analysis of evidence extracted from our selected primary studies.

2.4.2 Identifying Interrelationships Among Job Quality Determinants

Referring back to the RQ1, posed in this review "Are there any cause-effect relationships among the job quality determinants in the gig economy?".

Our SLR involves inductive interpretive synthesis that moves beyond aggregative summaries, and build theory rooted in the examined empirical evidence. We build the relationships among job quality determinants, in order to answer this research question. This subsection presents the analysis of (1) data related to classification of gig workers, and (2) data extracted through the lens of fair work framework.

2.4.2.1 Classification and Fair Work

Current research attempts to categorize the different kinds of work given by platforms, such categories of work or employees are not widely agreed upon (Williams et al. 2021). These workers act as enterprise-units (Moisander et al. 2018), and platforms call them freelancers, entrepreneurs, micro-entrepreneurs, self-employed, or independent contractors, in order to externalize duties related to labor rights and social security, to the workers themselves (Ahsan, 2020; Chen et al. 2020; Wood et al. 2019b; Tassinari & Maccarrone, 2020). The characteristics of an entrepreneur, such as autonomy, accomplishment, and self-efficacy, apply to independent contractors, who work for a firm but are not considered employees (Ravenelle, 2019). Also, entrepreneurs can capture revenue based on the value they produce (Ahsan, 2020). The ride sharing platform Uber claims that its drivers are self-employed since they may work whenever and as long as they want. Also, they may work

for numerous ridesharing providers at once. It promises workers flexible work and self-control of their schedules (Ahsan, 2020; Sutherland et al. 2020), in line with definitions of self-employment (Nilsen et al. 2022). However, platforms distribute the work to independent contractors like in conventional firms with control mechanisms (Ravenelle, 2019; Ahsan, 2020; Ravenelle, 2017); and workers may also lack of flexibility and independence in accepting or rejecting work . In many cases gig workers consider themselves employees (Wood et al. 2018), rather than entrepreneurs (Ahsan, 2020). Platforms and gig workers therefore often disagree on work arrangements (Duggan et al. 2020).

Recent governmental moves to reclassify gig workers as employees may herald a wave of reclassification, however, business opposition and non-compliance remain strong (Schor et al. 2020), as workers' misclassification is a significant profitability driver for certain platform (Tassinari & Maccarrone, 2020). Indeed, platforms decrease labor expenses by using independent contractors (Veen et al. 2020). This shows the importance of the misclassification in the platforms business models. Although legal challenges to the connection between platforms and their users are rising in number, there is still no consensus on how to categorize the relationship between platforms and their users (Rahman, 2021).

Working conditions, precarity, and autonomy of employment are all shaped by employees' categorization (Lei, 2021; Chen et al. 2020). Platforms can offer services that alleviate some of the unstable characteristics of gig work, but aggravate others (Sutherland

et al. 2020). In developing countries, for example in many African countries, where over 80% of employment is informal, gig economy may give individuals the opportunity to increase job quality and job opportunities (McDonnell et al. 2021; Anwar & Graham, 2020). However, gig workers are disembedded from cultural and legal norms that would restrict their commodification (Wood et al. 2019b). It has been shown that the independent work arrangements can carry the risk of precarity (Sutherland et al. 2020; Karanović et al. 2021). For example, because app-based drivers are independent contractors, they may not be eligible for workplace benefits and other legal protections (Beckman et al. 2021). Since there is no consensus of the classification of gig workers, the evaluation of the quality of their job is complex and requires further investigation. In the next section, we explore and analyze the characteristics of gig work based on the eight themes for fair work (Heeks et al. 2021).

2.4.2.2 Contracts in Gig Economy

The nature of employment contracts is imprecise in terms of the amount and type of work. Even in conventional activities, it is impossible to prescribe every aspect of the labor process (Wood et al. 2019b). Conforming to the terms of the contracts stipulated by national laws, the majority of platforms would refuse to engage employees. In fact, Chen et al. (2020), reported that only six of the forty-six platform laborers (food delivery workers and ride-hailing drivers) questioned, had a labor contract. However, Lei's (2021) study, revealed that although gig platform workers have contract, none of them were aware that platforms had the authority to unilaterally modify the terms of the agreement and platform

regulations. They are angered by such terms and other regulations imposed unilaterally by platforms, which they see as proof of exploitation (Lei, 2021). In general, gig couriers thought platforms used unjust legal structures, resulting in a gross imbalance between labor inputs and outputs. They acknowledged that the platforms may not legally break any current laws, but they thought that the legal system included unfair gaps. Here, we can see how the legal component of gig platform design produces complaints and exacerbates the perception of unfairness (Lei, 2021). The contractual work design is a mechanism that allows to classify and to manage workers as enterprise units (Moisander et al. 2018). Contracts are frequently presented by platforms as clickwrap agreements, allowing users to accept or reject a digital agreement (Rahman, 2021; Williams et al. 2021; Lei, 2021). Individuals can use the platform applications only if they sign the clickwrap agreement. Contracts may allow technological control (algorithms' function), that may be altered to accomplish certain objectives, such as improving their optimization (Lei, 2021). In other words, contracts determine and shape the management through algorithmic control.

2.4.2.2.1 Contracts and Security and Safety

There exist some potential for introducing decent work conditions through platforms (McDonnell et al. 2021). However, gig workers' terms and conditions usually do not cover social security and stability of work (Chen et al. 2020; Tassinari & Maccarrone, 2020; Karanović et al. 2021; Nilsen et al. 2022; Beckman et al. 2021; Moisander et al. 2018), impacting on workers' conditions. Although some gig workers can be legally entitled to receive social security benefits, they may not be able to receive it owing to lack

of job continuity, duration of employment or earning an income below a certain threshold (Chen et al. 2020). Platform terms and conditions occasionally acknowledged the necessity for customers to comply with laws, but sometimes do not specify which laws or how (Williams et al. 2021). This shows how the terms and conditions designed by the platforms put the gig workers in hazardous situation in terms of safety.

2.4.2.2.2   Contracts and Instability

Many platforms explain to customers that they are able to terminate any worker's contract at any moment (Wood et al. 2019b; Karanović et al. 2021), besides, platforms can eject them from the community (Ravenelle, 2019). It may allow platforms to restrict future opportunities of work for contractors (Rahman & Valentine, 2021). Workers face continuous insecurity regarding their capacity to maintain their work (Petriglieri et al. 2019). They feel readily replaceable, and pressured to perform successfully (Wood et al. 2019b).

The legal design of platform architecture can affect how workers increase the appeal of collective contention (Lei, 2021), or departure (Moisander et al. 2018). Certain contractual designs can deviate from workers' moral norms (Lei, 2021), where platforms can unilaterally modify the agreement's content and regulations (Lei, 2021; Rahman, 2021), remunerations (Shanahan & Smith, 2021), setting its own rules for workers (Chen et al. 2020; Schor et al. 2020). Additionally, some platforms develop an uneven power distribution between the triangle of network (platforms, workers, and customers). Workers are placed in the least advantageous position in this tripartite arrangement (Chen et al. 2020;

Myhill et al. 2021). Platforms can transfer risk to the customer (Williams et al. 2021), as well as to gig workers (Tassinari & Maccarrone, 2020; Duggan et al. 2020). Besides, if payment is not aligned with the promise, workers' psychological contract may be violated (Duggan et al. 2020; Ravenelle, 2019). Moreover, there is evidence that many gig workers consider contractual terms and arrangements as exploitation (Lei, 2021). This shows how contracts shapes liabilities, governance, communication, as well as increasing the appeal to collective contention.

2.4.2.3 Management in Gig Economy

Contemporary enterprise culture is enacted not only through the imposition of a set of entrepreneurial identity norms and ideals on workers, but also through concrete activities and managerial control methods that shift the costs of employment and economic risk to workers (Moisander et al. 2018).

There are concerns regarding Human Resource Management (HRM) duties and obligations in the gig economy, due to the complex relationship between three parties engaged in platform: the platform, the worker, and the customer. The degree to which and how platforms apply HRM methods to recruit and control the quality of workers has received little empirical attention (Williams et al. 2021). HRM operations may be opaque and unclearly communicated to workers (McDonnell et al. 2021). These operations are being replaced by platforms' members in charge of system, and designers working as conventional human resource managers (Duggan et al. 2020).

2.4.2.3.1 Algorithmic Management

The combination of algorithmic and human oversight is heavily dependent on the contract of gig workers (Newlands, 2021), and management creates and modulates algorithms (Ravenelle, 2019). Duggan et al. (2020) describe algorithmic management as a control system, in which self-learning algorithms are tasked with making and executing labor-related choices, therefore reducing human participation and monitoring of the labor process. It automates some of the actions and procedures that humans traditionally do (Duggan et al. 2020; Jarrahi & Sutherland, 2019), requiring workers to stay connected (Newlands, 2021). Because algorithmic monitoring transforms physical space and movement into digital manifestations, it prioritizes the techno-centric, abstract space of digital mapping while disregarding workers' material embodied reality (Newlands, 2021). Additionally, technological control uses algorithms and utilizes workers' data, without compensating them for this (Duggan et al. 2020).

More attention must be given to how diverse management assumptions, and the associated behaviors and algorithms, impact workers' attitudes and experiences (Ravenelle, 2019). Lei (2021) finds that the manner in which platforms organize work in the Chinese food delivery sector, causes a feeling of unfairness, and generates grievances that can spark collective action. Also, algorithms imposed changes make workers feel less like entrepreneurs, and more like beleaguered employees of a capricious boss (Ravenelle, 2017).

2.4.2.3.2 Algorithmic Functions

Top management functions are being replaced by platforms' algorithms (Karanović et

al. 2021). Algorithms delegate selection decisions to customers (Williams et al. 2021; Wood et al. 2019a; Ahsan, 2020), and unilaterally change workers' conditions, which might lead to workers' reassessment of their psychological contracts (Shanahan & Smith, 2021). Algorithms further organize and regulate workers (Jarrahi & Sutherland, 2019), allocate jobs (Newlands, 2021; Ahsan, 2020), manage ratings, reviews and evaluations (Chen et al. 2020; Duggan et al. 2020), and exert control over workers (Norlander et al. 2021; Rahman & Valentine, 2021). Additionally, algorithms anticipate future times of possibly high demand, notifying drivers through the applications that they are expected to earn above-average prices if they work specific schedules (Duggan et al. 2020). Algorithms can perform some activities that reinforce the perception of arbitrariness and a lack of regard for workers (Ravenelle, 2019), for instance, pricing is considered a black box that workers cannot see (Lei, 2021), which directly influences gig workers' pay.

Clients are considered managers in certain platforms; they turn to platform tools to exert control over workers, which might create friction, resulting in halted projects (Rahman & Valentine, 2021), complains, worker's deactivation (delete from the system), or suspension while complaints are reviewed (Myhill et al. 2021). In contrast, other client-managers used a set of procedures (collaborative repair), to resolve issues and bring successful project outcomes (Rahman & Valentine, 2021).

Algorithm management has many effects on fair work conditions. For instance, the design and implementation of client-driven rating systems may have a direct influence on platform workers' performance (Veen et al. 2020; Duggan et al. 2020), pay, and potentially

future employment opportunities (Rahman & Valentine, 2021), presenting several threats to platform workers' physical and psychological well-being (Bates et al. 2021; Chen et al. 2020). Workers' capacity of controlling critical areas of their job is limited due to the algorithms' complexity and opaque nature (Ahsan, 2020; Jarrahi & Sutherland, 2019), diminishing qualitative human interpretation of gig workers' performance, and having substantial biases (Duggan et al. 2020), they neglect perceived and lived space, namely the workers' material embodied reality (Newlands, 2021; Shanahan & Smith, 2021).

2.4.2.3.3 Algorithmic Management Controversial Practices

Workers' refusal to take assignments might affect future assignment offers, and workers are aware of this (Ravenelle, 2019; Duggan et al. 2020). On the other hand, other platforms allow gig workers to decline tasks without facing consequences (Ravenelle, 2019).

A company must adhere to anti-discrimination and privacy rules, while recruiting and choosing new employees (Williams et al. 2021). Myhill et al. (2021) found gig workers working in several industries (ride hailing, courier delivery, and hospitality), perceived applications as an apolitical manager without hidden agenda. However, the matching process on care platforms, encouraged potentially discriminatory selection processes, by suggesting that clients match workers based on values or even culture or religion (Williams et al. 2021). In contrast, graphic design platforms include filters for specialized abilities (Williams et al. 2021).

Gender discrimination can also be observed. For instance, in the gig publishing sector, there are decreased but recurring patterns of gender discrimination compared to traditional

publishing sector. Weinberg & Kapelner (2018) anticipate that the gig economy might reproduce gender discriminatory trends while also undermining gender disparity in pricing. According to Cook et al. (2021), Uber's rider-driver matching technology is supposedly gender-neutral. They found that there is a gender wage disparity for Uber drivers due to three factors: (1) male preference for quicker driving, (2) drivers' preference for time and location, and (3) males had a greater average on-the-job experience. Although the determinants that shape this pay gap are logical, it doesn't confirm the algorithm is free from gender discrimination routines, as it's a black box. The authors conclude that in the gig economy, setting gender preferences and constraints on how and when to do the work, can sustain a gender pay gap. This suggests that some exogenous factors such as societal or cultural determinants may impact the preferences of the drivers. For instance, men are more risk tolerant, both in general and when driving in particular Cook et al. (2021).

On the other hand, in some ridesharing markets, when customer reports low quality experiences, women-drivers can get disproportionate penalties (Greenwood et al. 2022). Besides, the matching process on some platforms, encouraged potentially discriminatory selection processes (Williams et al. 2021), advocating that further research should explore gender-based algorithmic weightings to combat prejudice for moral, strategic, and legal grounds (Greenwood et al. 2022).

2.4.2.4 Gig Workers' Silent Resistance: Workarounds

In response to consumer expectations and platforms' pressures, workers look for strategies to cope with risks (Cameron et al. 2021). To boost resilience with online

platforms, gig workers utilize sense making strategies to analyze the black box of algorithms (Jarrahi & Sutherland, 2019), and build reputations through their online presences (Sutherland et al. 2020). They may create a client account to gain expertise with the platform functionalities, analyzing their ranking system to work effectively (Jarrahi & Sutherland, 2019). In addition to that, there is indication that workers buy ratings from customers, or attempt to purchase highly rated pre-approved accounts, in order to enhance their opportunities to find gigs. They might also encourage their personal networks to create multiple profiles to increase the probability of receiving gigs (Anwar & Graham, 2020). Workers therefore, developed personal connections that aided in their productivity and management of work-related emotions (Petrieglieri et al. 2019). Additionally, workers can utilize data obfuscation to obtain deliveries in optimal zones, or even several orders simultaneously, even though this practice might have a negative impact on other workers (Newlands, 2021). Platforms exert power, but workers can reclaim some of the power/agency, not by using collective means of "worker voice" or representation through trade unions, but by mirroring the individualistic and coercive nature of algorithmic management.

2.4.2.5 Pay in Gig Economy

Gig workers' pay can be higher compared with jobs outside the gig economy (Myhill et al. 2021; Wang et al. 2021), but they also can be considerably lower (Ahsan, 2020). For example, in China, ride-hailing drivers can earn higher income than low-skilled workers (Wang et al. 2021). In the UK, despite the fact that the majority of Uber drivers make more

80

than the National Living Wage, the median London driver earns less per hour than the typical London worker (Berger et al. 2019). Additionally, gig workers face income volatility. They are exposed to fluctuations in demand (Myhill et al. 2021). Transacting with unknown peers includes the risk of being scammed or receiving poor remunerations for inadequately specified assignments (Sutherland et al. 2020). Furthermore, some crowd work platforms (e.g., HireWork platform), were configured such that workers might have to reimburse customers, even if the customer paid just a fraction of the work, especially when work does not meet customers' expectations (Rahman & Valentine, 2021).

Myhill et al. (2021) found workers' vulnerability on income insecurity depends on the extent to which employment represents a primary or supplementary source of income. Furthermore, there is evidence that gig workers sometimes perform unpaid tasks. In graphic design, designers participate in contests to improve their credentials, but do not receive a financial reward for such activity (Williams et al. 2021). Couriers are sometimes dispatched early to collect an order, leading to unpaid waiting time (Shanahan & Smith, 2021; Schlicher et al. 2021). Lastly, workers' platform-specific training is often unpaid (Wood et al. 2019b).

Workers are continuously subjected to clients' evaluation which has a direct impact on their pay (Wang et al. 2021; Wood et al. 2019a). Additionally, when customers make wrong ratings, in some cases, algorithms do not allow to correct them, which immediately impacts workers' platform exposure (Rahman, 2021). Besides, local managers employed by gig platforms have the ability to alter some elements in the system that affects pay. Workers

have expressed that they feel that platforms alter algorithms to reduce pay, claiming that piece rates have declined over time. In other words, pay gets reduced by the platforms, which leads to unfair algorithmic management and communication, as pricing is considered a black box that workers cannot see (Lei, 2021). Consequently, some workers claim they need to work more each day in order to keep the same level of revenue (Lei, 2021). Auer et al. (2021) therefore argue that since workers have limited power to negotiate pay, they are particularly prone to exploitation. This confirms that unfair pay leads to unfair work conditions.

2.4.2.6 Governance in the Gig Economy

2.4.2.6.1   Transparency

Workers perceive platforms' algorithms as opaque. They express a lack of transparency about data use (Myhill et al. 2021), task allocation (Tassinari & Maccarrone, 2020; Nilsen et al. 2022; Shanahan & Smith, 2021), matching process (Williams et al. 2021), disciplinary rules (Lei, 2021), sanctions (Shanahan & Smith, 2021), evaluation activities (Rahman, 2021; Newlands, 2021), algorithm function changes (Tassinari & Maccarrone, 2020), how they are adjusted and by whom, and on whose order (Duggan et al. 2020). Inputs for workers' deactivation are also unclear; Veen et al. (2020) found while ostensibly an algorithmic procedure, the deactivation inputs are shaped by management decision-making, which is unclear to workers (Veen et al. 2020).

The platform's lack of transparency, coupled with frequent system modifications, adds to a lack of trust (Bates et al. 2021). Algorithms opaque evaluations represent a control that

workers do not understand and cannot influence. Workers feel paranoia, persistent unease and skepticism regarding algorithms operations (Rahman, 2021). In Upwork platform, the knowledge asymmetry might affect employees' autonomy, so workers need to comprehend algorithms to maintain their autonomy (Jarrahi & Sutherland, 2019). Shanahan & Smith (2021) found hidden incentives in the platform's architecture, experienced as duties for couriers who are financially reliant on platform business. Algorithmic management allows asymmetric information in the workplace by managing labor supply, targeting different workers with varied incentives, removing workers off platforms without recourse, and arbitrating disputes at its discretion (Duggan et al. 2020).

Communication about algorithms changes seems blurred. For some workers, it is difficult to know when and how algorithmic evaluations update its parameters (Rahman, 2021). One the other hand, Lei (2021) found that prior to adopting new dispatch and disciplinary rules in the platform system, local offices inform workers and explain the changes.

2.4.2.6.2   Accountability

Platforms' Local offices, state they have the ultimate legal power to amend platform regulations in accordance with the platform's contracts with couriers, citing the clickwrap agreement that couriers accept when downloading the delivery app (Lei, 2021). In other words, contract arrangements shape platforms' governance. Additionally, workers usually do not read but approve platform's clickwrap agreement; not being aware that platforms have the unilateral power to modify the agreement's content and platform regulations (Lei,

2021; Shanahan & Smith, 2021).

Since gig workers are mostly treated as self-employed, the platform owner has no responsibility for their working environment (Nilsen et al. 2022). This means that misclassification leads to unbalanced liabilities in contracts. Platforms can transfer risk to worker (Tassinari & Maccarrone, 2020; Duggan et al. 2020), as well as to the customer (Williams et al. 2021). Platforms primarily delegate equipment, maintenance, and safety duties to workers. Workers are liable for their insurances and risks related to their operations (Nilsen et al. 2022). In fact, if platforms gain unlimited power without being responsible for workers' well-being and career development over time, there is a chance that workers will be easy to replace (Petriglieri et al. 2019; Rahman & Valentine, 2021). With a propensity to deny workers' employment rights, platform organizations might neglect any ethical responsibility; for example, in regard to data security and usage, the transparency and accountability of algorithmic processes, and worker well-being (Duggan et al. 2020).

2.4.2.7 Use of Data in the Gig Economy

2.4.2.7.1   Data Access

Platforms own all data, while gig workers, such as riders, possess relatively little (Bates et al. 2021). Workers have several questions that the platform's data may potentially address, for example how fairly labor is allocated, and whether specific groups of workers receive preferential treatment. Without access to diverse datasets of every worker, it is impossible to assess how much workers are paid compared to living and national salaries (Bates et al.

2021). Platforms generate information asymmetries that limit worker choice, impair their capacity to make educated choices, and stifle their ability to express agency. For example, platforms conceal delivery addresses from workers when posting assignments, ensuring that assignments are taken even if they are economically unfeasible for these allegedly autonomous freelancers (Veen et al. 2020). To cope with the lack of data accessibility, workers operate secondary data tracking applications to bring some data transparency to their activities, being able to analyze the cost-benefits of their works, to enhance their autonomy (Bates et al. 2021). Additionally, workers need to collect their own data for defensive purposes, since they are treated as beta testers, as the newly installed platform's application functionalities are seldom communicated beforehand. Workers may face technical issues with platforms. Consequently, they collect evidence to support their claims in case they have losses (Bates et al. 2021).

2.4.2.7.2   Data Use

For both workers and customers, there is a lack of transparency about how platforms use data (Myhill et al. 2021). Algorithmic management automates some actions and procedures that workers traditionally do, using algorithms, based on platform's users' data. As a result, workers and customers contribute, without any compensation, to the platform's intangible capital (Duggan et al. 2020). For example, Uber drivers have limited control over the sorts of data collected on them by Uber, which gathers data even when they are not receiving fare income. Attoh et al. (2019) suggest that there is exploitation and unequal power relationships in the generation of smart data. Besides, delivery platforms can share

delivery workers' contact information with customers and restaurants, creating opportunities for restaurant workers and customers to engage in harassment, coercion, and threats if the deliveries are not as smooth as expected (Bates et al. 2021). These findings indicate that the unfair use of data may generate unfair work conditions.

2.4.2.8 Work Conditions in Gig Economy

Platforms recruit and engage workers by offering flexibility, freedom, choice, and cost-free joining, among other incentives (Williams et al. 2021). Chen et al. (2020) suggest the benefits of flexibility may obscure the drawbacks of losing vital employment protection rights. For example, in London, the majority of drivers that quit their permanent jobs to drive for Uber, are apparently drawn to the platform's level of flexibility (Berger et al. 2019). While the majority of platforms seem to allow workers' choice, platforms can shape the interaction in such a way that workers are penalized for declining assignments or not working during peak hours (Duggan et al. 2020). Platforms can transfer risks to workers (Tassinari & Maccarrone, 2020; Duggan et al. 2020), making them responsible for hazards, and stating in their terms and conditions that workers are in charge of expenditures (Williams et al. 2021). Although platforms may provide workers with more autonomy and freedom, they may also expose them to exploitation (Deng et al. 2016).

Algorithmic management empowers consumers over workers (Wood et al. 2019a; Chen et al. 2020); thus, the latter are forced to work lengthy (Wang et al. 2021;Schor et al. 2020), and unpredictable hours to meet client demand (Chen et al. 2020; Wood et al. 2019a; Cai et al. 2021). Otherwise, workers' account may be disabled (Chen et al. 2020). Consumers'

power is based on platform ranking and reputation systems, which enable a mode of control capable of overcoming the geographical and temporal constraints of traditional supervision (Wood et al. 2019a).

In the gig economy, rankings and reputation have become crucial assets; consequently, workers depending on these assets, not only suffer uncertainty of wage income levels, unsteady work (Chen et al. 2020; Wood et al. 2019a; Nilsen et al. 2022; Cameron et al. 2021) and job insecurity (Wood et al. 2019a), but also, they must behave pleasantly, or even to accept improper customer behavior (Chen et al. 2020). In addition, platform workers are unable to share the dangers related with platform employment, and joining collective organizations or interest groups to safeguard their rights and interests is challenging (Chen et al. 2020).

2.4.2.8.1 Career Development

The boundaryless career in the gig economy remains an oxymoron: while platforms seem to encourage boundaryless careers, they obstruct competence development, hence discouraging workers from pursuing boundaryless careers (Kost et al. 2020).

Since a platform "does not hire" workers, it does not engage their professional growth (Rahman & Valentine, 2021; Kost et al. 2020). Workers express a lack of prospects and struggle for professional advancement (Wong et al. 2021), especially in terms of promotions (Myhill et al. 2021). Couriers and drivers report having little access to formal training, but they express personal growth possibilities such as entrepreneurial activities, networking, and skill diversification (Myhill et al. 2021). Networking events may benefit

both parties: platforms may use them to advertise themselves and strengthen commitment among gig workers, while gig workers receive insight into skill-needs, which may enhance motivation and, allow them to pursue a career in the gig economy (Kost et al. 2020). Despite these possibilities, gig work is not connected with a more favorable future career (Myhill et al. 2021). Workers do not desire long-term courier jobs (Wang et al. 2021; Lei, 2021), as this work is considered a transitory employment (Wang et al. 2021).

2.4.2.8.2 Employment Opportunities

Gig work becomes an enticing choice for some workers (Anwar & Graham, 2020). For instance, Uber seems to be a significant source of jobs for populations who are often disadvantaged in the traditional labor market (Berger et al. 2019). For South African migrants that are underpaid, gig work compensations are higher than informal occupations, and identities are less significant (Anwar & Graham, 2020). Additionally, workers who lack professional skills, resources, and network, have the potential to earn a decent salary via hard effort under the cash-based and piece-rate pay systems (Wang et al. 2021). Platforms seem to represent a new source of revenue, not a replacement for previous supplementary revenues. Among the TaskRabbit suppliers, some are highly educated jobless or underemployed individuals, who would have earned less without the platforms (Schor, 2017). High job quality is possible with flexible work arrangements and work performed in unconventional settings, although the available data shows that this is more often the privilege of highly skilled jobs (Wheatley, 2021).

2.4.2.8.3 Health and Safety

The well-being of workers, usually associated with health and safety conditions, has been inevitably deteriorated by gig platforms (Duggan et al. 2020), at the point that there is no discernible difference from traditional industries (Cai et al. 2021). In fact, gig workers face an ever-shrinking range of options for securely doing their duties (Nilsen et al. 2022), in an atmosphere devoid of corporate support (Sutherland et al. 2020).

Platforms' lack of responsibility results in detrimental health conditions (Myhill et al. 2021; Wang et al. 2021), and increased occupational illness (Myhill et al. 2021; Cai et al. 2021; Chen et al. 2020), such as somatic symptoms including strain-related work-life conflict (Schlicher et al. 2021), or precarious conditions as lack of holiday and sick pay entitlements (Myhill et al. 2021), rushing from task-to-task (Bates et al. 2021), or skipping meals (Attoh et al. 2019). Indeed, some delivery workers report physical pain and health concerns due to long hours driving and exposure to severe weather conditions (Wang et al. 2021; Nilsen et al. 2022).

Platforms skirting labor and safety conditions also leads to labor risks (Chen et al. 2020). For instance, some gig workers must maneuver through congested, and hazardous metropolitan streets, sometimes in adverse weather or terrain (Newlands, 2021; Wang et al. 2021), or violating traffic regulations (Bates et al. 2021), aiming to ensure that their product does not spill or get cold. They also manage interpersonal encounters with customers, restaurants (Wang et al. 2021; Newlands, 2021), and other road users (Newlands, 2021), which may result in theft or accidents (Nilsen et al. 2022). Moreover, a lack of training, or

non-supply of personal protective equipment during Covid pandemic (Beckman et al. 2021; Cameron et al. 2021) demonstrates platforms' lack of interest in workers' safety.

2.4.2.8.4 Self-Motivation

Findings suggest that contrasting satisfaction experiences (Berger et al. 2019; Myhill et al. 2021; Norlander et al. 2021), and well-being in the gig economy are mainly related with flexibility (Schor et al. 2020; Berger et al. 2019; Myhill et al. 2021; Wang et al. 2021). For instance, workers who highlight flexibility as a reason for driving, demonstrate greater levels of worthiness and satisfaction (Norlander et al. 2021; Berger et al. 2019), than individuals who put a lower value on the platform's work-flexibility. For the latter, it seems to be no better off in terms of subjective well-being than other transportation sector drivers (Norlander et al. 2021). In addition, crowd workers with greater cumulative work hours report to be more satisfied and feel more financially secure than workers with less hours. It enables them to choose when to work and when to relax. In contrast, crowd workers who get few hours, may feel compelled to perform many jobs and overwork in order to enhance their earnings (Schlicher et al. 2021).

Gig workers report high levels of job intensity (Attoh et al. 2019; Wood et al. 2019b), while also reporting high degrees of autonomy and flexibility (Wood et al. 2019b). Polarization among gig workers exists, because platforms span from fully dependent workers, to those who utilize platforms to augment their full-time wages (Sutherland et al. 2020; Schor et al. 2020). The former feel less pleased, less satisfied (Myhill et al. 2021), less flexible, and less free to demand greater compensation than their non-dependent

colleagues (Schor et al. 2020).

In non-dependent works, self-branding and connection development become critical, and labor becomes more customized and autonomous (Sutherland et al. 2020). The growth of trust allowed workers and clients to move away from the internet platforms. However, due to labor process fragmentation and pay emphasis on productive activities, short-term unstable relationships were more prevalent than long-term ones (Wood et al. 2019b).

Nuanced experiences are also a result of different age groups among gig workers. Because most gig workers are young, they are less concerned than older workers about labor protection, and more attracted to keep the money in their wallets (Chen et al. 2020). As shown in this case, job satisfaction is influenced by dependence on the work. Thus, it is quite superficial to utilize job satisfaction as a proxy to measure the fairness of the work conditions.

The compiled findings related to work conditions show heterogeneity based on different factors, namely, the degree of dependence on platforms, as well as the experience linked to the organization of the platform itself, in accordance with (Ravenelle, 2019; Schor et al. 2020; Attoh et al. 2019).

2.4.2.9 Communication in Gig Economy

Communication is vital to enable interaction between workers, employers, and customers, particularly to improve the working environment. In traditional working conditions, laborers may complain to a supervisor and negotiate terms with both parties, but platform workers are usually excluded from this option (Shanahan & Smith, 2021).

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When supervision is entirely automated, labor' issues with technological control may be aggravated by human managers' absence (Lei, 2021). So, gig workers may feel frustrated, uncertain (Shanahan & Smith, 2021), and helpless (Bates et al. 2021), by the lack of solutions (Lei, 2021), and perceive the platform as a black box that makes unilateral judgments without providing explanations (Shanahan & Smith, 2021). Workers also demand for enhancing the communication channels with platform (Beckman et al. 2021), since client feedback is not always communicated to them (Nilsen et al. 2022). In other words, platforms' lack of transparency, and the unbalanced accountability generates poor and asymmetric communication between platform and gig workers.

The literature reviews polarized communication cases in gig economy. For instance, although some platforms allowed workers to report problematic clients or dispute payments, the process to appeal a low customer score was unclear (Rahman, 2021; Schlicher et al. 2021). Other platforms actively asked workers for input to aid the platform, who in turn perceived themselves as entrepreneurs due to a collaborative communication strategy (Raven Elle, 2019).

Displaying the standpoint of theory Y (Sager, 2008, 2015), Some platforms, such as Kitchensurfing, offer a supportive style of communication, proactively solicit workers' ideas and experiences, and result in workers actively seeking information to aid the platform, and perceiving themselves as entrepreneurs (Ravenelle, 2019). On the other hand, other platforms, such as TaskRabbit, demonstrated a lack of participative decision-making (Ravenelle, 2019), in accordance with theory X perspective (Russ, 2011). Workers reported

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a lack of notification regarding the platform's modifications to its payment structure, resulting in psychological contract violation and negative responses to the platform. As a consequence, workers perceived themselves as employees rather than entrepreneurs, and many of them indicated discontent with the platform, and displayed a desire to quit (Ravenelle, 2019)).

Some authors suggest that platform's architecture communication exacerbates complaints (Bates et al. 2021; Shanahan & Smith, 2021; Lei, 2021), hampers workers' identification, hinders platform's interests (Nilsen et al. 2022; Shanahan & Smith, 2021; Lei, 2021), fosters workers abuses (Kost et al. 2020) and leads to collective disagreement (Lei, 2021). Moreover, algorithmic management empowers consumers over workers (Wood et al. 2019a; Chen et al. 2020), resulting in communication imbalance. Thus, workers complain about not receiving a response from the customer after many hours. Workers hesitate to remove a job on their own, since it may have a negative effect on their ratings. Indeed, workers who did not meet the response criteria were penalized and temporarily deactivated (Ravenelle, 2019). Platforms also restrict interactions of gig workers with customers; thus, gig workers struggle to acquire direct feedback (Nilsen et al. 2022).

Some platforms communicate with workers mainly through emails and the app-chat features. However, workers usually create unofficial slack work ground, or informal communication channels on their communities (Nilsen et al. 2022), to socialize and exchange information about algorithms or to pool experiences and get a better

understanding of platforms as a collective (Jarrahi & Sutherland, 2019). Furthermore, there exist no designated rest areas, message boards, or areas for workers to gather and exchange information (Bates et al. 2021). For example, only a few of Uber drivers report had ever met another driver. Even fewer of these same drivers reported having anything like a meaningful encounter (Attoh et al. 2019). Thus, literature suggests that workers also demand for enhancing the communication channels with platform (Beckman et al. 2021). The communication and networking events benefit both parties: platforms advertise and strength commitment among gig workers, while the latter receive insight into know-how (skills) needed, and may enhance motivation to pursue a career in the gig economy (Kost et al. 2020).

2.4.2.10 Representation in the Gig Economy

Gig economy is currently beyond the scope of traditional collective bargaining and unionization (Tassinari & Maccarrone, 2020; Chen et al. 2020; Karanović et al. 2021). Additionally, platforms aim to create individualized work relationships, where labor is arranged as a non-collective process (Tassinari & Maccarrone, 2020; Attoh et al. 2019; Nilsen et al. 2022; Anwar & Graham, 2020; Chen et al. 2020; Beckman et al. 2021), using gamification mechanisms, to alienate gig workers and undercut any attempt at group action (Attoh et al. 2019). As independent contractors, gig workers are often not protected by collective bargaining and do not have the right to union representation and having difficulties to developing social relationships (Nilsen et al. 2022; Tassinari & Maccarrone, 2020; Anwar & Graham, 2020; Chen et al. 2020). Therefore, many workers' exchanges are

concealed from platforms (Anwar & Graham, 2020). In other words, lacking the right to unionize leads to the creation of informal communication channels. Wood et al. (2018) observed that workers employed social media groups to provide support and information to one another. According to the authors, communication among gig workers improves their safety and protection, through minimizing social isolation, sustaining professional norms, offering and receiving assistance and guidance, fostering a sense of community, and getting work opportunities and knowledge about the labor market (Wood et al. 2018). These groups, however, are dispersed by national origin, employment, and platform (Wood et al. 2018). Additionally, workers exhibit resilience, reworking and resistance. Resistance activities seemed to be predominantly the realm of platform successful workers (Anwar & Graham, 2020). However, gig workers are constantly competing with one another, which hinder the creation of an effective union to protect their own labor rights (Chen et al. 2020). According to Wood et al. (2018), in Southeast Asia and Sub-Saharan Africa, the majority of remote gig freelancers, who get jobs via a wide range of online platforms, are indifferent to unions. This indifference of the majority of workers towards unions arose from a mix of prior adverse impressions of unions, identification as 'freelancers' and 'entrepreneurs,' and a belief that the advantages of unionization would not exceed the risks of loss of jobs and increased taxes. The development of a type of unionism that can accept and build upon the "freelancer identity ," that these workers use, and that represents an instrumental value to individuals working in the global remote gig economy, is a significant challenge for unions seeking to organize this sector (Wood et al. 2018).

Gig workers may perceive their work relationships as exploitative and tend to organize opposition (Lei, 2021; Anwar & Graham, 2020). Certain contract terms might go against employees' morals. Workers may share moral judgements when confronted with extreme power disparities (Lei, 2021). Despite gig workers' profession's atomization and short-term character (Lei, 2021; Anwar & Graham, 2020; Duggan et al. 2020), and geographical dispersion of their job activities, that may limit developing a sense of shared identity (Lei, 2021; Anwar & Graham, 2020; Tassinari & Maccarrone, 2020; Duggan et al. 2020), perceiving similar difficulties may establish a feeling of community, leading to information sharing between workers (Wong et al. 2021; Tassinari & Maccarrone, 2020). This would certainly boost resilience, increase work engagement, contribute to modifying practices on platforms to better align with workers' values (Wong et al. 2021), and improve workers job skills (Kost et al. 2020). However more attentions need to be given to fostering a knowledge sharing culture (Wong et al. 2021).

Workers' resistance is shaped by power imbalances (Tassinari & Maccarrone, 2020), platform-level technology controls such as evaluations, reporting, and monitoring systems, as well as by workers' socioeconomic and cultural backgrounds (Anwar & Graham, 2020). The socioeconomic background of gig workers may shape their level of dependence on the job, as their main or secondary source of income, therefore, may result in divides within the interests, with relation to incentives to unite collectively for better working conditions (Tassinari & Maccarrone, 2020). In other words, the socioeconomic background of gig workers shapes their willingness to unionize, as workers who are dependent on the platform

and unable to easily exit their platforms are more likely to engage into voice activities (Lei, 2021;Wood et al. 2018, 2021). Furthermore, specific platform architectural distinctions can disperse or amplify collective conflict (Lei, 2021)**.**

Without an organizational partner fighting for their interests, gig workers may experience a loss of trust, leading in a diminished feeling of well-being (Duggan et al. 2020), which shows the relationship between the lack of representation and the poor conditions of work. Although the absence of support of local labor NGOs or government-organized unions, collective action arose primarily, when gig workers perceive a reduction in payment via algorithm changes, or through regulations, by using the platform's contractual right to do so (Tassinari & Maccarrone, 2020; Lei, 2021). This technological control generates poor working conditions, for example: a lack of sufficient work, partially due to the company's excessive workforce size, and a lack of coverage for health and safety risks that leads to workers' protest (Tassinari & Maccarrone, 2020). Additionally, some gig workers reported facing difficulties of getting data from some platforms about other workers, making it harder to develop community, and coordinate efforts to enhance safety (Beckman et al. 2021). To summarize, technological control impacts the pay as well as the work conditions, which in their turn may lead to the collective actions of gig workers.

2.4.2.11 Summary of the Findings

Answering our first research questions, we present the identification of the cause-effect relationships among the eight themes of fair work, through utilizing Ishikawa's fishbone diagram (Ishikawa, 1982) (table 6), which allows us to build a framework that addresses

the complexity of the job quality in the gig economy. The proposed framework helps to identify relevant research gaps in this field. Additionally, we identify some exogenous factors (table. 6) that potentially affects the job quality, as well as the gig workers' perceptions of their work (dependence on platforms' work, market conditions, regulation environment and societal and cultural discrimination). Myhill et al. (2021) highlighted that job quality in traditional employment is overrepresented in theoretical models and encouraged scholars to create and evaluate models of job quality in the gig economy.

Table 6. Identification of the Cause Effect Relationships Among the Eight Themes of Fair Work

		EFFECTS							
		Contract	Management	Governance	Data	Communication	Pay	Conditions	Representation
CAUSES	Contract		(Chen et al., 2020;Schor et al., 2020;Lei, 2021;Newlands, 2021)	(Tassinari & Maccarrone, 2020; Duggan et al., 2020; Myhill et al., 2021; Williams et al., 2021; Chen et al., 2020; Lei, 2021; Shanahan & Smith, 2021)	(Rahman, 2021;Lei, 2021)	(Rahman, 2021; Lei, 2021)	(Shanahan & Smith, 2021)	(Duggan et al., 2020; Moisander et al., 2018;Chen et al., 2020; Wood et al., 2019b;Tassinari & Maccarrone, 2020; Ravenelle, 2019; Nilsen et al., 2022; Lei, 2021; Karanović et al., 2021; Beckman et al., 2021; Rahman & Valentine, 2021; Petriglieri et al., 2019; Auer et al., 2021)	(Lei, 2021)
	Management			(Ravenelle, 2019; Schor et al., 2020; McDonnell et al., 2021; Wang et al., 2021; Schor et al., 2020)	(Duggan et al., 2020; Bates et al., 2021)	(Patulny et al., 2020; Chen et al., 2020; Ravenelle, 2019; Rahman, 2021; McDonnell et al., 2021; Schlicher et al., 2021)	(Duggan et al., 2020; Wood et al., 2019a; Chen et al., 2020; Nilsen et al., 2022; Rahman, 2021; Lei, 2021; Rahman & Valentine, 2021; Greenwood et al., 2022; Cameron et al., 2021; Wang et al., 2021)	(Duggan et al., 2020; Myhill et al., 2021; Moisander et al., 2018; Ahsan, 2020; Chen et al., 2020; Tassinari & Maccarrone, 2020; Ravenelle, 2019; Nilsen et al., 2022; Ravenelle, 2017; Schor et al., 2020; Veen et al., 2020; Rahman, 2021; Lei, 2021; Beckman et al., 2021; Wood et al., 2019a; Rahman & Valentine, 2021; Shanahan & Smith, 2021; Newlands, 2021; Jarrahi & Sutherland, 2019; Bates et al., 2021; Cameron et al., 2021; Wang et al., 2021; Auer et al., 2021; Deng et al., 2016; Kost et al., 2020; Cai et al., 2021)	(Chen et al., 2020; Anwar & Graham, 2020)
	Governance					(Rahman, 2021; Shanahan & Smith, 2021)	(Duggan et al., 2020; Lei, 2021)	(Duggan et al., 2020; Myhill et al., 2021; Williams et al., 2021; Ahsan, 2020; Chen et al., 2020; Tassinari & Maccarrone, 2020; Nilsen et al., 2022; Veen et al., 2020; Rahman, 2021; Newlands, 2021; Jarrahi & Sutherland, 2019; Bates et al., 2021; Wang et al., 2021; Schlicher et al., 2021; Auer et al., 2021; Attoh et al., 2019; Jarrahi & Sutherland, 2019; Cai et al., 2021)	(Tassinari & Maccarrone, 2020)
	Use of data						(Duggan et al., 2020; Newlands, 2021)	(Veen et al., 2020; Newlands, 2021; Bates et al., 2021)	(Beckman et al., 2021)
	Communication						(Lei, 2021)	(Duggan et al., 2020; Wood et al., 2018; Chen et al., 2020; Ravenelle, 2019; Veen et al., 2020; Lei, 2021; Shanahan & Smith, 2021; Jarrahi & Sutherland, 2019; Bates et al., 2021; Kost et al., 2020; Lei, 2021)	(Lei, 2021; Jarrahi & Sutherland, 2019)
	Pay		(Lei, 2021)			(Lei, 2021)			(Tassinari & Maccarrone, 2020; Lei, 2021)
	Conditions								(Chen et al., 2020; Tassinari & Maccarrone, 2020; Lei, 2021; Anwar & Graham, 2020; Attoh et al., 2019; Wong et al., 2021)
	Representation		(Wong et al., 2021;Tassinari & Maccarrone, 2020)			(Wood et al., 2018)	(Tassinari & Maccarrone, 2020)	(Duggan et al., 2020; Wong et al., 2021; Tassinari & Maccarrone, 2020; Auer et al., 2021)	

The Analysis of our 45 primary studies with respect to job quality determinants (section 2.4.2), allowed us to identify cause-effect relationships among job quality determinants. The results revealed interesting relationships among the job quality determinants, showing some bidirectional relationships, which indicates the complexity of job quality interplay (table. 6). Unilateral changes in the pay calculating formula may accentuate asymmetric communication, and may generate redesign of algorithmic management, while unfair algorithmic management negatively impacts pay, when giving evaluation power to the consumers. Another potential explanation is that platforms try to exert their power, through designing unfair contracts, algorithms, pay, governance, communication and providing low right of representation to gig workers, which leads to deteriorated work conditions. On the other hand, the gig workers try to answer that through resisting overtly by performing collective action, and covertly by communicating informally and opting for workarounds. We found evidence in the literature that workers' resistance, mainly their collective voice, contributes into shaping platforms' algorithmic management, enhancing communication, as well as pay and conditions. Therefore, gig workers' resistance contributes into shaping their job quality. However, we lack literature that explore job quality, while taking into consideration both platform power, as well as workers resistance in a concurrent manner.

Power and resistance are intricately, and often contradictorily intertwined. These ambivalences have been brought into sharper relief, more so than ever before, by the culture of the new capitalism. This renders it challenging, if not inconceivable, tackling power independently from power (Fleming & Spicer, 2008).

2.4.3 Root Cause Shaping the Job Quality in Gig Economy

To be able to respond to the second research question "*What are the cornerstone root causes generated by the gig labor platforms, that impact the quality of work in the gig economy*? ,*"* we utilize cause-and-effect diagram to assist in identifying, classifying, and displaying the reasons behind the poor-quality of work in gig economy. Ishikawa (1982), Ishikawa & Kaorulshikawa (1976) recommend seven fundamental quality control tools: among these tools we use the cause-and-effect diagram (fishbone diagram), to analyze the potential relationship between the findings that influences each other, as well as on the quality of the job in the gig economy. It visually depicts the links between job quality level and all the elements that cause it; therefore, it assists in identifying the potential cornerstone root causes of low-quality jobs in the gig economy (Figure 15). For example, technological control, which is part of management, generates issues related to work conditions (2 generates 7). Our aim is to understand, and not to generalize the findings, as we approve and stress the heterogeneity and complexity of studies' contexts. Therefore, we identify some exogenous variables that may play a deterministic role in enhancing the accuracy of researchers' approaches of empirically evaluating the quality of the job in the gig economy, minimizing the simplistic view of gig work. Additionally, our analysis identifies contract as cornerstone root cause for the poor quality of job, by observing some patterns in the fishbone diagram (figure 15). These may have implication to both academics as well as policy makers, by allowing them to set founded priorities in their respective efforts.

Based on the above analysis, we suggest that the most common causes of issues related

to the quality of the job in the gig economy are misclassification of gig workers and contracts.
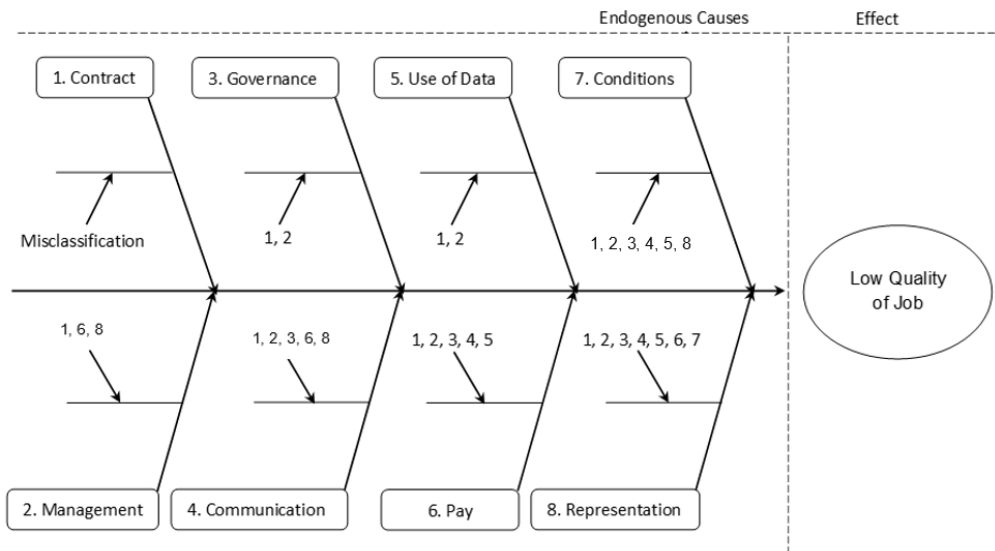
Figure 15. Ishikawa Diagram Reflecting the Causes and Effect Relationship Between the Factors of the Quality of Job in the Gig Economy (Constructed by the Authors)

2.4.4 Exogenous Factors to the Fair Work Framework

Referring back to the third research question, posed in this review "What are the main exogenous factors that influence the job quality on the gig economy?".

In order to answer this research question, we examined the main important exogenous factors that have been identified in our 45 primary studies (table 7).

Scholars have adopted two distinct approaches to interpreting platform work outcomes: precarity, and technological control. Both expect that workers will encounter a barely similar experience (Schor et al. 2020). While evaluating the quality of the job in the gig economy, the analysis must involve exogenous variables that influence the relationship

among job quality determinants. Subjective assessments and the utilization of work satisfaction as a proxy for job quality assessment may be controversial, due to the risk of providing an oversimplified view. Nevertheless, the subjective workers' lived experience is essential for comprehending how heterogeneity created by individual differences affects the connection between job quality determinants and outcomes, and therefore how they frame the overarching quality of work experience (Myhill et al. 2021). There is imminent need for a rethinking of platform analysis, which focuses on labor force variety, links to traditional labor markets, and workers' dependence on platforms (Schor et al. 2020). In this line, we identify through this SLR, four exogenous variables that potentially affects the perception for the eight themes dedicated to evaluating fair work in the gig economy proposed by (Heeks et al. 2021). Table 7 depicts the main exogenous factors encountered while performing this review, along with the articles that examined them. The following four subsections describe the identified exogenous factors that contribute into shaping the job quality in the gig economy, namely: dependence on platforms, labor market conditions, regulation environment, societal and cultural gender discrimination.

Table 7. Major Exogenous Factors Explored by Primary Studies

Articles	Exogenous Factors			
	Dependence on Platforms	Labor Market Conditions	Regulation Environment	Societal and Cultural Gender Discrimination
(Schor et al. 2020)	✓	✓	✓	
Myhill et al. (2021)	✓			
(Ahsan, 2020)	✓	✓		

	Exogenous Factors			
(Tassinari & Maccarrone, 2020)	✓		✓	
(Nilsen et al. 2022)		✓		
(Karanović et al. 2021)			✓	
Veen et al. (2020)			✓	
(Greenwood et al. 2022)				✓
(Cameron et al. 2021)				✓

2.4.4.1 Dependence on Platforms

There are substantial links between platform dependence, satisfaction and precarity. Independent workers have greater experience and control over when and how to work. In contrast, workers who depend on the platforms are more prone to accept gigs. Also, they show distinct degrees of discontent and precarity across platforms (Schor et al. 2020). Additionally, dependency on platform differs whether workers use it as their main source of revenue or as a supplement (Ahsan, 2020). As cited by Manyika et al. (2016), the McKinsey Global Institute reported different dependency workers classes: free agents, casual earners, and reluctant workers (Ahsan, 2020). Such segmentation may result in heterogeneous views among gig workers with regard to compensation models, contractual structures, attitudes toward 'flexibility,' and distinct incentives to unite collectively to

improve working conditions (Tassinari & Maccarrone, 2020).

2.4.4.2 Labor Market Conditions

Unlike algorithmic control theorists, Schor et al. (2020) argue that algorithmic control is influenced by workers' market conditions and that control levels vary between platforms. For instance, as the platform grows in popularity, the growing pool of potential workers may exceed market demand for the service, resulting in fewer assignments and lower earnings (Nilsen et al. 2022). This can be partially related to the dominance of low-wage employment in the traditional economy, which provide a continual supply of labor from those obliged to seek supplementary or full-time employment in the on-demand economy (Ahsan, 2020). Therefore, any changes in the market conditions may generate a change in the level of technological control and platform management, as they are part of the market. The bigger labor market's availability of alternatives will moderate this pressure, and platforms will be compelled to improve if employment is available elsewhere (Schor et al. 2020). If high diversity persists, platforms may be pushed to absorb expenses they are presently externalizing, if they continue to free-ride on traditional businesses who provide full-time jobs and benefits (Schor et al. 2020).

2.4.4.3 Regulation Environment

Depending on national regulations, workers are hired as independent or para-subordinate contractors, lowering labor expenses (Tassinari & Maccarrone, 2020). In some locations with a direct regulatory framework, gig workers cooperate with the platform, notably in the area of information provision, despite their opposition to some solutions. In

contrasts, workers in areas with indirect regulatory frameworks were more active in criticizing platform's organizational solutions, indicating insecurity about earnings, discontentment with ratings and remuneration, and worries about job allocation (Karanović et al. 2021). This shows that the level of regulation may have a significant effect on the gig workers' perception of flexibility and the willingness to protest, in order to enhance the work conditions in general. Additionally, Veen et al. (2020) results emphasize the interconnectedness of platforms' rationales for certain control configurations and the larger political-economic framework in which they operate, providing a critical perspective on platform activities that extends beyond food delivery services.

2.4.4.4 Societal and Cultural Gender Discrimination

There are some issues pertinent to women's experiences. Female workers often report being exposed to extra physical dangers, including sexual assault. Consequently, many altered their service offerings or exited the platform (Cameron et al. 2021). Additionally, it is important to accept that the platforms should explore algorithmic weightings based on gender, to fight discrimination for moral, strategic, and legal reasons (Greenwood et al. 2022). Thus, it is essential for the research community to evaluate the biases that these connections may be prone to, not as a result of micro-foundational interpersonal dynamics, but as a result of macro-level societal biases (Greenwood et al. 2022).

2.4.5 Job Quality in Gig Economy

Based on our findings, we suggest a research framework that supports academics and policymakers in prioritizing their analyses of job quality in the gig economy (Figure 16).

We found that the contract is one of the fundamental underlying reasons that produce the vast majority of problems affecting the quality of work in the gig economy. Most of the studied research indicate that the gig economy does not comply with fair work. Due to the variability of the analyzed research, it is complex to make a definite judgment. In addition, this evolving environment suggests the possibility of exogenous variables with a possible moderating or controlling influence on the job quality determinants. Our research identifies and describes some of these elements. Extensive further study is required in this area to understand the job quality phenomenon in the gig economy, considering exogenous and endogenous elements which may improve the accuracy of the research results.
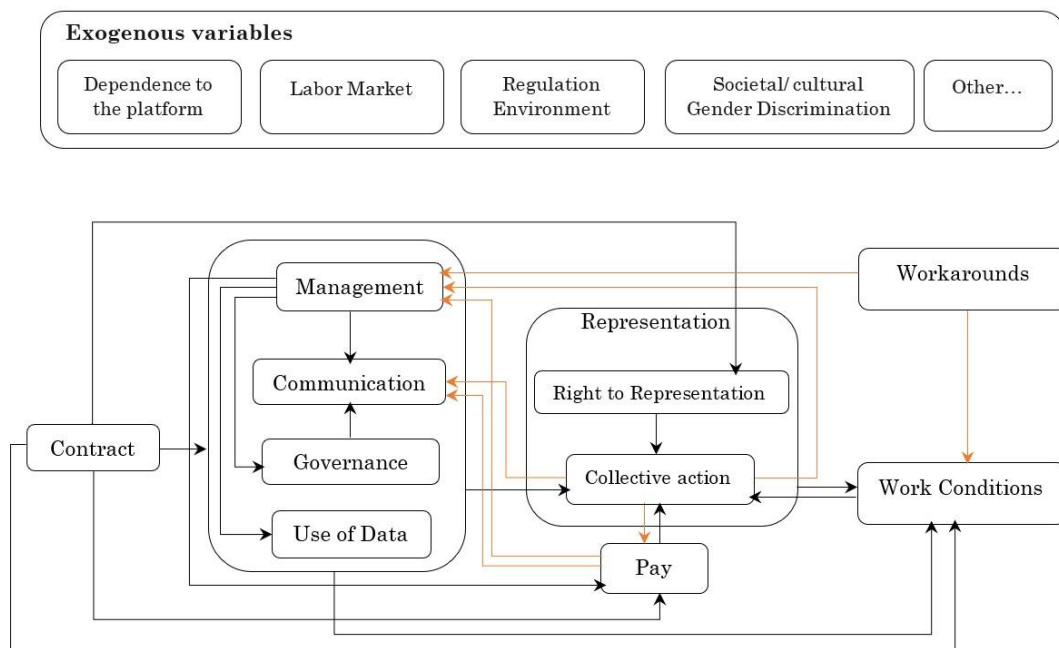
Figure 16. Proposed Conceptual Gig Economy Fair Work Framework Developed Based on our Findings in the Current SLR.

The aforementioned analysis in section 2.4.2 helped us to evaluate the quality of the work in the gig economy through the lens of the eight themes of fair work based on Heeks et al. (2021). According to our results, the preponderance of studies indicates that the gig economy barely complies with the principles of fair work. Due to the heterogeneity of the evaluated studies, in terms of contexts and methods, it is difficult to reach a definitive conclusion, which answers the fourth research questions of this review "What job quality does the gig economy generate?".

2.5 Discussion

Our analysis helped build a foundational cause-effect job quality model, using the fair work principles we consider as the determinants of job quality in this review. Moreover, we have identified the major exogenous factors that might contribute to shaping job quality in the gig economy. Additionally, this SLR showed that unfair contracts could be considered one of the primary root causes that give way to several issues or effects impacting the quality of work in the gig economy. The finding is based on identifying typical patterns that identify the unfair contract as a recurrent cause, which may generate unfair technological management, governance, use of data communication, and pay, leading to unfair conditions and informal representation. Our finding supports how how Kaine & Josserand (2019) perceive the contract. how Kaine & Josserand (2019) consider contracts as central to research on the conditions of gig workers. This finding may stress the need to explore further the concept of "fairness of the contract" as a priority in this field.

Moreover, by improving the fairness of contracts, governments can limit the power of

platforms and ensure that gig workers are treated fairly and equitably. Based on our findings, the fairness of the contract generates the fairness of management, pay, governance, communication, use of data, representation, and work conditions. The fairness of gig workers' contracts can be ensured by implementing regulations and policies that protect workers' rights and ensure they are treated fairly.

Additionally, the current SLR findings promote work conditions fairness as a proxy of gig work fairness, as it is the ultimate output of the proposed causal model, built based on the observed patterns. This finding can be considered by scholars in further job quality conceptualization.

A greater degree of governmental supervision is required, such as regulatory action, which may help level the playing field (Nilsen et al. 2022). A priority, as such, is to test out and develop models of job quality based on extended and detailed accounts of gig work (Myhill et al. 2021) while distinguishing the root causes from the symptoms.

The identified cause-effect relationships revealed exciting results that confirmed, on the one hand, the dominating role of platforms in shaping job quality in the gig economy through having control over the contract design, algorithmic management, communication, governance, use of data, pay, representation, and therefore, gig workers' work conditions as a result. On the other hand, gig workers' overt and covert resistance was identified respectively through collective voice actions, workarounds, or departure.

We also found evidence in the literature that workers' resistance, mainly their collective voice, contributes to shaping management, communication as well as pay and

conditions (Tassinari & Maccarrone, 2020), although the gig economy currently is beyond the scope of traditional collective bargaining and unionization (Tassinari & Maccarrone, 2020; Chen et al. 2020; Karanović et al. 2021). Additionally, some gig workers perform workarounds to attenuate the exerted platforms' controlling power through algorithmic management and enhance their pay and working conditions (Anwar & Graham, 2020; Newlands, 2021). Therefore, gig workers' resistance contributes to shaping their job quality. However, the literature lacks a deep understanding of what shapes gig workers' voices through exploring both platforms' power and workers' resistance in a concurrent manner.

The gig economy also raises essential data security and privacy problems that need more research. Concerns about data misuse and privacy invasion, as well as the scope of gig workers' data protection rights, are raised, especially under General Data Protection Regulation, i.e., the right to oppose workplace surveillance and profiling as well as the right to contest reputation scores and other forms of algorithmic management (Tan et al. 2021). Our review shows that there is a lack of studies covering the use of data in gig work. Further research can help develop better policies, practices, and technologies to ensure that gig workers can work safely and securely in this rapidly growing sector.

Unconventional working arrangements that platforms enable are becoming more diverse and complex, sophisticated, and large. As well as being highly diverse in terms of platforms' organization and their interests, sectoral impact, size, and scope, as well as the kind of users targeted, make it almost impossible to adopt a one-size-fits-all strategy to implement laws (Chen et al. 2020). Some government authorities, such as the Nigerian

Ministry of Communication Technology, do not see the need to move since they claim that work terms and conditions do not need regulation since they are a product of supply and demand in the market (Wood et al. 2019b). The identified exogenous variables remain non-exhaustive because, as described by McDonnell et al. (2021), there is a lack of clarity surrounding the precarious employment status of some gig workers across the globe. The heterogeneity and sophisticated nature of the gig economy encourage the dilution of liabilities, create unfair conditions and hamper the social welfare distribution.

Finally, we consider the well-being of the human as the primary motivation at the origin of this study; thus, we consider HRM the spine of the management section in our research. With a propensity to deny workers' rights, HRM may be sleepwalking towards abolishing ethical responsibility regarding data usage, the transparency and accountability of algorithmic processes, and worker well-being. The emergence of applications' work and the algorithm's widespread involvement necessitates a more critical examination of the implications for employment relations and how HRM, as a function and discipline, should adapt and evolve Duggan et al. (2020). Enhancing platform regulation makes it possible to transfer decent employment conditions into the informal sector. As seen by various worldwide platforms gradually improving working conditions, there is a considerable possibility for integrating decent work conditions through digital platforms (McDonnell et al. 2021).

2.6 Conclusion

2.6.1 Summary

The conducted SLR allowed us to determine whether cause-effect relationships among the eight fair work principals (Heeks et al. 2021) are constant across studies with diversified contexts, a wide range of settings, and varied empirical methods (Davis et al. 2014). The primary studies gave consistent results, which provide evidence that the examined relationships are robust and transferable (Keele, 2007). This approach helped us to build a high-level conceptual model of job quality in the gig economy, ready to be challenged and empirically tested within stable contexts.

Using the eight themes to conceptualize job quality, we analyze the relationship between the different issues extracted. Based on the results, we build a research framework that helps researchers and policymakers to prioritize their work when analyzing job quality in the gig economy. We find that unfair contract is one of the cornerstones root causes that generate most issues that affect the job quality in the gig economy. Most examined studies show that the gig economy barely complies with fair work according to the tool we use. However, it is not easy to provide a conclusive statement due to the heterogeneity of the examined studies. Besides, this complex and emerging environment suggests the existence of exogenous variables that influence on the determinants of job quality. Some factors, including dependence on platforms, market conditions, regulation environment, and societal and cultural discrimination.

In addition to the findings, as mentioned earlier, literature revealed that gig workers'

resistance contributes to shaping their job quality. However, we lack literature examining platforms' power and workers' resistance concurrently, knowing that power and resistance are intricately and often contradictorily intertwined, which renders it difficult, if not inconceivable, to tackle them separately (Fleming & Spicer, 2008)

2.6.2 Contribution

The study provides a theoretical contribution to this emerging field by proposing a new model that addresses the complexity and heterogeneity of fair work in the gig economy. By asking academics to create and test models of job quality in the gig economy, this SLR fills the gap pointed up by scholars like Myhill et al. (2021) and Joyce (2020), who highlighted the shortcomings of theories on job quality that result from their emphasis on conventional employment.

2.6.3 Limitations

The SLR was based on Scopus and Web of Science databases; we selected these databases for their interdisciplinary fields, which are also related to our gig economy research as comprehensive research. However, we know other relevant databases are available, which could also contribute to a deep understanding of fair work in the gig economy. This study analyzes articles written in English; however, other publications written in other languages may help complete this study's results. In addition, to reduce subjectivity in the selection of papers, we employ a systematic, transparent, and reproducible methodology to increase the rigor and objectivity of this work. Additionally, although we propose a holistic approach to analyze fair work in the gig economy, the

heterogeneity of the studied empirical articles used in building the proposed model might be considered a limitation in this study due to the variety of results that can be found in different contexts, while testing the model as a whole. Therefore, further research can adopt and adapt this model according to different contexts to strengthen or extend our theoretical contributions. Further research needs to be expanded in this field to better understand and control the job quality phenomena in the gig economy, considering exogenous and endogenous impactful factors that shape the job quality in the gig economy.

Chapter 3.   Platforms' Power Versus Gig Workers' Resisting Strategies: The Unheard Voice of Gig Workers

3.1 Introduction

Suggestions for improving work conditions revolve around the need to strengthen workers' representation and voice. Indeed, voice would be the first step towards enhancing job quality and avoiding market failure (Collins, 2001; Davidov & Langille, 2006). However, the scope of the right to collective bargaining was traditionally restricted to employees. Nonetheless, many workers are not employees (McCrystal, 2014). This position has become untenable as new types of workers (e.g., gig workers), which do not easily fit the classical qualification of an employee, have entered the labor market in great numbers (Pecinovsky, 2022).These new types of workers are often regarded as self-employed, even when economically dependent on certain employers or companies (Pecinovsky, 2022).

The research examines the collective voice of gig workers from two perspectives; on the one hand, it implies that collective resistance is improbable owing to the atomized character of the activity (e.g., Collier et al. 2017; Webster, 2016). The gig economy is also beyond traditional collective bargaining and unionization (Tassinari & Maccarrone, 2020; Chen et al. 2020; Karanović et al. 2021). On the other hand, scholars captured the emergence of worker activity and solidarity in the platform economy (e.g., Tassinari &

Maccarrone (2020), Cini & Goldmann (2021), Aslam & Woodcock (2020), Cant (2019); Lei (2021), Cant & Woodcock (2020)). This context raises a preliminary need to understand what shapes the subordinated gig workers' resistance to raising or withdrawing their voices.

Non-standard workers are often regarded as self-employed individuals, even when economically dependent on certain employers (Pecinovsky, 2022). A range of literature demonstrates that large sections of the self-employed workforce are not entrepreneurs and are not running their small businesses (Fudge et al. 2003; Fudge et al. 2002). Platforms have attempted to conceal their work's precarious and predatory nature (Rosenblat & Stark, 2016). They recruit and engage workers by offering flexibility, freedom, and free joining, among other attractors (Williams et al. 2021), whereas the benefits of flexibility offered by the platforms may obscure the drawbacks of losing vital worker protection rights (Chen et al. 2020). Indeed, platforms recast the idea of autonomy by absorbing workers' aspirations for autonomy and linking the satisfaction of this requirement to the deterioration of worker's compensation and conditions (Gandini, 2019), hence disabling condemnation by eliminating its foundation (Daudigeos et al. 2021). The fact that couriers are self-employed individuals aids the assimilation of this ideology and is a critical component of the platform's ideological influence, encouraging risk individualization (Duggan et al. 2020). For instance, research investigating Uber has shown that this individual responsibility concept has been internalized as a method of gaining dominance in a vulnerable economic environment (Peticca-Harris et al. 2020).

Scholars demonstrate that the control exerted by the platforms on the labor through

providing unfair contracts, unfair algorithmic management and control, unfair pay, unfair conditions, or lack of representation lead to shared grievances among workers, creating a desire for representation and collective action against platforms (e.g., Joyce et al. 2020; Lei, 2021; Tassinari & Maccarrone, 2020; Wood & Lehdonvirta, 2019). In addition, Tassinari & Maccarrone (2020) mention the observed disparity between the flexibility promoted by platforms and the truth of the work process as a significant source of injustice. Indeed, this divergence between the promise and the reality may lead to violating the gig worker's psychological contract, therefore, their dissatisfaction. The growth of ambitions and their level of contentment and discontent is a pertinent way to examine the harmful elements of contemporary forms of work (Daudigeos et al. 2021; Shanahan & Smith, 2021; Picard & Islam, 2020). In addition, scholars recommend a broader examination of the impact of platforms on labor control and management (Lei, 2021).

The platform's power strategies affect the quality of jobs and work conditions. Nudging and gamification components are handy tools in this arsenal of platforms' power strategies. Indeed, gamification might subconsciously persuade drivers to tolerate poor wages and work lengthy hours, which are less profitable for them (Scheiber, 2022 ; Pastuh & Geppert, 2020). For instance, Uber conducted a remarkable backstage behavioral series of experiments to control drivers in the interest of its business development. According to Scheiber (2022), Uber uses psychological bribes and other methods to control when, where, and how long workers drive.

According to academic research on gamification's moral questions (Kim & Werbach,

2016), critics point out that rewarding worthless or fictitious satisfaction (Schmidt, 2016), may have manipulative objectives (Pastuh & Geppert, 2020).

3.1.1 Algerian Context

We analyzed the Algerian context based on more than one year of observation, discussions with ride-hailing drivers (from April 2022 until May 2023), and an investigation of the Algerian labor law.

We noted a scarcity of empirical publications examining the Algerian labor market in general and, more precisely, the ride-hailing sector.

Recently, the Algerian government created a ministry in charge of promoting the knowledge economy and startups[2], providing startups with funding for more significant expansion[3], and believing in their significant contribution to the social and economic development of the country. The ride-hailing platforms are among the most impactful startups in the Algerian context, involving various national and international actors. The first incubator for startups activating in the transport sector, "Naql Tech ," was inaugurated in December 2020 as an initiative of the Algerian Ministry of Transportation[4].

Although tolerated by the Algerian authorities since it started in 2017, ride-hailing platforms do not have a license to carry out transportation activity in Algeria. They have a trade register only, allowing them to perform a networking activity, which is authorized in the context of e-commerce regulation. Somehow, this situation suits the ride-hailing

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[2] https://www.lefigaro.fr/international/l-algerie-une-start-up-nation-aux-aspirations-mondiales-20220825#:~:text=La%20cr%C3%A9ation%20du%20minist%C3%A8re%20des,up%20labellis%C3%A9es%2C%20mais%20aussi%20les

[3] https://startup.dz/

[4] https://maghrebemergent.net/algerie-inauguration-du-1er-incubateur-de-start-up-activant-dans-le-secteur-des-transports/

platforms as long as they are exempted from many charges concerning drivers' rights. On the other hand, the activity is forbidden for the drivers since they do not have any legal status. This paradoxical situation reflects a divergence in the Algerian transport national policy.

Algerian Labor Law: Potential for Extension and Limitations[5]

Although the Algerian context is well regulated, displaying a sophisticated labor law, the purpose of the Algerian labor code is to govern labor relationships exclusively between salaried workers and employers, discarding other categories of non-traditional workers. Whereas this code is founded initially on protecting all Algerian citizens, as is mainly built on the following pillars:

Art. 54: All citizens have the right to protect their health. The State ensures the prevention and the fight against endemic diseases.

Art. 55: All citizens have the right to work. The right to protection, safety, and hygiene at work is guaranteed by law. The right to leave is also guaranteed, and the law determines the terms of exercise.

Art. 56: The right to organize is recognized for all citizens.

Art. 57: The right to strike is recognized. It is exercised within the framework of the law, which may prohibit or limit its exercise in the areas of national defense and security or for any public service or activity of vital interest to the community.

Art. 58: The family benefits from the protection of the State and society.

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[5] chrome-extension://oemmndcbldboiebfnladdacbdfmadadm/https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_191113.pdf

Art. 59: The living conditions of citizens who cannot yet, can no longer, or will never be able to work are guaranteed.

According to the labor law (Article 5), Algerian employees enjoy the following fundamental rights: Unionizing, collective bargaining, participation in the employer organization, social security and retirement, health, safety, and leave, participation in the prevention and settlement of labor disputes, and recourse to strike action.

Additionally, within the framework of the employment relationship (article 6), workers also have the right: to effective occupation, to respect for their physical and moral integrity and their dignity, to protection against any discrimination in occupying a position other than that, based on their aptitude and merit, to professional training and promotion in the workplace, to the regular payment of the remuneration due to them, to social work, to all advantages arising specifically from the employment contract.

In a nutshell, the foundational philosophy of the Algerian code of labor aspires to protect all citizens; regardless of the type of work relationship they are involved in, or whether they work, they all have the right to unionize. However, today's texts mainly apply to employees, which are defined as follows: " Article 2: Salaried workers: all persons who provide manual or intellectual work for remuneration within the framework of the organization and on behalf of another natural or legal, public or private person called employer".

Algerian policymakers have spent efforts extending labor regulation to recognize diversified categories of workers, namely freelancers. For instance, freelancers activating

in web professions have a specific "activity code," which makes it possible to exempt its holder from renting premises. These "activity codes" are part of the encouragement of so-called "Tech professions" and the digitization of the economy. The list of activities authorized to be carried out without premises is limited to IT services[6]. Nevertheless, ride-hailing drivers are not covered by any law, thus, are not recognized by the Algerian authorities as workers or freelancers. As a result, platforms manage them as an invisible workforce (Prassl, 2018).They enforce information asymmetries and transaction costs and take advantage of their need to meet the basics of life, which may result in drivers' limited ability to establish or negotiate terms and conditions for improved returns. This imbalance persists into the duration of the working relationship due to employers' stronger position under the contract law and property (Collins, 1986).

The tentative to create informal unions by ride-hailing drivers is observed through the creation of many groups on social networks. Still not sufficient to make the policymakers hear ride-hailers' voices.

Today, Algerian ride-hailing drivers do not know why the state does not recognize the mission authorization provided by platforms and does not ensure them the right to exert their work. The Algerian police and the gendarmery launched several campaigns to crack down on ride-hailing drivers. The campaigns were mainly triggered following a complaint from the union section of traditional taxi drivers in Algiers[7].

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[6] https://legal-doctrine.com/edition/le-statut-de-freelancer-en-algerie/

[7] https://fr.sputniknews.com/20210413/algerie-la-police-fait-la-chasse-aux-vtc-1045471504.html

The Algerian government supports platform business growth for two main reasons. The government's primary objective is to promote innovation and technological advancement in general. The government also views gig work as a significant source of labor demand in the urban service economy, which is of particular concern in consideration of declining economic growth rates. The gig economy is seen as helpful to societal stability and healthy social interactions since it helps to absorb excess labor supply. Understandably, the government is cautious about designating gig workers as employees since doing so would raise labor expenses and impede the expansion of platform businesses. However, recognizing their existence and listening to this marginalized category of workers to improve their conditions remain essential to regulating labor markets. It serves several purposes, including correcting labor market failures by addressing unequal power distribution (McCrystal, 2014).

The number of gig workers is growing very fast, and the gig economy is expanding drastically worldwide; therefore, understanding what shapes the voice of this invisible worker category becomes a must in Algeria. There is a lack of academic efforts investigating the gig economy and gig workers' voices in Algeria. The informal economies of developing nations are under-studied (Cieslik et al. 2022). Therefore, we believe it is opportune to investigate the Algerian context to increase awareness and understanding of job quality in the gig economy among policymakers and society.

3.1.2 Research Problem and Gap

Gig workers' voice is almost the most critical and accessible form of gig workers' power,

where they can intervene to contribute to enhancing the quality of their jobs. The voice theory is underdeveloped (Wilkinson et al. 2018; Kaufman, 2014), particularly the theorization of voice offered to nonstandard workers (Oyetunde et al. 2022). Workers' voices have been underrepresented mainly in research on new forms of organizing (Curchod et al. 2020; Karanović et al. 2021).

As Syed (2014) and Wilkinson et al. (2021) point out, the theoretical paradigm of diversity in voice research is lacking since existing voice literature presupposes worker homogeneity without considering the distinctive characteristics of nontraditional employees. For example, while numerous reviews and studies exist on the operationalization, dimensions, factors, inhibitors, and outcomes of traditional workers' voices (Morrison, 2011; Mowbray et al. 2015), there is a lack of such efforts for nontraditional workers' voices.

Workers' voices will be indispensable as a corrective against possibly damaging modern social, economic, and technological advances or as a facilitator of sustainable psychological, social, and economic development (Wilkinson et al. 2021).

Wilkinson et al. (2018) advocate for more theory-building of the elements that determine workers' voices and encourage researchers to continue exploring unheard voices. Additionally, Wilkinson & Barry (2016) stated that prominent fields, including organizational behavior, see employee voice as a voluntary, individual action and seek to comprehend the precursors of the decision to elevate or restrain voice. Nevertheless, organizational behavior does not explore how companies generate cultures or mindsets that

support workers' voices or silence, that function as supply-side restraints (Wilkinson et al. 2018).

In the gig economy context, an understanding of the role of platforms' ideological power in shaping the gig workers' choice to either raise or withhold their voices is missing. The extent to which gig workers' anger and its components stimulate covert and overt gig workers' resistance strategies has not been deeply investigated in the literature.

According to Scott (1985), the exploited groups usually opt more for covert resisting strategies to face power. In platforms' economy, existing research has focused on instances when workers' collective action has taken place (Wood et al. 2021). This situation may be controversial since that, by discussing cases of the successful realization of collective action, prior research (e.g., Tassinari & Maccarrone, 2020, Maffie, 2020) disregarded the much more frequent absence of collective voice under identical conditions.

Power and dependence define the relationship between platforms and labor, according to Karanović et al. (2021). However, platforms are often in a stronger position since they specify the norms workers must adhere to produce revenue (Casciaro & Piskorski, 2005). Previous studies did not investigate how the platforms' power shapes the resistance of gig workers.

Nevertheless, the gig economy voice research is still in its infancy (Joyce et al. 2020), and the voice theory is underdeveloped (Wilkinson et al. 2018; Kaufman, 2014). Researchers did not develop and test robust conceptual models that explain the mechanisms shaping the gig workers' resistance strategies. Oyetunde et al. (2022) claim that the scarcity

of theorization of voice supplied to nonstandard employees has diminished the profound and comprehensive grasp of workers' voice phenomenon.

The worldwide gig economy presently produces $204 billion in gross volume, with 58% of this value from transportation-based services (Mastercard & Kaiser, 2019). However, the lack of security and safety mechanisms for accommodation-sharing and ride-sharing businesses has posed several doubts about this economy's potential growth (Kim et al. 2018).

Our work comes in response to (1) Kaufman (2014) recognition of the shortage of voice theory development, (2) Wilkinson et al. (2018) request for further theorization of the elements that influence workers' voice in the context of workplace diversity, (3) calls in the employment relations literature to theorize and empirically research the challenges of digital work platforms for employee voice and participation (Wilkinson et al. 2018; Wilkinson, Barry, et al. 2020), (4) a need for further investigation on the socio-demographic factors, such as education, work experience, financial level, and social standing, affect the voice patterns of nontraditional employees (Oyetunde et al. 2022). Scholars called for further investigations into the lived realities of gig workers concerning their voice behavior in all its variety (e.g., Wilkinson et al. (2020)). The current situation of nontraditional workers having access to individual and collective voices may be better understood with the help of studies from low and middle-income countries and other rising nations.

3.1.3 Research Objective & Research Questions

We aim to clarify the power-resistance relationships that link platforms to drivers with

platforms through (1) understanding how the platform power stimulates or attenuates workers' anger, (2) exploring the extent to which drivers' anger, shaped by platforms' power, stimulates covert or overt drivers' resistance strategies. (3) Understanding the role of the platforms' power in shaping the drivers' choice to raise or withhold their voice.

In other words, we capture the platforms' explicit and implicit power effect exerted on the drivers by evaluating their perception of the degree of fairness of their work. Afterward, we link the results with the workers' resistance by investigating what makes the gig workers opt for voice or voiceless resisting strategies.

Based on that, this research raises the following research questions:

➜ RQ1. What shapes the platforms' drivers' anger?

➜ RQ2. What is the role of platforms' power in shaping the drivers' resistance strategies?

➜ RQ3: What hinders angry platforms' drivers from raising their voices collectively?

3.1.4 Methodology Overview

We use structural equation modeling and survey data from 339 respondents working as platforms' ride-hailing drivers in the Algerian ride-hailing sector to answer our research questions. The analysis results show that platforms' ideological power decreases violation of drivers' psychological contract, enhancing the drivers' perception of their work conditions fairness. Results also show that platform ideological power hinders drivers' participation in collective action and weakens the relationship between communication among drivers and participation in collective action.

Our results confirm the role of both platforms' ideological and manipulation power to

implicitly hinder angry drivers from raising their voices collectively. Indeed, Statistics confirmed the presence of observable anger stronger than the forces hindering the collective voice. On the other hand, there is an insignificant connection between the fairness of working conditions and involvement in collective protests. We explain that by the effect of platforms' manipulation and ideological power into redirecting the anger away from platforms by rendering platforms innocent.

On the other hand, findings report that platforms' decision and non-decision-making powers, as well as platforms' manipulation power, raise the frequency of violation of drivers' psychological contract violations and increase the unfairness of their work conditions, which leads to increased anger.

Surprisingly, the finding revealed the non-existence of a significant relationship between the drivers' work conditions fairness and their participation in collective action.

Existing research is descriptive mainly, centered on interviewing gig workers implicated in isolated events of protesting or phases of confrontation, which renders it impossible to generalize concerning the causes of the numerous forms of workers' resistance. Adequate survey data may expand our understanding of labor's coping mechanisms, concerning the platforms' power, by including further varieties of drivers and enabling better assessment of the causes that motivate their different levels of resistance.

3.1.5 Contribution

This research examines ride-hailing drivers' voices by investigating how the gig economy platforms' power shapes covert and overt drivers' resistance strategies. A recent

study indicates that platform economy labor relationships may be evaluated via the perspective of power theory (Shanahan & Smith, 2021). Although power theory helps investigate platforms' control, management, and manipulation of workers, it does not provide a thorough framework for understanding workers' reactions, particularly how they perceive the platforms' power and react to grievances, either loudly or silently. There is a complex and even conflicting relationship between power and resistance. Moreover, the new capitalist culture has further heightened these ambivalences. Managers today are regularly exhorted to act like free-thinking rebels by flouting convention, challenging conventional wisdom, and emulating their successes. Conversely, self- and group management among workers is on the rise. As a result, disentangling opposition from power is a herculean task (Fleming & Spicer, 2008).

This work adds to the body of knowledge by combining Lukes (2004) power theory with the resistance theoretical concept of of Scott (1985). We use Hirschman (1970) exit, voice, and loyalty model as the overarching framework of the gig workers' voice phenomena, where we extend the model by adding workarounds (Alter, 2014) as one of the main adopted resisting strategies by the gig workers. Additionally, we contribute to the theory by adding communication among drivers as a mediator for the relationships between drivers' anger and their covert and overt resistance, which prior works have not examined.

In addition to that, we extend the psychological contract (PC) theory, presented by Rousseau et al. (2018), by proving that (1) platform decision-making power, characterized by unfair contract and unfair pay, as well as (2) platform nondecision making power, which

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is characterized by asymmetrical communication and the opacity of platforms' algorithmic management, raise the dynamicity of psychological contract lifecycle, through increasing the probability of more frequency in psychological contract violations, while the ideological power decreases it.

This research uncovers mechanisms by which platforms present the unfair exchange between gig workers and platforms as fair. Indeed, platforms exchange workers' security and fair conditions for their autonomy and freedom, driving workers' resistance strategies towards unheard voices most of the time. Our research impacts platform labor and traditional employment interactions, which are getting more precarious and digitally mediated as more algorithm management elements are introduced (Petriglieri et al. 2019; Andonova, 2019).

Here is how the rest of the chapter is laid out: Section 3.2 presents a comprehensive literature review and identifies the research gap by examining related studies on anger, gig workers' covert and overt resisting strategies, and gig workers' communication. Section 3.3 elaborates on the theoretical development of the research model. Section 3.4 explains the methodology and the empirical data. Section 3.5 presents the analysis of the results. Section 3.6 explains the study's results. Section 3.7 provides implications, and finally, Section 3.8 draws concluding remarks.

3.2 Research Gap in Related Work on Platforms and Gig Workers Relationship

In this section, we first provide an overview of platforms and gig workers' relationship

(subsection 3.2.1); after that, we summarize related works on gig workers' anger and resisting strategies (subsection 3.2.2).

Additionally, we identify the gaps in this selected literature (subsection 3.2.3). Table 8 summarizes the most relevant studies on the perceived fairness of work that shapes the gig workers' anger, as well as the resistance strategies adopted by gig workers. The examined factors and adopted approaches are presented in Table 8.

3.2.1 Overview on Platforms and Gig Workers Relationship

Generally, platforms and workers display reciprocal reliance, although platforms are more powerful (Reischauer & Mair, 2018). The workers rely on the platforms to access their clients, information, and revenue (Karanović et al. 2021). Rosenblat & Stark (2016) suggest that platform algorithms are designed to generate knowledge disparities between platforms and labor, boosting platforms' relative dominance. While platforms are often more powerful since they dictate the rules that workers must obey to earn a living, industry regulations may alter these power structures and reciprocal dependency (Casciaro & Piskorski, 2005).

Moisander et al. (2018) explored the processes of biopower and tactics of managerial control by which modern organizations regulate precarious labor. It provides a criticism of the techniques via which neoliberalism is now reconfiguring work relations. The authors did not concentrate on resistance in their analysis, which is a shortcoming of their research. Nevertheless, the authors contend that transformational resistance to neoliberalism and its implementation in work relations necessitates collective political opposition whose

objective is restructuring power dynamics in the world economy (Brown, 2015; Ganesh et al. 2005; McNay, 2009).

As workforce monitoring and management in the platform economy keep changing, old questions about the relationship between workers' control and resistance keep coming up (Lei, 2021).

Hyman (1987) comments on the changing ways of labor control by stating that the emerging pattern has its emerging paradox. The new regulations placed on labor are likely to generate unanticipated and disruptive kinds of rebellion. Given the unclear link between labor control and resistance, Hyman (1987:52) states that it is crucial to determine if labor can shift from reactive tactics to a cohesive strategy.

3.2.2 Related Work on Gig Workers' Anger and Resisting Strategies

Observing platforms' power can be realizable by perceiving its effect on gig workers in terms of their anger. Anger might arise for various reasons, including low pay and changes in payment methods, uncertainty about revenue and labor hours, a shortage of sick pay, opaque performance monitoring, shift assignments, and elimination (Wood et al. 2021). This interpretation rationalizes why scholars extensively explored the gig workers' perception of their job quality determinants fairness (contract fairness, pay fairness, algorithmic management fairness, and work conditions fairness).

In subsections 3.2.2.1, 3.2.2.2, and 3.2.2.3, we provide an overview of the principal prior works related to:

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- Gig workers' anger through the perception of their work fairness,

- Related work on gig workers' covert and overt resisting strategies, and

- Gig workers' communication.

Additionally, we identify the gaps in this literature. Table 8 presents a summary of the most relevant studies on the perceived fairness of work that shapes gig workers' anger as well as gig workers' resisting strategies. Examined factors and adopted approaches are presented in Table 8.

3.2.2.1 Related Work on Gig Workers' Perception of their Work Fairness

Existing qualitative research on platform labor protest (e.g., Tassinari & Maccarrone (2020), Cini & Goldmann (2021), Cant & Woodcock (2020), Lei (2021), and Wood & Lehdonvirta (2021)) provides insights into why gig workers start raising their voices, as the scholars underline how demonstrations against platforms organically arose as a consequence of inherent antagonism in the work process. This antagonism revealed itself as anger over unfair work, namely: poor salary and payment method disruptions, unpredictability about income and working hours, the lack of sick pay, health and safety, opacity in performance monitoring, shift assignment, and deactivation (Wood et al. 2021).

Columns 2, 3, 4, 5, and 6 of Table 8 describe the various factors reflecting the gig workers' perception of the fairness of contract, pay algorithmic management, and work conditions, as well as their perception of the violation of their psychological contract. This perception reflects the degree of workers' anger.

A comprehensive study was proposed by Shanahan & Smith (2021), where they

qualitatively studied the platforms' power and their role in shaping the gig workers' perception of their work fairness. The authors illustrate how effectively the platform power complements the psychological power model proposed by Rousseau et al. (2018).

Despite observing psychological contract breaches through the first and second types of platform power (platform decision-making power and non-decision-making power), certain workers remained convinced that the deal's terms were fair and had trust that the platform would maintain enforcing them ahead. This unexpected assessment was justified by the influence of the third aspect of power, the platforms' ideological power, which alters workers' evaluations of their interests (Shanahan & Smith, 2021).

Lei (2021) argues widespread discontent exists in China's food delivery industry because of how platforms structure labor scheduling and compensation. Additionally, the constant technological surveillance and supervision of the platforms contribute to an atmosphere of resentment in the workplace. Moreover, technological monitoring, management, and regulatory and organizational components strengthen one another, exacerbating discontent, strengthening the desirability of group contention, and creating venues for organizing solidarity and joint action (Lei, 2021).

According to Wood & Lehdonvirta (2021), when workers struggle to exit the platforms quickly, opposition emerges as anger at platform charges, insufficient earnings, and the lack of voice outlets, and may give birth to joint action and backing for unions. In addition, Wood et al. (2021) aggregated nine relevant items that seize workers' perceptions of customer payment, platform charges, and platform working experiences to evaluate the

anger factor based on how unsatisfied workers feel about doing the job with the platform.

According to a quantitative analysis by Joyce et al. (2020), wage is the most common reason for worker anger worldwide; however, this varies significantly across regions. Regional differences in platform labor protest seem more pronounced than differences across sectors. Goods et al. (2019) contend that multidimensional labor control cannot be reduced to algorithmic management. Likewise, Moore & Joyce (2020) indicate that managerialism should be seen as a collection of neither fixed nor uniform ideational institutional structures.

In summary, scholars demonstrate that the control exerted by the platforms on the labor through providing unfair contracts, unfair algorithmic management and control, unfair pay, and unfair conditions lead to shared grievances among workers, stimulates anger, and therefore, creates a desire for representation and collective action against platforms (e.g., Joyce et al. 2020; Lei, 2021; Tassinari & Maccarrone, 2020; Wood & Lehdonvirta, 2019). Nevertheless, academics advise that the multifaceted nature of labor management and control research must be more considered (Lei, 2021).

3.2.2.2 Related Work on Gig Workers' Covert and Overt Resisting Strategies

Through qualitative investigation of collective mobilization incidents, previous research has primarily focused on the social complexity and its relationship with platforms of labor rebellion (Wood et al. 2021).

The investigation of the coping mechanisms of gig workers has successfully shed light

on various factors associated with the propensity to rebel. For instance, literature demonstrated that the anger resulting from the intrinsic antagonisms of gig workers and their dependence on platforms might lead to cohesive solidarity amongst workers. Nevertheless, academics have not aggregated this evidence to comprehend why gig worker resistance takes covert or overt shapes. Columns 9 to 13 of Table 8 depict the various factors that characterize the covert and overt resistance strategies of gig workers and the previous research that studied them.

The existing studies have focused on gig workers' overt resisting strategies in cases where workers' collective mobilization has occurred (e.g., Tassinari & Maccarrone, 2020 ; Cini & Goldmann, 2021; Cant & Woodcock, 2020; Lei, 2021;   Wood & Lehdonvirta, 2021; Maffie, 2020;   Wood et al, 2021), where the authors highlighted gig workers' protests against platforms. The troublesome since prior studies have sought to interpret occurrences of the successful realization of group action while disregarding the far more frequent lack of collective protest in comparable circumstances (Wood et al. 2021). Moreover, other forms of gig workers' resisting strategies, namely the covert ones, were neglected (e.g., workarounds, loyalty, and intention to exit).

According to Scott (1985), the exploited groups usually opt more for covert resisting strategies to face power. Lukes (2004) illustrated this power into three main facets: (1) the power of decision-making, (2) the power of non-decision-making, and (3) the ideological power. Nevertheless, few scholars qualitatively studied the silent coping strategies, mainly as a reaction to the algorithmic control, and did not explore deeply why gig workers avoid

noise and opt for gaming the system through performing workarounds or by adopting other covert resisting strategies. Moreover, there is a lack of understanding of the determinants and the principal moderators that make gig workers' minds in terms of resistance choice.

The effect of algorithmic management on workers and work processes in the ridesharing industry was investigated by Lee et al. (2015). Lee et al. (2015) described (1) drivers' answers when the algorithm assigned them tasks, (2) gave informative assistance, and (3) rated drivers' performance. The authors explained the utilization of online forums by the drivers to make sense of the algorithm characteristics.

According to Jarrahi & Sutherland (2019), users are not passive recipients of algorithmic control. They explain how workers make sense of the various automated functions available on the Upwork platform, thereby developing algorithmic comprehension. In addition, they emphasize how workers can use their expertise in algorithms to circumvent or exploit the platform to retain certain levels of independence.

Anwar & Graham (2020) evidenced the "hidden transcripts" or acts and behaviors of workers that avoid confronting employers among African gig workers, both on and off the platform. It reveals the limits of the interconnected nature of their resilience, reworking, and resistance, as well as how the socio-technical structural features of platforms impact labor agency in the gig economy. In their study, Anwar & Graham (2020) outlined how remote workers use their structural power to compensate for their weak associational power.

Moreover, few studies (e.g., Wood et al. (2021)) have focused on cases of individual resistance, which often target customers. Möhlmann & Zalmanson (2017) showed that ride-

hailing drivers terminate trips to avoid unfavorable customer evaluations.

Platforms utilize decision-making, nondecision-making, and ideological power to promote recognizing gig work as fair. As ascertained by Shanahan & Smith (2021): by unilaterally modifying the rules of exchange, having an asymmetrical communication and an opaque technological algorithmic design, and relying on the strength of neoliberalism as ideology.

Nevertheless, the influence of the platforms' power (viewed through the lens of radical power) on workers' anger and resistance methods in the gig economy (local and remote), in its entirety, has not been quantified.

Karanović et al. (2021) concentrated on comprehending how and why workers react to new forms of organizing in the platform economy throughout various legal contexts, which necessitates an approach involving the workers who are captured in this interaction among platforms and regulations. Nevertheless, prior research did not investigate how platforms' power shapes the gig workers resisting strategies and did not explore what makes the drivers react differently within the same regulatory environment.

3.2.2.3 Related Work on Gig Workers' Communication

Many workers' exchanges are hidden from platforms (Anwar & Graham, 2020), where they employ social media groups to provide support and information to one another (Maffie, 2020; Wood et al. 2018). These exchanges between workers tend to be necessary in order to deeply understand the algorithm functioning, either to facilitate and optimize the workers' journey or even to work around the algorithm or to organize practical voice actions (e.g.,

Tassinari & Maccarrone (2020) and Cini & Goldmann (2021).

Considerable research assessed communication as a critical facilitator for organizing practical voice actions in the local gig economy (e.g., Cant & Woodcock, 2020; Aslam & Woodcock, 2020; Cant, 2019; Tassinari & Maccarrone, 2020;　Cini & Goldmann, 2021). Wood et al. (2021) explored the significance of communication, anger, and dependence quantitatively as facilitators of protesting in the remote gig economy, where anger reflected discontent with unjust pay, management, and working conditions. In the local gig economy, few scholars have quantitatively evaluated the significance of communication (e.g., Maffie (2020); Newlands et al. (2018)). Nevertheless, the mediating role of the communication between gig workers' anger and their coping strategies was not statistically evaluated. Column 8 of Table 8 represents the publications that have previously investigated communication among gig workers through different conceptual roles.

Table 8. Comparison of Most Related Research on Gig Workers' Perceptions of their Work Fairness and their Resisting

Strategies Including the Current Research

Study Reference	Gig Workers' **Perception of Work Fairness**				Psychological Contract Violation	Platform Manipulation Power	Communication	Gig Workers' **Resisting Strategies**					Platform Ideological Power	Dependance to Platform	Concurrently analyzing platforms' power and gig workers' resisting strategies.	Approach	Type of gig economy
								Voice		Voiceless							
	Contract Fairness	Pay Fairness	Algorithmic Management Fairness	Work Conditions Fairness				Participation in Collective Action	Direct Appeal	Intention to Exit	Loyalty	Workarounds					
Shanahan & Smith, (2021)	✓	✓	✓	-	✓	-	-	✓	✓	✓	✓	✓	✓	-	-	Qualitative	Local
(Maffie, 2020)	-	-	✓	✓	-	-	✓	✓	-	✓	-	-	-	-	-	Mixed method	Local
Wood et al., (2021)	-	✓	✓	✓	-	-	✓	✓	-	-	-	-	-	✓	-	Quantitative	Remote
Joyce et al., (2020a)	✓	✓	✓	✓	-	-	-	✓	-	-	-	-	-	✓	-	Quantitative	Mixed
Aslam & Woodcock, (2020)	-	✓	✓	-	-	-	✓	✓	-	-	-	-	-	-	-	Qualitative	Local
Wood & Lehdonvirta, (2021)	✓	✓	✓	-	-	-	✓	✓	-	✓	-	-	-	✓	-	Qualitative	Remote
Cant & Woodcock (2020)	✓	-	✓	✓	-	-	✓	✓	✓	-	-	-	-	-	-	Qualitative	Local
Cini & Goldmann (2021)	-	✓	✓	✓	-	-	✓	✓	✓	-	-	-	-	-	-	Qualitative	Local
Tassinari and Maccarrone (2020)	✓	✓	✓	✓	-	-	✓	✓	✓	-	-	-	-	-	-	Qualitative	Local
Jarrahi & Sutherland, (2019b)	-	-	✓	-	-	-	✓	-	-	-	-	✓	-	-	-	Qualitative	Remote
Lee et al., (2015)	-	✓	✓	-	-	-	✓	-	-	-	-	✓	-	-	-	Qualitative	Local
Anwar & Graham, (2020)	-	-	✓	✓	-	-	✓	-	✓	-	-	✓	-	-	-	Qualitative	Remote
Newlands et al. (2018)	-	-	✓	✓	-	-	✓	-	✓	-	-	-	-	-	-	Quantitative	Mixed
Lei (2021)	✓	✓	✓	✓	-	-	✓	✓	-	-	-	-	-	✓	-	Qualitative	Local
Chen (2018)	-	✓	✓	✓	-	-	-	✓	-	-	-	-	-	-	-	Quantitative	Local
Current paper	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Quantitative	**Local**
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

3.2.3 Research Gap

Antagonism among gig workers is exhibited as rage at unfair work characteristics imposed by the platforms, including poor pay, changes in mode of payment, unpredictability over income and working hours, the lack of sick pay, health and safety, opacity in performance monitoring, and deactivation process (Wood et al. 2021). Indeed, the perceived degree of unfairness that might lead gig workers to anger is tightly linked to the platforms' exerted power over gig workers in all aspects. Additionally, psychological contract violation is an essential factor that boosts workers' anger (Argyris, 1960; Robinson & Rousseau, 1994; Rousseau, 1989). If one party to a relationship breaks a psychological contract, it can lead to mistrust, discontent, and even the end of the partnership (Argyris, 1960; Rousseau, 1989). Broken promises produce anger and erode trust in the relationship (Robinson & Rousseau, 1994).

Moreover, the frequent violation of gig workers' psychological contracts might create a residual or increasing feeling of anger. Among the related studies, only a study by Shanahan & Smith (2021) investigated the causes of psychological contract violation qualitatively. Nevertheless, none of the examined studies explored the psychological contract violation as a determinant of anger quantitatively (column 6 of Table 8).

Although many scholars explored the fairness of job quality determinants (e.g., Tassinari & Maccarrone, 2020; Cini & Goldmann, 2021; Cant & Woodcock, 2020; Lei, 2021, Wood & Lehdonvirta, 2021; Chen, 2018; Joyce et al. 2020; Shanahan & Smith, 2021), and some of them defined and quantitatively measured the gig worker anger as a

variable (Wood et al. 2021), none of them attempted to quantitatively explore the platforms' power role into shaping the gig workers' anger. For instance, the platform's ideological power and manipulation power exerted on the gig workers, contributing to shaping their anger, were neglected (columns 7 and 14 Table 8). Aiming to address this gap, we pose our first research: Q1. *What shapes the platforms' drivers' anger?*

Power and dependence define the relationship between platforms and labor, according to Karanović et al. (2021). However, platforms are often more powerful since they specify the norms workers must adhere to produce revenue (Casciaro & Piskorski, 2005). The power exerted by the platforms on the labor, through imposing unfair contracts, unfair algorithmic management and control, unfair pay, and therefore generating psychological contract violations and unfair conditions for the workers, lead to shared grievances among workers and stimulates anger, therefore, creates a desire for resistance (e.g., Joyce et al. 2020; Lei, 2021; Tassinari & Maccarrone, 2020; Wood & Lehdonvirta, 2019). Nevertheless, previous studies did not investigate how the platforms' power through their different aspects shapes the resistance strategies of gig workers (column 16, Table 8). Prior studies did not clarify the antecedents that led to raising or withdrawing gig workers' voices.

Additionally, the literature overlooked the role of platforms' ideological power in shaping gig workers' communication and resistance. Accordingly, we pose our second research question: Q2. *What is the role of platforms' power in shaping the driver's resistance strategies?*

Existing research has focused on situations when workers' collective action has taken

place (e.g., Tassinari & Maccarrone, 2020, Maffie, 2020), which is controversial since that by discussing cases of the successful realization of collective action, prior research, disregarded the much more frequent absence of collective protest under identical conditions (Wood et al. 2021). In line with this observation, Wilkinson et al. (2018) encourage researchers to continue pursuing voices that stay silent. By answering the third research question, Q3: *What hinders angry platforms' drivers from raising their voices collectively?* We aim to clarify the factors that make angry drivers remain silent, therefore, do not positively contribute to enhancing the quality of their jobs.

In a nutshell, the three gaps mentioned above contribute to shaping one significant gap: the lack of comprehensive conceptual models that concurrently address the interactions between platforms' power and gig workers' resistance (column 16 of Table 8). This gap represents the main focus of the current study. Indeed, one of the primary reasons behind the weak conceptualization of voice is the lack of comprehensive conceptual and empirical studies that analyze how workers perceive the platforms' power exerted on them and how they react to it, either loudly or silently.

A deep and integrated understanding of workers' voices has been downscaled by the lack of theorization of voice offered to non-standard workers Oyetunde et al. (2022). The gig economy voice research is still in its infancy (Joyce et al. 2020), and the voice theory is underdeveloped (Wilkinson et al. 2018; Kaufman, 2014). Furthermore, scholars ask for further research on the aspects influencing workers' voices and urge them to keep seeking unheard voices (Wilkinson et al. 2018).

Scholars also argue that research on platforms' influence in managing and controlling labor should take a more holistic approach (Lei, 2021). According to Lukes (2004), focusing on the unseen facets of power is crucial because that precisely is when power is most effective. The platforms' hidden power, such as ideological power and manipulation power, might significantly affect the gig workers' perception of the fairness of their work conditions and their adopted resisting strategies. Ideological power is highly beneficial for comprehending platform workers' preservation of ostensibly broken interactions (Shanahan & Smith, 2021). It is judgment-destroying because it causes people to make erroneous decisions against their interests (Lukes, 2004). Whereas manipulation is a form of platform power applied through gamification, using manipulative techniques of persuasion that circumvent the target's logical reasoning ability. While the workers' central point of contention is no longer their employer; somewhat, conflicts diffuse among workers and their physical constraints (Burawoy, 1982).

3.3 Theoretical Development of Research Model

In this section, we will explain how we developed our research model. In section 3.3.1, we present and extend the overarching used theory: exit, voice, and loyalty (Hirschman, 1970), as well as the two major theories that help us to explain the platforms' power and drivers' resistance mechanisms in the gig economy, which are power theory (Lukes, 2004) and resistance theory (Scott, 1985). In section 3.3.2, we move to the factors that stem from the overarching model and power and resistance theories. Moreover, finally, in section 3.3.3, we build the relationships among the factors by deriving our hypotheses based on prior

literature indications and reasoning.

3.3.1 Main Utilized Theories and Concepts

3.3.1.1 Overarching Model: Exit, Voice, and Workaround

Employee Voice Before Hirschman (1970): Reading the academic literature on employee voice, one would get the impression that Albert Hirschman initially developed the topic in his 1970 book, Exit, Voice, and Loyalty (EVL). His book has been widely acknowledged as a seminal work in the discipline. While he was the first person to establish a formal theory of "voice," his focus was restricted to individual consumer roles in the marketplace. Freeman & Medoff (1984) also deserve recognition as pioneers in applying Hirschman's theory to employees in the labor market.

The earliest authors to utilize the voice term were from the field of economics, but their contributions have been largely overlooked. The publication of Adam Smith (1776) Wealth of Nations marked the beginning of the discipline. Smith argues that businesses may be deaf to employee concerns because it is in their most significant interest to do so or because they are not incentivized to take such concerns seriously.

Karl Marx is another prominent economist who makes use of voice terminology. Marx, similar to Smith, in his first volume of Capital (1906 (1867): 257-9), says that workers' voices are often disregarded. However, Marx argues that companies intentionally discourage employees' voices because they are too busy dealing with them or because they perceive the worker's voice as an intrusive nuisance. Marks also sharpens the contrast between employer and employee interests, turning it into a battle, and positions this conflict

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as a class war that cannot be resolved within the framework of capitalism. In conclusion, Marks argues that employees may utilize their voices to protect their human capital against exploitation and abuse by employers and other parties.

John Sturat Mill (1874, p 244), another well-known economist from the nineteenth century, pointed out that the disparate treatment of women stems in part from a regime of law and regulation, such as those that limit women's access to the workforce, or provide unequal wages for their work. He argues that rule-makers at both the managerial and legislative levels should be open to hearing from employees of all backgrounds and identities.

Drawing on the above seminal works, we retain the following three brilliant insights that inspire our way of conceptualizing the voice:

First (Businesses' Power): Businesses may be indifferent to employee concerns because it is in their most significant interest to do so or because there is no incentive for them to take such concerns seriously. Additionally, the contrast between employer and employee interests turns it into a battle and a class war that cannot be resolved within the framework of capitalism.

Second (Businesses' Power): Companies intentionally discourage employees' voices because they are too busy dealing with them or because they perceive the worker's voice as an intrusive nuisance.

Third (Employees' Resistance): Employees may utilize their voices to protect their human capital against exploitation and abuse by employers and other parties.

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Fourth (Minorities' Voices): Rule-makers at both the managerial and legislative levels should be open to hearing from employees of all backgrounds and identities.

Employee Voice After Hirschman (1970): Voice is an important notion that has been used as the basis for analysis in multiple investigations of employment relations (e.g., Budd et al. 2010; Bryson et al. 2006; Khan et al. 2020; Kochan et al. 2019; Lavelle et al. 2010; Mowbray et al. 2015; Wilkinson & Fay, 2011; G. Wood et al. 2009; Dundon et al. 2004, 2005). Although Hirschman (1970) is often recognized for introducing voice terminology within academic analyses, he did not rely on it to interpret employee behavior inside organizations but focused on consumers within competitive marketplaces. The connection between employees and their employers differs significantly from between customers and companies in competitive marketplaces (Dundon & Rafferty, 2018). Most crucially, the former calls for an even more profound examination of the power aspect than the latter does. Organizations' power influences employees' behavior (Wilkinson, Donaghey, et al. 2020), as organizations are generally authoritarian entities in which collective rules can be enacted through coercive methods such as disciplinary procedures (Whitley, 2003).

Furthermore, within the extensive literature on employment (Ackers et al. 2004; Ackers, 2014; Dobbins & Dundon, 2017; Johnstone et al. 2010), power and the assumptions made about the (in) ability of employers and workers to form a non-conflictual relationship are of crucial importance. In contrast, it is often assumed that organizations will work to accommodate shifting consumer tastes (Crouch, 2011).

As a continuation of Hirschman's (1970) pioneering works Exit, Voice, and Loyalty, the

majority of voice investigation from organizational behavior, employment relations, and human resource perspectives have focused on traditional employment relationships while ignoring non-traditional ones (Oyetunde et al. 2022).

Hirschman (1970) standardized the methods for dealing with a deteriorating organization. His concept can be applied to employment situations, even though he primarily considered businesses that sell products to clients and organizations that provide services to their members (such as political parties and volunteer societies).

Scholars indicated that low job satisfaction and breach of the psychological contract could be proved harmful for both individuals and the organization (Markey et al. 2012; Aravopoulou et al. 2017; Leck & Saunders, 1992; Maguire, 2003; Mellahi et al. 2010; Naus et al. 2007; Robinson, 1992; Rusbult & Lowery, 1985; Seo et al. 2011; Withey, 1986). Additionally, numerous qualitative and quantitative studies have used the extended version of Hirschman's original model to incorporate 'neglect'; (Exit voice, loyalty, and neglect (EVLN) typology) to investigate employees' reactions to workplace dissatisfaction and problems (e.g., O'Donohue et al. 2015; Akhtar et al. 2016; Farrell, 1983; Farrell & Rusbult, 1992; Hagedoorn et al. 1999; Hsiung & Yang, 2012; Turnley & Feldman, 1999; Naus et al. 2007; Rusbult et al. 1988; Si & Li, 2012; Si et al. 2008; Withey & Cooper, 1989). Essentially, people who are dissatisfied with their job can respond with EVLN (Alves, 2020).

The EVLN typology has found extensive use in several settings, including (1) individual relationships, (2) governmental and social settings, and (3) organizational

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settings, where it has been used to examine employee attitudes and opinions. Regarding the latter, many research have analyzed workers' EVLN answers using a variety of predictor factors, including job satisfaction (e.g., Farrell & Rusbult, 1992; Hagedoorn et al. 1999; Leck & Saunders, 1992; Rusbult et al. 1988; Withey & Cooper, 1989).

Although researchers first found common ground in the EVL theory (Hirschman, 1970), they have since drifted apart in their competing goals to broaden or confine the voice construct. Consequently, literature is abundant on employee voice but no unified theory to clarify how it works. It may be achieved by using a theory on employee voice that is relevant across disciplines and practice, which can be determined through a multidisciplinary examination of employee voice (Mowbray et al. 2015).

In light of the above workers' voice literature review, extending from 1700 to nowadays, we believe in the importance of integrating power and resistance theories into Hirschman's (1970) framework to better explain the phenomenon of voice in traditional employment, as well as gig work, since that in both cases, businesses usually dominate the labor force. Indeed, Wilkinson, Donaghey, et al. (2020), in their comprehensive work: "The Handbook of Research on Employees' Voice," see that power influences employees' behavior. Therefore, power needs to be considered while conceptualizing voice in the labor market in general. Additionally, according to our SLR, platforms' power dominance in work relationships is becoming evident in the gig work body of research. Despite this, it is impossible to explain power relations without the concept of resistance (Barbalet, 1985).

Our reasoning goes in line with Wilkinson, Donaghey, et al. (2020), who emphasized

the significance of power not just to the voice part of the Hirschman structure but also to the rest of resistance strategies.

Gig Workers' Voice: Existing qualitative research on platform labor protest (e.g., Tassinari & Maccarrone (2020), Cini & Goldmann (2021), Cant & Woodcock (2020), Lei (2021), and Wood & Lehdonvirta (2021)) provide insight into why gig workers start raising voices, as the scholars underline how demonstrations against platforms, organically arose as a consequence of inherent antagonism in the work process. This antagonism revealed itself as anger over unfair work, namely: poor salary and payment method disruptions, unpredictability about income and working hours, the lack of sick pay, health and safety, opaque performance monitoring, shift assignment, and deactivation (Wood et al. 2021).

The existing studies have focused on gig workers' overt resisting strategies where workers' collective mobilization has occurred (e.g., Tassinari & Maccarrone, 2020 ; Cini & Goldmann, 2021; Cant & Woodcock, 2020; Lei, 2021;   Wood & Lehdonvirta, 2021; Maffie, 2020; Wood et al, 2021). The authors highlighted gig workers' protests against platforms, which can be problematic since prior studies disregarded the more frequent lack of collective protest in comparable circumstances (Wood et al. 2021). Moreover, other forms of gig workers' resisting strategies, namely the covert ones, were neglected (e.g., workarounds, loyalty, and intention to exit).

Gig workers' Voice Overarching Model: The particular contribution of the employment relations (ER) authors is the central role they attribute to the power equilibrium among employers and employees as a factor in climates of voice and silence (Barry & Wilkinson,

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2016; Donaghey et al. 2011; Kaufman, 2014, 2015; Wilkinson, Donaghey, et al. 2020).

Our perspective in conceptualizing gig workers' voice goes in line with ER scholars in terms of the way they criticize the organizational behavior (OB) authors because they propose a one-sided explanation for silence as a result of insufficient employee motivation, which is opposed to being a result of a conscious or unconscious effort by management to silence employee voice. OB scholars delegitimize voice as a resistance mechanism (Barry & Wilkinson, 2016; Kaufman, 2015) by legitimizing voice solely as it is intended to improve the organization's efficiency, which is far from reflecting the working relationship in the platform economy.

Additionally, OB theorists focus more on employee voice and less on their silence.

The collective voice of labor involves the construction of a feeling of unfairness amid grievances (Lei, 2021). Work conditions must be seen as unethical or illegitimate, distinct from just unsatisfactory (Beck & Brook, 2020; Kelly, 1998). The unfairness of contract, pay, and management reflects the platforms' decision-making power and the non-decision-making power exerted on the gig workers (Shanahan & Smith, 2021). The workers' perception of the exerted platforms' power and the unfairness resulting from it reflects the degree of their anger. Moreover, workers' antagonism revealed itself as anger over unfair work conditions: unpredictability about working hours, the lack of sick pay, health and safety, shift assignment, and deactivation (Wood et al. 2021).

Additionally, the emergence of psychological needs-based theories during the 1950s saw a marked trend toward an increasingly subjective conceptualization of job quality, with

job satisfaction as a proxy for good work (Martel & Dupuis, 2006). Findlay et al. (2013) highlighted the deficient conceptualization and utilization of objective or subjective job quality determinants. Therefore, the challenge of reconciling subjective and objective indicators of job quality might shape the anger or satisfaction of gig workers.

Workers' subjective values are more influential than their objective and concrete needs in the relation between job quality and attitudes (Glisson & Durick, 1988). From this approach, subjective values are seen as more heterogeneous among individuals than needs, and correlations between job characteristics and worker attitudes and perceptions are consequently viewed as less stable than in needs-satisfaction models (Glisson & Durick, 1988). Therefore, workers' expectations could be related to heterogeneous workers' values and actual needs emanating from their dependence on the work.

Consequently, we consider PCV a vital factor, shaped individually and contributing to workers' anger, in line with (Argyris, 1960; Robinson & Rousseau, 1994; Rousseau, 1989). Anger and an erosion of confidence in the relationship result from violated promises (Robinson & Rousseau, 1994) and violated PCs (Argyris, 1960; Rousseau, 1989). Therefore, we propose the concept of anger to be the primary predictor in the overarching research model, comprising: (1) platforms' decision-making power; (2) platforms' non-decision-making power, and (3) PCV (Figure 17).

To better understand when and why gig workers react to issues differently, we expand Hirschman's model by identifying additional possible mediators and moderators between various predictor factors and outcomes, answering Aravopoulou et al. (2017) call.

Consequently, we may better understand the circumstances that allow for the reduction, enhancement, or omission of such reactions. In our work, we adapt EVL, the original model of Hirschman (1970); however, we propose a different conceptualization by using gig workers' anger as a predictor and adding a new outcome, the "workarounds".

We predict the gig workers' workarounds as one of the expected behavioral outcomes based on the gig work prior literature review (Jarrahi & Sutherland, 2019c; Shanahan & Smith, 2021). Additionally, we consider communication among gig workers to mediate the relationship between their anger and their covert or overt resisting strategies. In fact, communication and exchange between gig workers play the role of mediator, bridging the way from sensing unfairness, dissatisfaction, and antagonism to resistance through different coping strategies (Oyetunde et al. 2022; Maffie, 2020). As moderators, we propose platforms' ideological power, while dependence on platforms is the main control factor to be tested, in addition to work experience. The workers' dependence on platforms covers the workers' perception of the availability of other job opportunities and their financial dependence on platforms, whether working with platforms constitutes their primary income source. Figure 17 depicts the overarching research model used in the current research. Further details about the added concepts will be revealed in the rest of this section.
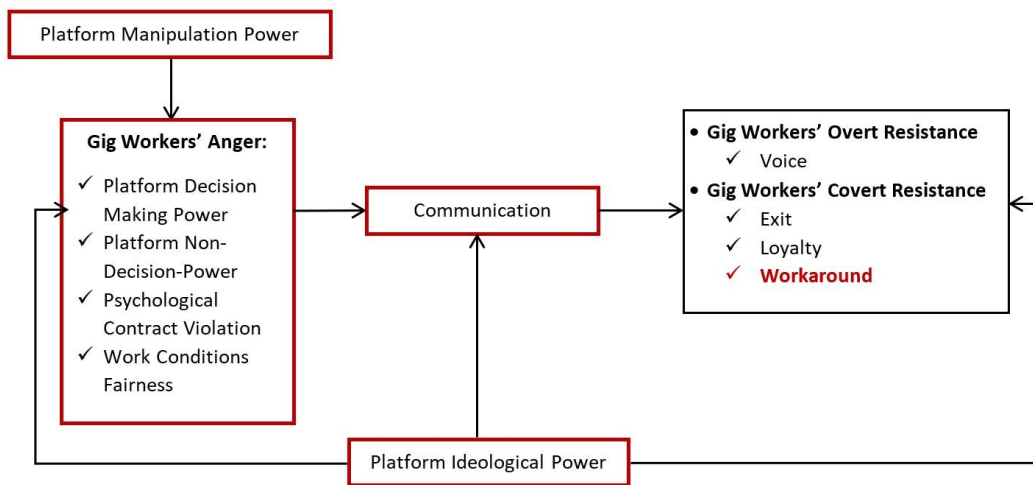
Figure 17. Overarching Research Model Exit, Voice, Loyalty, and Workarounds (adapted from (Hirschman, 1970)) with the Addition of (1) Gig Workers' Anger as a Predecessor, (2) Communication as a Mediator, (3) Platform Manipulation Power, Platform Ideological Power, (4) Workarounds as an Outcome.

Exit: For the "Exit" concept, we adapt the conceptual expansion of the term "Exit" proposed by Rusbult et al. (1988), which implies that the term includes not just those who formally leave their positions but also those who are considering leaving and actively seeking new activity. We extend the definition by extending the term "Exit" to become "Intention to Exit". It will cover workers who intend to exit and believe in the feasibility and their ability to exit platforms' work. Considering that workers may not always be able to leave their jobs, this broader definition of "Exit" considers individuals' underlying motivations for wanting to leave. Leaving the scene is a method of protest in silence while also evading the issue at hand (Ruiner et al. 2020).

When workers use their "Voice," as opposed to "Exit," they are actively working to

improve an unsatisfactory work environment rather than leaving it (Aravopoulou et al. 2017).

Neglect Vs. Workarounds: According to scholars, "Neglect" involves those responses which passively do not allow conditions to improve, such as increased absenteeism, lateness and errors at work, reduced work effort, and interest, and reduced productivity (Farrell, 1983; Hagedoorn et al. 1999; Rusbult et al. 1988). This concept better fits the traditional employee status, where employees have a guaranteed minimal wage and conditions, whereas gig workers are not expected to behave this way since they lack basic rights, such as a minimal wage. In this case, gig workers are expected to game the platforms' algorithm and perform workarounds.

Loyalty: In our study, we adopt Rusbult et al. (1988) definition of loyalty, where it represents a passive response on behalf of those employees supporting the organization by suggesting to hope and wait until the conditions will be improved. According to Hirschman (1970), loyal employees try all alternatives before they painfully decide to withdraw from the organization, making loyalty overlap with voice and exit. Many loyalists are workers for whom the exit is impossible, and voice has no effect (Alves, 2020). Additionally, loyalty or attachment to the organization is a situation where the dominated party is dissatisfied but remains in the relationship (Hirschman, 1970).

3.3.1.2 Power Theory

Power is a capability, not the act of using that capability (it may never be employed); you might be powerful by serving and furthering someone else's interests: power as

dominance is simply one kind of power. Power subjects are influenced in coercive and non-coercive contexts to believe and desire the things that make them surrender or embrace dominance (Lukes, 2004). Lukes (2004) believes that power is considered in three axes instead of just two: (1) decision power, (2) non-decision power, and (3) ideological power. Noting that power can be most efficient when it is the lowest obvious, he emphasizes the relevance of paying attention to such facets.

Lukes's first facet of power, decision-making power, includes the observable disagreement and blatant political behaviour included in conventional descriptions of power. He inspires by Bachrach & Baratz (1970) work to characterize the second manifestation of power. They argue that the decision not to decide is a means of silencing an internal or external threat to the decision-maker's interests. Therefore, power without decision-making authority is seen as the second side of power (Lukes, 2005).

These more inherent forms of power, which are incorporated into agenda-setting strategies and covert oppression (Fortin & Fellenz, 2008), make concealed interest conflicts that are not visible in behaviour (Lukes, 2004). Lukes (2004) defines ideological power as varying from total and exuberant acceptance of this supremacy to cautious assent that no alternative exists. He contends that power may act by ideologically influencing the beliefs and desires of individuals in a manner that may be contrary to their own beliefs.

According to Degiuli & Kollmeyer (2007), ideological power may play a significant role in labour control. Using the theories of Greenberg (1986) and (Forgacs, 2000), they determined that management mainly attempted to establish dominance via ideological

methods. Latest economic developments have made ideological power a crucial component of dominating labour control since new organizational structures are frequently inconsistent with conventional labour control (Degiuli & Kollmeyer, 2007).

According to Scott (1990), there are two types of such "false consciousness," The "thicker theory" posits that for a dominant ideology to be successful, it must persuade the subordinate population to actively uphold the values that clarify and justify people's own subordination. On the other hand, the "false consciousness" argument posits that the dominant ideology forces the subordinate groups to conform by convincing them that the social structure in which they perceive themselves is natural and unchangeable. The thin theory accepts resignation, whereas the thick theory asserts acceptance (Lukes, 2004).

3.3.1.2.1 Power Theory and the Gig Economy

In the gig economy, platforms exercise decision-making power through their total control over designing unfair contracts, characterized by unbalanced power distribution, with the possibility of unilaterally applying changes over any job quality determinant. Some platforms grant themselves the unilateral right to change at any moment the agreement's terms and conditions regulations (Lei, 2021; Rahman, 2021; Shanahan & Smith, 2021), compensation policies (Shanahan & Smith, 2021; Stewart & Stanford, 2017), which is making the contract seen as unfair (Stewart & Stanford, 2017). Moreover, platforms may shift risk to the worker (Tassinari & Maccarrone, 2020; Duggan et al. 2020). Such arrangements are created as part of the unfair contract or terms and conditions that some gig workers see as evidence of their exploitation (Lei, 2021).

Additionally, platforms are solely responsible for developing and upgrading algorithms (Duggan et al. 2020) while favoring opacity and asymmetry in communication with gig workers. These practices reflect the platforms' non-decision-making power in line with Lukes's (2004) power theory. Moreover, platforms can cancel any worker's contract at any time as part of their algorithmic management without giving tangible reasons (Wood et al. 2019b; Karanović et al. 2021), which may limit workers' ability to get jobs in the future (Rahman & Valentine, 2021). As workers understood, via the labor process, how platforms' actions regarding technology and communication setup impacted their interests and the initially described conditions of the deal, their perceptions of the terms of the deal were altered (Shanahan & Smith, 2021).These tactics represent a non-decision-making power characterized by opacity in management and communication with the workers.

Ideological power, which is the third aspect of power, according to Lukes (2005), may significantly help comprehend platform workers' vulnerability, which can define their resistance methods despite the explicit defective nature of their interactions with the platforms. This subtle power can be used against its targets by deceiving them and impairing their judgment (Lukes, 2004). For instance, Shanahan & Smith (2021) noticed that despite facing the same situations as their dissatisfied counterparts, certain workers continue to confirm the fairness of their interactions with platforms.

The gig economy has attempted to create a new conception of labour in which job prospects are a relic of the past. They attempt to portray job uncertainty as a typical aspect of ordinary work. While playing with trade-offs using the freedom and flexibility provided

to workers, platforms publicly acknowledge that the old labour market has been substituted with one that is more flexible and provides people with greater prospects for professional progression if the effort is put in and the initiative is taken. Indeed, platforms recast the idea of autonomy by absorbing workers' aspirations for autonomy and linking the satisfaction of this requirement to the deterioration of worker pay and job security (Gandini, 2019), hence disabling condemnation by eliminating its foundation (Daudigeos et al. 2021). Research investigating Uber has shown that this individual responsibility concept has been internalized to gain dominance in a vulnerable economic environment (Peticca-Harris et al. 2020). Crucially, platforms use and ideologically justify algorithmic control (Rosenblat & Stark, 2016; Shapiro, 2018) to overcome the inherent spatial and temporal obstacles to supervision (Karatzogianni & Matthews, 2020).

According to Lukes (2004), focusing on the unseen facets of power is crucial because that is when it is most potent. Indeed, the platforms' hidden power, such as ideological power, may have a significant effect on the gig workers' perception of the fairness of their work and their choices in terms of resisting strategies.

3.3.1.2.2   Manipulation Power: The Fourth Face of Platforms' Power

A manipulation is a form of power by which a person is gotten to do something that the person was not initially inclined to do (Noggle, 2021). It is often characterized as a form of influence that is neither coercion nor rational persuasion (Noggle, 2021). According to Noggle (2018), at least two compelling arguments favor the view that manipulative forces can circumvent a target's aptitude for logical thinking. Manipulation has to affect behavior

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in ways that do not need the target to employ their intellectual abilities. Second, the term "manipulation" seems to naturally be used for those methods of influencing that circumvent the recipient's capacity for logical decision.

The platform's power mechanisms influence job quality and working conditions in various ways. For example, gamification might subconsciously encourage drivers to accept poor wage levels and lengthy shifts (Pastuh & Geppert, 2020). Noggle (2018) labels as manipulative those techniques of persuasion that circumvent people's logical reasoning ability. Additionally, when a conflict of interests exists, persuasion and authority may be a type of power (Lukes, 2004) that applies to the relationship between gig workers and platforms.

Mason (2018) describes gamification as using game features to boost a worker's psychological interest in otherwise monotonous duties and to influence or nudge a worker's behavior. These game components include point scoring, levels, rivalry with others, quantifiable proof of achievement, evaluations, and game regulations. Mason (2018) argues, in line with the work of Burawoy (1982), that the gamification of labor has the effect of not only appealing to a worker's need for self-determination but also channeling that desire toward the generation of revenue for the boss (Attoh et al. 2019).

According to Burawoy (1982), when work adopts the nature of a game, an unexpected phenomenon occurs: the workers' central point of contention is no longer their employer. Instead, anger is diffused among workers and toward their equipment and physical constraints. Workers associated conceptions of status and prestige with their work, and the

game gave them a feeling of control and independence by presenting them with options all day. It appealed to the worker's need for self-expression and autonomy. The workers' motivation is then channeled towards generating profits for their employer. After ten months at Allied, Burawoy (1982) concluded that employees joyfully consented to their exploitation. One explanation provided by Burawoy (1982) was "the game." Indeed, the workers find themselves accepting playing the game, therefore, not questioning its rules, although the game does not reflect the underlying harmony of interests. Playing a game generates consent to its rules (Burawoy, 1982). Therefore, participating in the choices that the platform pushes gig workers to make also generates consent to its rules and its norms. According to Burawoy (1982), the constitution of the labor process as a game contributes to the obscuring of labor surplus.

Learning from behavioral data on each driver allows the algorithms to iteratively improve their attempts to alter drivers' behavioral choices on the platform subtly and informally (i.e., without using formal mechanisms such as incentive pay) and without forcing them to do so (Möhlmann et al. 2021). Given the massive amount of data on workers' behavioral patterns, platforms may design tailored methods for influencing individuals' choices and behaviors at a substantial scale. The strategy's effectiveness improves further with the ability to fine-tune the algorithms in question in real-time (Möhlmann, 2021).

A piece in Harvard Business Review published in 2021 was one of the first articles to coin the term "Algorithmic Nudging." The authors stressed that businesses are increasingly

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utilizing algorithms for controlling and managing individuals, not by force but by gently coaxing them into ideal behavior. That is, catching up on patterns within their data and altering their decisions in an indetectable way (Möhlmann, 2021). Some of the most frequently cited arguments against such practices center on privacy concerns, allegations that nudges confuse naive persons to undergo adverse effects, and worries concerning algorithmic transparency and fairness. Platforms in the so-called "gig economy," where workers are not considered employees, are currently the most common adopters of such practices. Employers have been relatively immune to regulation thanks to the misclassification of gig workers, but that may be changing (Möhlmann, 2021).

Ideological domination is deeper-seated, more complete, and more challenging to break through than other domination forms. It goes beyond the mechanism of "manufacturing consent" within the "factory regime" described by Burawoy, who depicts manipulation of power through gaming, where the workers reach consent; scholars should also be concerned with the higher level "industry regime" or "sector regime" (Xu & Zhang, 2022). By applying this finding to our case, we can say that platforms push gig workers to consent at an internal level exerting manipulation power through gaming and other tools and leveraging the ideological power that is shaped at higher levels. These include platforms' sector level, regulator level, and even state level, where there is a conviction that the platforms are effectively contributing to the national economic growth by providing work opportunities with higher flexibility and freedom to the workers. This state position promotes the platform as almost natural and unchangeable, or even a national hero in the

eyes of some gig workers and other stakeholders, in line with Lukes's (2004) perception of ideological power.

Based on the above discussion (sections 3.3.1.2.1 and 3.3.1.2.2), we suggest adding the power of manipulation as a distinct face of power to Lukes's power theory while describing the platforms' power interplay. Figure 18 depicts the proposed four dimensions of platforms' power.
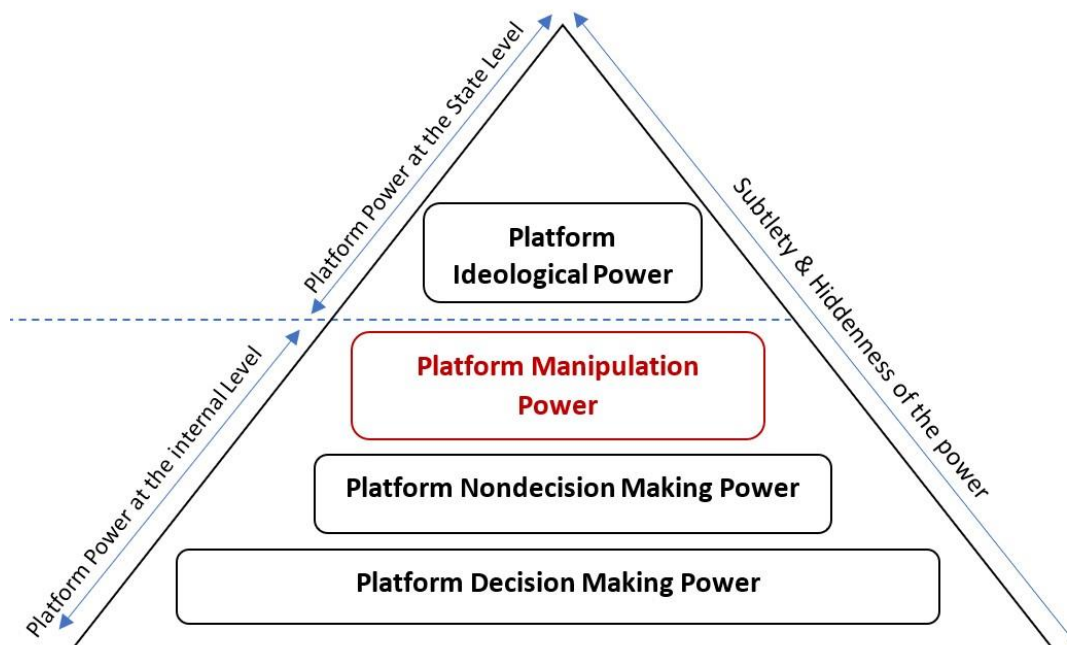
Figure 18. Power Dimensions of the Online Platform in the Gig Economy (Extension of Lukes (2004) Power Theory) with the Addition of (1) Platform Manipulation Power, (2) Precising the Power Level (Platform or State Level), (3) Showing the Degree of Power Subtlety & Hiddenness

3.3.1.3 Resistance Theoretical Concept

Critical views call attention to the significance of power, coercion, and supremacy in the status quo upkeep. As a result, they consider organizations as political places where we ought to foresee rivalry, rebellion, and confrontation (Fleming & Spicer, 2008). The idea of resistance has an intriguing academic background (Fleming & Spicer, 2008). Although resistance has always been a central theme in classic sociological writings, throughout the 1970s and 1980s, it was almost entirely confined to a fringe group of Marxist thinkers (see (Burawoy, 1982)). According to Fleming & Spicer (2008), two causes prompted the eventual collapse of resistance as a dominating analytical concept. In critical management studies, anything resembling a Marxist viewpoint was severely criticized. By the mid-1990s, the concept of resistance made a dramatic reappearance. Thompson & Ackroyd (1995) argue that resistance has always existed, whether it takes the shape of overt acts of disobedience or more covert subversions centered on issues of identity, such as humor and skepticism. Others rapidly joined in, arguing that scholars might be able to observe more quotidian versions like cynicism, foot-dragging, and alternatives expressions of selfhood if they abandoned the conventional conception of resistance that advantages open, overt, and organized opposition (e.g., strikes) (see Fleming & Sewell, 2002; Fleming & Spicer, 2003; Gabriel, 1999; Mumby, 2005).

Expanding the notion of resistance to encompass cynicism or sarcasm in everyday interactions with power has substantial advantages. It overcomes the narrow view of conflict bequeathed by a Marxist tradition that privileged overt and class-based modes of

refusal. Just because workers are not directly organizing opposition toward a management initiative does not mean they agree with it. It also underlines how power must be seen in a multidimensional manner, absent of one single sovereign source (e.g., management, capitalism) (Fleming & Spicer, 2008).

Different types of resistance are not inevitably associated with conflict (Barbalet, 1985). Instead, they share the characteristic that resistance inhibits power. Resistance alters the outcome of power relationships through the restriction of power. Indeed, resistance is essential for comprehending power relations, which cannot be reduced to the concept of power alone (Barbalet, 1985).

Ackroyd & Thompson (1999) claim that resistance does not always adopt an identical shape or strength, but it is always there if investigators spend time and try to look for it.

A controversial theory proposed by Scott (1985), explains that the subjugated individuals or groups continuously and in all places resist secretly or openly. Scott (1985) argues that the exploited groups of people usually opt more for covert resisting strategies to face power. In short, Scott's (1985) argument is that oppressed people need to be seen as strategic and tactical players who pretend to protect themselves during periods of dominance (Lukes, 2004). Scott (1985) argues that the resistance of everyday life is often subtle, dispersed, veiled, or otherwise unnoticeable. Scott argues that many forms of subaltern behavior (such as running away, sarcasm, inaction, laziness, misunderstanding, disloyalty, gossip, avoidance, and theft) are more complex than they first appear. The literature neglected these types of resistance, "quite silent," more precisely in the online

platform work.

Building on Scott's (1985) reasoning, we explain the covert and overt gig workers resting strategies facing platforms' power.

Workers' resistance is activated by power imbalances (Tassinari & Maccarrone, 2020), platform-level technology controls such as evaluations, reporting, and monitoring systems, as well as by workers' socioeconomic and cultural backgrounds (Anwar & Graham, 2020). Although platform gig workers are only loosely coupled to platforms, they are essential to the platform's successful implementation of solutions (Mair & Reischauer, 2017). Workers' responses to imposed work organization, from positive to negative (Chreim, 2006; Greenwood & Hinings, 1996; Oreg et al. 2018), can inform and transform organizations and institutions (Cornelissen et al. 2015). Often, we intuitively feel that critical negativity toward domination is an inherently disruptive force that agitates rather than conserves particular relations of power. However, a stimulating tradition of research in the sociology of work has identified how resistance and opposition (usually apropos of working-class counterculture) can sometimes become an integrative mechanism that reinforces the structures of domination that were the object of resistance in the first place (Fleming & Spicer, 2003). Burawoy (1982), in "manufacturing consent," concludes that some forms of resistance have the unintended consequence of maintaining domination because it is articulated in a way that undermines more meaningful and effective strategies of opposition.

In our study, we categorize the gig workers' resistance strategies into two groups: overt resisting strategies and covert resisting strategies. Figure 19 depicts the gig workers

proposed resisting strategies studied in this research. Further explanation about the proposed resisting factors is provided in the factors' description subsection 3.3.2.

Drivers' Overt Resisting Strategies
- Direct Appeal
- Participation in Collective Action

Drivers' Covert Resisting Strategies
- Workarounds
- Intention to Exit
- Loyalty
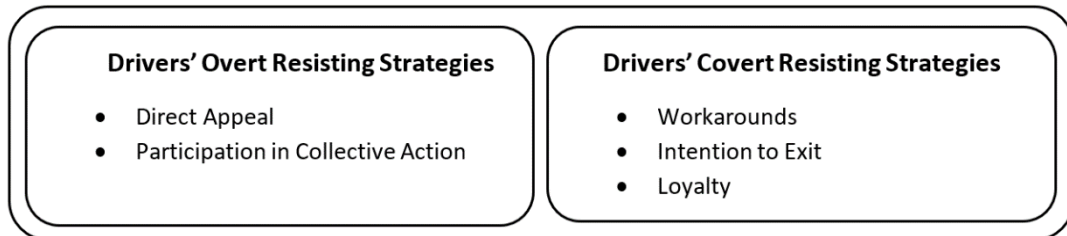
Figure 19. Gig Workers' Resisting Strategies (Adapted Mainly From (Hirschman, 1970; Scott, 1990; Wood et al. 2021; Shanahan & Smith, 2021) With the Addition of Workarounds (Alter, 2014), as one of the Gig Workers' Covert Strategies.

3.3.2 Research Factors

3.3.2.1 Gig Workers Anger

Existing qualitative research on platform labor protest (e.g., Tassinari & Maccarrone (2020), Cini & Goldmann (2021), Cant & Woodcock (2020), Lei (2021), Wood & Lehdonvirta (2021)) provide insights into why gig workers start raising voices, as the scholars underline how demonstrations against platforms, organically arose as a consequence of inherent antagonism in the work process. This antagonism revealed itself as anger over unfair incomes and payment method disruptions, unpredictability about income and working hours, the lack of sick pay, health and safety, opaque performance monitoring, shift assignment, and deactivation (Wood et al. 2021).

The perceived unfairness of work might provoke dissatisfaction and anger among the workers. Additionally, PCVs are considered an essential source of anger, building on

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Argyris (1960) and Rousseau (1989) explanations, where they emphasize that violations of psychological contracts may result in mistrust, discontent, and perhaps the end of the partnership. Indeed, when promises are not kept, it generates anger and damages trust in a partnership (De Clercq et al. 2020; Robinson & Rousseau, 1994).

The unfairness of contract and pay reflects the platforms' decision-making power, while management unfairness mirrors the non-decision-making power exerted on the gig workers (Shanahan & Smith, 2021). The workers' perception of the exerted platforms' power, through their perception of the unfairness resulting from that power exercise, reveals the degree of gig workers' anger.

Building on Lei (2021), Joyce et al. (2020), Wood et al. (2021), Shanahan & Smith (2021), Argyris (1960), Rousseau (1989) and Heeks et al. (2021), and adopting Lukes (2004) power theory lens, we reshape and extend the concept of anger proposed by Wood et al. (2021), and we study its mechanisms, in order to get a comprehensive view, of the role of platforms' power in shaping the workers' anger, through influencing their perception to the unfairness of their jobs. In that, we leverage the causal model of job quality developed in our SLR (Chapter 2), which helps to depict the relationships among the fairness of job quality determinants. We propose four variables that cover the anger concept: (1) the platform decision-making power, (2) platform non-decision-making power, (3) PCV, and (4) work conditions fairness.

3.3.2.1.1 Platform Decision-Making Power (P-DMP)

Decision-making power includes observable disagreement in conventional power

descriptions (Lukes, 2004). In the gig economy, platforms exercise decision-making power through their total control over designing unfair contracts, characterized by unbalanced power distribution, with the possibility of unilaterally applying changes over contracts, management, and pay, generating psychological contract violations and unfair work conditions. Some platforms grant themselves the unilateral right to change at any moment the agreement's terms and conditions regulations (Lei, 2021; Rahman, 2021; Shanahan & Smith, 2021) and compensations (Shanahan & Smith, 2021), which is making the contract seen as unfair (Stewart & Stanford, 2017). Moreover, platforms may shift risk to the worker (Tassinari & Maccarrone, 2020; Duggan et al. 2020). Such arrangements are created as part of the contract or terms and conditions, which some gig workers see as evidence of their exploitation (Lei, 2021).

Platforms' decision-making power (P-DMP), characterized by a unilateral change in the contract and unfair incomes and payment method disruptions, might generate anger among gig workers (Wood et al. 2021).

When installing the application and accepting the clickwrap deal, none of the respondents from gig platforms in Lei's (2021) research attested to examining the legal texts, and none realized that platforms had the authority to modify the terms of the agreement and platform regulations unilaterally. However, they all showed anger at such provisions and other regulations imposed by platforms arbitrarily (Lei, 2021). In general, gig couriers thought platforms employ unethical legal agreements, completely distorting the inputs and return of work. Although they were aware that the platforms might not

legally violate any laws already in place, they believed the legal system to be unfairly flawed. Here, we observe how the gig platform's legal component leads to grievances and intensifies alleged unfairness (Lei, 2021).

3.3.2.1.2 Platform Non-Decision-Making Power (P-NDMP)

Platforms are solely and silently responsible for developing and upgrading algorithms (Duggan et al. 2020). Additionally, platforms can cancel any worker's contract at any time without clear communication in this regard (Wood et al. 2019b; Karanović et al. 2021), which may limit workers' ability to get jobs in the future (Rahman & Valentine, 2021). These tactics represent a nondecision-making power in line with Lukes (2004) power theory.

Gig workers have a marginal influence over algorithms and algorithmic management (Jarrahi & Sutherland, 2019; Auer et al. 2021). This phenomenon leads to a flagrant asymmetry in information and power distribution between platforms and workers (Shanahan & Smith, 2021), where workers stand in a weaker position.

There are concerns regarding HRM duties and obligations in the gig economy. The degree to which and how platforms apply HRM methods to recruit and control workers has received little empirical attention (Williams et al. 2021). HRM operations may be opaque and unclearly communicated to workers (McDonnell et al. 2021). These operations are being replaced by platforms members in charge of system design, working as conventional human resource managers (Duggan et al. 2020).

Disparities in access to information limit the decision power available to gig workers

(Shapiro, 2018), and the opacity of algorithmic management, their ability to actively participate in defining a balanced relationship with the platforms. Such configuration reflects the P-NDMP (Shanahan & Smith, 2021).

3.3.2.1.3   Psychological Contract Violation

PCV has been reported as an adverse circumstance that deteriorates a worker's job relationship (Morrison & Robinson, 1997; Rousseau et al. 2018; Tomprou & Lee, 2022). Psychological contract (PC) breach is a critical source of dissatisfaction, building on explanations of Argyris (1960) and Rousseau (1989), where they emphasize that violations of psychological contracts may result in mistrust, discontent, and perhaps the end of the partnership. When one partner in a relationship believes that his partner has failed to fulfill a promise, this is considered a violation (Robinson & Rousseau, 1994). Moreover, the reactions are more likely to be severe when a psychological contract is broken than when expectations are not met. Unfulfilled aspirations of particular prizes or advantages contribute, but so do broader attitudes about respect for others, standards of conduct, and other patterns of behavior linked with relationships, to explain the severity of the response (Rousseau, 1989).

In the gig economy context, gig workers suffer from psychological contract breaches due to the time they spend using the applications and growing acquainted with the organization's strategy to restrict their scope and access to critical information via algorithmic management (Sivarajan et al. 2021). Furthermore, according to Tassinari & Maccarrone (2020), a major cause of resentment is the apparent contradiction between the

firms' discourse about flexibility and the actual nature of the work process. Indeed, this divergence between the promise and the reality may lead to a violation of the gig worker's psychological contract, leading to anger. The evolution of ambitions and their levels of satisfaction and dissatisfaction is a pertinent path for evaluating negative attributes of contemporary kinds of jobs (Picard & Islam, 2020; Daudigeos et al. 2021).

By capturing the gig workers' perceived frequency of violation of their PC, we go beyond the limitations of our cross-sectional study by making the longitudinal evaluation of the gig workers' perception of the fairness of their gig work possible. The contract dynamicity originated from the possibility of unilateral changes at any time, which may lead to repeated changes in the terms and conditions and potentially lead to recurrent PCVs during the lifecycle of the working relationship between gig workers and platforms. Although capturing the frequency of gig workers' PCVs is essential, we believe it does not fully cover the concept of anger itself while evaluating the gig workers' anger. Some gig workers might perceive their work as unfair without registering any PCV.

3.3.2.1.4   Work Conditions Fairness

According to Heeks et al. (2021), work conditions fairness can refer to the degree to which the platforms implement rules to safeguard workers from inherent dangers associated with work processes and initiate appropriate steps to safeguard and advance the safety and health of workers.

Platforms recruit and engage workers by offering flexibility, freedom, choice, and cost-free joining, among other incentives (Williams et al. 2021). For instance, in London, most

drivers that quit their permanent jobs to drive for Uber are drawn to the platform's level of flexibility (Berger et al. 2019). Chen et al. (2020) suggest that the benefits of flexibility may obscure the drawbacks of losing vital employment protection rights. While most platforms seem to allow workers' choice, platforms can shape the interaction so that workers are penalized for declining assignments or not working during peak hours (Duggan et al. 2020). Moreover, platforms can transfer risks to workers (Duggan et al. 2020), making them responsible for hazards and stating in their terms and conditions that workers are in charge of expenditures (Williams et al. 2021). Although platforms may give workers more autonomy and freedom, they may also expose them to exploitation (Deng et al. 2016).

The well-being of workers, usually associated with health and safety conditions, has inevitably deteriorated by gig platforms (Duggan et al. 2020). Gig workers face an ever-shrinking range of options for securely doing their duties (Nilsen et al. 2022) in an atmosphere devoid of corporate support (Sutherland et al. 2020).

Platforms' lack of responsibility results in detrimental health conditions (Wang et al. 2021) and increased job-related illness (Chen et al. 2020), such as somatic symptoms including strain-related work-life conflict (Schlicher et al. 2021), or precarious conditions as lack of holidays and sick pay entitlements (Myhill et al. 2021), rushing from job-to-job (Bates et al. 2021), or skipping meals (Attoh et al. 2019). Indeed, some delivery workers report physical pain and health concerns due to long hours of driving and exposure to severe weather conditions (Nilsen et al. 2022).

This antagonism revealed anger over unfair work conditions (Wood et al. 2021).

3.3.2.2 Gig Workers' Overt Resistance (Voice)

According to Joyce et al. (2020), the gig economy is increasing in protest and tension. A recent assessment of media sources indicates that 330 platform workers' protests globally have existed since January 2015 (Joyce et al. 2020).

We consider gig workers' overt resistance (Voice) concept to encompass two types of voice (factors): (1) Participation in Collective Action (PCA) and (2) Direct Appeal (DA).

3.3.2.2.1   Participation in Collective Action

Collective action, also termed collective voice, can be defined as "*Any attempt at all to change, rather than to escape from an objectionable state of affairs, through collective petition, actions, and protests, including those which are meant to mobilize public opinion*" (Hirschman, 1970). It would be the first step towards enhancing job quality and avoiding market failure (Collins, 2001; Davidov & Langille, 2006). The scope of the right to collective bargaining was traditionally restricted to employees. However, in some cases, gig workers overtly protest and participate in collective actions, although their restricted or vague representation rights (Tassinari & Maccarrone, 2020; Chen et al. 2020; Karanović et al. 2021; Lei, 2021).

Researchers of industrial relations contend that the collective voice of labor involves the construction of a feeling of unfairness amid grievances (Lei, 2021). A work condition must be seen as unethical or illegitimate, as distinct to just unsatisfactory (Beck & Brook, 2020; Kelly, 1998), to generate shared grievances among workers. Scholars demonstrate that the desire for collective action against platforms is related to shared grievances among

workers generated by the control exerted by the platforms on the labor through providing unfair contracts, unfair algorithmic management and control, unfair pay, and unfair conditions (e.g., Joyce et al. 2020; Lei, 2021; Tassinari & Maccarrone, 2020; Wood & Lehdonvirta, 2019).

The gig workers' collective voice can be directed to the platforms or the state to push the platform to pay minimum wages and further regulate the platforms (Wood et al. 2021).

3.3.2.2.2   Direct Appeal

A direct appeal is seen as an overt resistance strategy that directly resists the influence of platforms (Shanahan & Smith, 2021). Gig workers' direct appeals attempt to reveal the silent choices concealed by algorithmic management and asymmetrical communication. Communication about algorithms changes seems blurred. It is not easy for some workers to know when and how algorithmic evaluations update their parameters (Rahman, 2021). Thus, the resistive approach of direct appeals tends to reveal hidden platform interests. Algorithmic management permits asymmetric communication between platforms and labor supply, targeting different workers with varying incentive schemes, expelling them from platforms without the right of appeal, and arbitrating conflicts at its judgment (Duggan et al. 2020), hindering fair evaluations.

In addition, the communication architecture of platforms may be intended to conceal information from gig workers while strengthening an unequal power arrangement. In this structure, workers are in the least favorable position (Myhill et al. 2021), where platforms may shift risk to the worker (Tassinari & Maccarrone, 2020; Duggan et al. 2020). Opting

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for direct appeal, workers undercut this authority by making such platforms' hidden decisions transparent and susceptible to criticism, consequently permitting more precise judgments on the fairness of their work with the platform (Shanahan & Smith, 2021). Difficulties were expressed by gig platform couriers who could not resolve their issues via direct appeal to the platform (Lei, 2021). Dissatisfaction and anger exacerbated complaints. According to Lei (2021), in most of the evaluated group actions, gig platform couriers contacted platform firms but received no substantial answers; they quickly understood that this method would not alleviate their grievances (Lei, 2021), therefore, would not enhance their work conditions. Consequently, the workers stopped believing in the efficiency of directly appealing platforms.

3.3.2.3 Gig Workers' Covert Resistance

There are evident benefits to expanding the definition of resistance, including everyday interactions with power, such as cynicism and irony. It surpasses the somewhat restricted view of conflict transmitted by the Marxist tradition, which favored overt and class-based forms of resistance. The fact that workers are not explicitly organizing opposition to a management initiative does not imply that they support it. It also emphasizes that power must be viewed multidimensionally, with no singular dominant source (Fleming & Spicer, 2008).

There are a variety of modes of resistance, none of which are necessarily associated with antagonism (Barbalet, 1985). Instead, they have in common that resistance imposes limits on power. Resistance contributes to the outcome of power relations through its

limitations on power. Essentially, the concept of resistance is crucial for comprehending power relations and cannot be reduced to the concept of 'power' (Barbalet, 1985).

According to Scott (1985), the exploited groups of people usually opt more for covert resisting strategies to face power. In short, Scott (1985) argument is that oppressed people need to be seen as strategic and tactical players who pretend to protect themselves during periods of dominance. Scott (1985) describes everyday resistance as being silent, dispersed, masked, or otherwise acting in a way that makes it appear as though it does not exist. Scott demonstrates how many behaviors that are typical of subjugated groups (such as evasion, sarcasm, inactivity, sloth, misconceptions, betrayal, gossip, avoidance, or thievery) are not always what they appear to be but rather an expression of resistance to the oppression that these groups face. The literature neglected these types of resistance, "quite silent," more precisely in the area of online platform work. In typical situations, subordinates are incentivized to refrain from open displays of disobedience. Historically, they have opted to conceal their opposition for safety and prosperity (Scott, 1990). Paradoxically, they have a tangible interest in resisting, of course, since doing so may lessen the amount of oppression they are exposed to. Pursuing silent resistance while eschewing any confrontation with the systems of power being challenged resolves this dilemma.

3.3.2.3.1 Intention to Exit

Substantial turnover has been registered by ride-hailing platforms (Prassl, 2018), where the exit of labor represents a crucial source of workers' power in the context of individualized market interaction proposed by platforms (Cowen, 2017).

Exit represents an escape from the problem based on resignation, but at the same time, it could be a form of a silent protest (Alves, 2020). Hirschman's (1970) seminal EVL theory postulates that collective action (voice) is rare when players like self-employed individuals may effortlessly leave a relationship. In the same vein, Wood & Lehdonvirta (2021) explained that angry workers who cannot quickly exit their platform due to dependence on it might opt for collective action. It means that exit is more likely when its cost is lower than voice, workers' satisfaction is low, and they no longer believe that the organization would improve or a better alternative is possible (Ruiner et al. 2020).

For the "Exit" concept, we refer to the conceptual expansion of the term "Exit" proposed by Rusbult et al. (1988), who implies that the term includes not just those who formally leave their positions but also those who are considering leaving and actively seeking new activity. Therefore, we focus on the drivers within the exchange but intend to exit by surveying only active platform workers.

3.3.2.3.2 Workarounds

We suggest adding workarounds to the three attitudes enunciated by (Hirschman, 1970). "Workarounds are *deliberate modifications of job operations that are not envisaged or stated to be altered in this way*" (Laumer et al. 2017). They are adopted to alleviate limitations that workers view as challenging to their job (Alter, 2014). Previous work suggests that workarounds are less probable when organizational and individual interests are well-matched, but worker resistance might arise when there is a mismatch mismatch (Pollock, 2005; Alter, 2014). Moreover, unsatisfied workers start using workarounds

(Laumer et al. 2017).

In the gig economy context, workers use covert resisting strategies, including gaming the platform's system and performing workarounds (Lee et al. 2015; Martin et al. 2016; Jarrahi & Sutherland, 2019). The creative explorations of gig workers into algorithmic systems serve as the basis for gaming the system, working around restrictions, and overall mobilizing the algorithm for the worker's autonomy (Lee et al. 2015; Martin et al. 2016). Gig workers use sense-making tactics to investigate the black box of algorithms in order to enhance their resilience with online platforms (Jarrahi & Sutherland, 2019).

3.3.2.3.3 Loyalty

Loyalty is a passive response on behalf of those employees supporting the organization by suggesting waiting until business conditions get enhanced and hoping the work conditions will be improved (Rusbult et al. 1988). The work on organizational citizenship behaviour suggests that loyalty consists of such behaviors as defending the organization against outside threats and contributing to its good reputation among outsiders (Graham, 1991). According to Hirschman (1970), loyal employees will try all alternatives before they painfully decide to withdraw from the organization, which makes loyalty overlap with voice and exit. Many loyalists are workers for whom the exit is impossible, and voice has no effect (Alves, 2020). People who respond with loyalty also support their organization to improve the situation. Loyal employees are willing to tolerate a higher level of disagreement with organizational activities and actively contribute to changing the situation by speaking out (Ruiner et al. 2020).

3.3.2.4 Communication

Studying communication among platforms' workers is necessary to comprehend how platform operations might be reshaped or influenced by these interactions (Karanović et al. 2021). In the local gig economy, multiple studies on mass action have highlighted the standing role of communication in developing solidarity among gig workers. In addition, it has been proven that organized solidarity provides the foundation for protesting opposing platforms and endorsement for unions among ride-hailing and food delivery laborers (Aslam & Woodcock, 2020; Tassinari & Maccarrone, 2020; Cant, 2019; Cant & Woodcock, 2020; Cini & Goldmann, 2021; Maffie, 2020).

Wood et al. (2021) explored quantitatively the significance of communication as a facilitator of protesting in the remote gig economy. Wood et al. (2021) see communication as three items measuring communication frequency with other workers via online forums, social media, and face-to-face.

Solidarity, as defined by Heckscher & McCarthy (2014), is "*a shared sense of obligation to support collective action*." It is best understood concerning Putnam (2000) analysis of social capital, in which a feeling of community grows through adhesion and communication within and among communities with situational shared interests (Morgan & Pulignano, 2020; Nissen & Jarley, 2005; Saundry et al. 2012).

Digital technology-mediated communication among gig workers, as part of communication, may foster the creation of a sense of collective identity, which might stimulate union membership (Maffie, 2020). It may result in the emergence of a feeling of

"networked solidarity" among geographically and chronologically dispersed workers (Cant, 2019; Tassinari & Maccarrone, 2020; Wood, 2015, 2020; Saundry et al. 2012; Maffie, 2020).

The new communication technologies may modify the resources and capabilities required for some types of joint activities (Wood & Lehdonvirta, 2021) and potentially strengthen workers' mobilization (Anwar & Graham, 2020). Although online forums have become popular as a valuable resource for scattered workers, they are unorganized and encounter obstacles in nurturing collective activity (Johnston & Land-Kazlauskas, 2018). Research demonstrates that social media has played a vital role in workers' opposition to platform organizations, thus becoming the essential conduit for strikes and collective action (Chen, 2018), in addition to the fact that social media is a fundamental vehicle for the transfer of knowledge.

3.3.2.5 Platforms' Ideological Power (PIP)

Ideological thinking can be conceptualized as a way of thinking that is severe in its allegiance to a doctrine, resistant to evidence-based belief-updating, positively oriented towards a particular group, and hostile to others (Zmigrod, 2022).

According to Degiuli & Kollmeyer (2007), ideological power may play a significant role in the process of labor control. By applying the theories of Greenberg (1986) and Forgacs (2000), they demonstrated that management primarily uses ideological strategies to establish dominance. Since new organizational arrangements are frequently incompatible with conventional labor control, recent economic developments have made

ideological power a vital component of labour control dominance (Degiuli & Kollmeyer, 2007).

Scott (1990) identifies two distinct types of "false consciousness," the thick version of which posits that the goals of a dominant doctrine can be attained by persuading subjugated populations to actively believe in the principles that justify and excuse their oppression.

On the other hand, the "false consciousness" theory proposes that the dominating doctrine coerces the subordinate groups to comply by persuading them that the social structure in which they find themselves is both natural and unavoidable. This theory is based on the idea that the hegemonic doctrine is a type of social control. The thin theory accepts resignation, unlike the thick theory, which emphasizes acceptance (Lukes, 2004).

Platforms' ideological power (PIP) contributes to shaping the gig workers' perception of the fairness of their work and their resisting strategies, whether covert or overt. It can remarkably contribute to understanding platform workers' timidity that can characterize their resisting strategies choices although the obviousness of their dysfunctional exchange with platforms.

The gig economy has attempted to create a new conception of labor in which job security is a relic of the past by attempting to portray job instability as an ordinary occurrence.

By utilizing the promised flexibility and autonomy as a negotiating weapon, platforms proclaim explicitly that a more flexible job market has replaced the old one and provides workers with more possibilities for professional progression if they work diligently and

demonstrate initiative. Indeed, platforms recast the concept of autonomy by absorbing workers' aspirations for freedom while tying their realization to the erosion of job compensation and quality (Gandini, 2019), rendering criticism ineffective by eliminating its justification (Daudigeos et al. 2021). The fact that couriers are self-employed individuals aids the assimilation of this ideology and constitutes a key component of the platform's ideological influence, encouraging risk individualization (Duggan et al. 2020).

Researchers investigating Uber have shown indications that this individual responsibility concept has been internalized as a method of gaining dominance in a vulnerable economic environment (Peticca-Harris et al. 2020).

Gig workers understand that they consciously trade their benefits for flexibility and autonomy (Azar, 2020). Platform work mirrors neoliberal ideals of worker autonomy regarding precariousness individualization, indicating how such beliefs get systematized and, as a result, are removed from the realm of what is dialectically arguable (Shanahan & Smith, 2021). For instance, the ideology of the platform economy causes workers' perception of compensation as a type of dividend that lacks security and predictability, and in the face of exploitation, workers rarely assert their labor rights and interests; instead, they place a greater emphasis on diligence in work (Xu & Zhang, 2022).

Additionally, when gig workers identify with capital, the significance of neoliberal ideology in safeguarding the interests of platform owners amongst workers is likely most evident. Another category of couriers less likely to consider their interests and platform one as ideally linked have expressed the near-hegemonic opinion that there is no alternative

(Shanahan & Smith, 2021). In this study, we focus on the neoliberalism vector of the PIP, where the effect of the ideological power on the drivers can be captured by measuring: (1) the degree to which the gig workers identify themselves with capital and show an enthusiastic acceptance of their subordination, and (2) The degree to which gig workers believe that there is no alternative, and therefore show a reluctant acceptance.

3.3.2.6 Platforms' Manipulation Power (PMP)

Researchers argue that studies on the power of platforms, as measured by labor control and management, should consider its multidimensionality (Lei, 2021).

A manipulation is a form of power by which a person is gotten to do something that the person was not initially inclined to do (Noggle, 2021). It is often characterized as a form of influence that is neither coercion nor rational persuasion (Noggle, 2021). The platform's power mechanisms influence job quality and working conditions in several ways. For example, gamification might subconsciously encourage drivers to accept poor wage levels and lengthy shifts (Pastuh & Geppert, 2020). Noggle (2018) considers techniques of persuasion that circumvent people's logical reasoning ability as manipulative. Therefore, platforms' manipulation power (PMP) is exerted on drivers by means of gamification.

Some "non-cash-rewards," such as achievement badges (for things like high ride-acceptance percentages, positive customer reviews, and availability on time), have been identified as key features of gamification by academicians (Scheiber, 2022).

These features of nudging and gamification appear to be compelling control-and-influence tools for Uber (Pastuh & Geppert, 2020). In line with research on the ethical

implications of gamification practices (Kim & Werbach, 2016), opponents assert that gamification promoting "unnecessary" or fictitious satisfaction might have a manipulative goal (Schmidt, 2016). Some scholars have also referred to software-based gamification in a commercial environment as "exploitation ware" since it "replaces actual rewards with fictitious ones" (Pastuh & Geppert, 2020). Besides ethical concerns, such tactics harm workers' revenue predictability and working conditions (Pastuh & Geppert, 2020).

Gamification experience refers to using game elements in a non-game setting to shape user behavior and maintain high user engagement (Hamari & Koivisto, 2013; Kavaliova et al. 2016). On the other side, persuasive technologies are interactive computer systems that aim to affect the attitude or behavior of the person using them (Fogg, 2002; Oinas-Kukkonen & Harjumaa, 2009). Persuasive technologies are becoming increasingly popular. It should come as no surprise that gamification and persuasive technologies share similarities. For instance, some persuasive methods, such as feedback and prizes, can be analogous to those used in gamification (e.g., Oinas-Kukkonen & Harjumaa, 2008).

Organizations increasingly employ algorithmic nudging techniques, including texting, gamification, and push alerts, to persuade workers to do specific actions (Möhlmann, 2021). Usually, gamification is used as a manipulation tactic by platforms to induce people to work excessive shifts. For example, Scheiber (2022) explicates how Uber is conducting a remarkable hidden behavioral science experiment to manipulate workers to benefit the company's expansion by using psychological inducements and other methods to alter when, where, and how long drivers work. Video game mechanisms, visuals, and non-monetary

prizes of low value might motivate drivers to put more time and effort into times and places that are less profitable for the drivers themselves. Likewise, Deliveroo stimulates its drivers to increase productivity by sending push alerts on their mobile devices (Möhlmann, 2021). In the same vein, Shapiro (2018) reported that the platform's practice of sending out "bat signal" by pushing alerts to offline drivers during high-demand periods results in many drivers' logins.

Platforms already have access to sufficient information about their workers' habits; therefore, they may develop individualized strategies for influencing their decisions and actions. Moreover, the real-time adjustment of algorithms may further boost this strategy's efficacy (Möhlmann, 2021). Additionally, platforms aim to create individualized work relationships, where labor is arranged as a non-collective process (Beckman et al. 2021), using gamification mechanisms as a tool that helps alienate gig workers, and undercut any attempt at group action (Attoh et al. 2019).

According to Burawoy (1982), when work adopted the nature of a game, an unexpected phenomenon occurred: the workers' anger was no longer against their employer. Instead, conflicts were diffused among workers and their physical constraints, which might decrease the intentions to participate in collective actions against the employer. Workers associated conceptions of status and prestige with their work, and the game gave them a feeling of control and independence by presenting them with options all day. The workers' motivation was then channeled towards generating profits for their employer. Burawoy concluded that employees joyfully consented to their own exploitation. One explanation provided by

Burawoy (1982) was "the game." Indeed, the workers find themselves accepting playing the game, therefore not questioning its rules, although the game does not reflect an underlying harmony of interests. Just as playing a game, it automatically generates consent to its rules Burawoy (1982); participating in the choices that platform pushes gig workers to make also generates consent to its rules and its norms. The constitution of the labor process as a game contributes to the obscuring of labor surplus Burawoy (1982).

3.3.2.7 Control Factor: Dependence on Platform

Dependence on the platform varies depending on whether workers utilize it as their primary source of income or as a complement (Myhill et al. 2021). Independent contractors have more expertise and discretion over their work practices (Schor et al. 2020). Conversely, workers who rely on platforms are more likely to accept gigs. Additionally, they demonstrate different levels of discontentment and precariousness across platforms (Schor et al. 2020; Wood et al. 2021; Dunn, 2020; Goods et al. 2019; Josserand & Kaine, 2019; Schor et al. 2020; Lei, 2021; Ravenelle, 2019).

The social class of gig workers may determine whether employment is their primary or supplementary source of revenue (Tassinari & Maccarrone, 2020). The McKinsey Global Institute identified several categories of dependent workers: free agents, casual earners, and reluctant laborers (Ahsan, 2020). This division may produce varied perceptions among gig workers toward what constitutes fair work. Depending on the workers' category, their perceptions vary, namely regarding remuneration schemes, contractual arrangements, attitudes toward flexibility, and different motivations to organize jointly for better working

conditions (Tassinari & Maccarrone, 2020).

Various degrees of reliance on gig work could also inhibit the development of common identities. Recent data (e.g., Broughton et al. (2018)), indicates that gig workers may be fragmented in terms of commitment to the job, with a small core depending on gig labor as their primary source of income and a broader margin engaging infrequently (Tassinari & Maccarrone, 2020). This categorization in terms of dependence on the platform can create divisions in the 'interests' of different workforce components regarding the perception of the fairness of contractual forms, remuneration models, attitudes towards 'flexibility', and incentives to organize collectively to improve conditions.

3.3.3 Proposed Relationships Between the Factors

3.3.3.1 Platform Power Interplay Shaping the Gig Workers' Anger.

Some platforms grant themselves the unilateral right to change the agreement's terms and conditions regulations (Lei, 2021; Rahman, 2021), compensations (Shanahan & Smith, 2021), and impose their guidelines for workers (Chen et al. 2020; Schor et al. 2020). Furthermore, Platforms may shift risk to the client (Williams et al. 2021) and the worker (Tassinari & Maccarrone, 2020; Duggan et al. 2020), and they can cancel any worker's contract at any time (Wood et al. 2019; Karanović et al. 2021). Besides, platforms can ban gig workers from the community (Ravenelle, 2019), which may limit their ability to get jobs in the future (Rahman & Valentine, 2021). Such arrangements were created as part of the contract or terms and conditions representing P-DMP. This power, through the unilateral change exerted by the platforms, may lead to further non-decision-making power

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for the platform, characterized by opacity in algorithmic management, and asymmetrical communication between platforms and drivers, leading to abusive control. Indeed, the contract may permit algorithmic control (Lei, 2021), greatly influencing the mix of algorithmic management and human control (Newlands, 2021). The rigidity, complexity, and opacity of algorithms restrict workers' ability to control crucial aspects of their jobs (Ahsan, 2020; Jarrahi & Sutherland, 2019), ignore workers' tangible embodied reality (Newlands, 2021; Shanahan & Smith, 2021), and reduce the qualitative human perception and evaluation of gig workers' performance, which might lead to significant biases (Duggan et al. 2020). Besides, local managers working for gig platforms have the power to change various aspects of the compensation structure (Lei, 2021). In other words, the changes in pay are reflected in the algorithm and its management. Based on the above argument, we derive our first Hypothesis (Figure 20):

H1: P-DMP generates the P-NDMP.

According to Kaine & Josserand (2019), the contract is fundamental to researching the gig workers' conditions. Legal academics stress the challenges and underlying unfairness of contractual design in asymmetric agreements or contracts between a dominant firm and a weaker market participant (Roppo, 2009). Platforms may use asymmetric contracts to manage and control the workforce, owing to their overwhelming market dominance and accessibility to legal resources (Collier et al. 2017).

The prevalence of contractual arrangements that transfer risk from labor engagers to labor suppliers and deliberately attempt to prevent the engagement of workers under an

employment contract has increased (Johnstone et al. 2012). For many years, it was straightforward for businesses to draft contracts that disguised the employee as an "independent contractor" despite the minimal evidence that the person ran their own company (Stewart & Stanford, 2017). However, in recent years, certain courts have evolved far more likely to examine an agreement's content or everyday reality than its legal terms (Stewart & Stanford, 2017).

Platforms exert control, leveraging their decision-making power. Gig workers must follow instructions and norms provided unilaterally by the platforms (Chen et al. 2020). According to Stewart & Stanford (2017), Uber gig work contracts are unfair since they allow the platform to modify conditions at any moment unilaterally. This unbalanced and evolving nature of gig work contracts raises the dynamicity of workers' PC lifecycle. As conceptualized by Rousseau et al. (2018), the psychological contract lifecycle encompasses the creation phase, maintenance phase, and repair phase that comes after the violation of the PC, characterized by a significant divergence between workers' PC and current exchange between the workers and their organization.

In the gig economy context, the residual divergence perceived by the workers between their PC and the current exchange with the platform could result from the exerted P-DMP characterized by repeated unilateral changes applied by the platform, in line with the terms and conditions prescribed in the contract. These repetitive changes might stimulate frequent violations of the workers' PC. In other words, if platforms apply modifications perceived by the workers as arbitrary, the PC may be violated (Duggan et al. 2020; Ravenelle, 2019).

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In addition, the platform's implementation of the modifications amplifies the feeling of arbitrariness. Workers were excluded from the platform's decision regarding changing its structure of compensation (Ravenelle, 2019). Additionally, platform modifications were a significant cause of workers' discontentment, but the deprivation of autonomy, mainly when platform executives argued that these adjustments were meant to "encourage entrepreneurship," added to the workers' perception of a violation of PC (Ravenelle, 2019).

Among the many forms of power, the platforms' use of decision-making power has been most obviously demonstrated by the platform's unilateral modification of exchange arrangements that resulted in a violation of worker's PC (Shanahan & Smith, 2021). Based on the above discussion, we derive the following hypothesis (Figure 20):

H2: P-DMP increases the frequency of the drivers' PCVs.

Platform, through its decision-making power, can unilaterally design the terms and conditions for gig workers. These arrangements often discard social security and job stability (Chen et al. 2020;   Beckman et al. 2021; Moisander et al. 2018), directly influencing the workers' working conditions. Even while some gig workers may be legally entitled to a social security system, they may not be able to get it because of a lack of job stability, the length of their employment, or an income level below a specific threshold, that prevents them from receiving it (Chen et al. 2020).

Additionally, platforms have the direct decision-making power to classify gig workers solely, naming them intentionally freelancers, entrepreneurs, micro-entrepreneurs, self-employed, or independent contractors to evade labor rights and social security obligations

(Ahsan, 2020; Chen et al. 2020; Wood et al. 2019b; Tassinari & Maccarrone, 2020), and to not invest in workers' career progress   (Kost et al. 2020; Wong et al. 2021). Based on the above discussion, we derive the following hypothesis (Figure 20):

H3: P-DMP generates unfair work conditions.

Considering the standpoint of theory Y (Sager, 2008, 2015), some platforms, such as Kitchensurfing, offer a supportive style of communication, proactively solicit workers' ideas and experiences, resulting in workers actively seeking information to aid the platforms, and perceiving themselves as entrepreneurs (Ravenelle, 2019). On the other hand, other platforms, such as TaskRabbit, demonstrated a lack of participative decision-making following the theory X perspective (Russ, 2011). Workers reported a lack of notification regarding the platform's modifications to its payment structure, resulting in PCV and negative responses to the platform (Ravenelle, 2019). The asymmetry in communication exerted by the platform reflects its non-decision-making power, adopted to hide information from the workers, further weakening their ability to react. Consequently, workers perceived themselves as employees rather than entrepreneurs, and many indicated discontent with the platform and a desire to quit (Ravenelle, 2019).

The P-NDMP using asymmetrical communications and unjust algorithmic management, resulted in a PC that experienced couriers regarded as violated. Indeed, as couriers understood, via the labor process, how platforms' actions regarding technology and communication setup impacted their interests and the initially described conditions of the deal, their perception of the terms of the deal was altered (Shanahan & Smith, 2021).

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Therefore, their PC got violated. Based on the above discussion, we derive the following hypothesis (Figure 20):

H4: P-NDMP increases the frequency of drivers' PCVs.

Gig workers' work conditions are significantly impacted by the P-NDMP using unfair algorithmic management. For instance, the adoption of client-driven rating systems may have an immediate impact on platform workers' performance (Veen et al. 2020; Duggan et al. 2020) and possibly future career opportunities (Rahman & Valentine, 2021), which trigger several risks to the physical and mental health of platform workers (Chen et al. 2020).

When algorithmic management privileges customers over labor (Wood et al. 2019; Chen et al. 2020; Williams et al. 2021; Ahsan, 2020; Rahman & Valentine, 2021), workers are driven to work long hours (Wang et al. 2021; Schor et al. 2020), having unsocial and unstable schedules to satisfy customer needs (Cai et al. 2021; Chen et al. 2020; Wood et al. 2019a), or else, workers' accounts can be deactivated (Chen et al. 2020), if they do not cope with the situation. Thus, algorithmic control may result in insecure working conditions such as overwork, lack of sleep, exhaustion, social alienation (Wood et al. 2019a), isolation (Deng et al. 2016), psychological risk (Chen et al. 2020), and much more.

According to Auer et al. (2021), workers are particularly susceptible to exploitation since they have less leverage to negotiate how their remunerations are managed. Some gig workers have claimed that piece rates have decreased over time, and they believe that platforms are manipulating algorithms to cut income (Lei, 2021). As an outcome, several

workers stated they had to put in an extra two hours every day to maintain the same level of income (Lei, 2021), contributing to worsening their working conditions.

In addition, HRM activities are being substituted by platform members responsible for algorithm design, who act as rudimentary human resource managers (Duggan et al. 2020), ignoring workers' tangible embodied reality (Shanahan & Smith, 2021), which contributes to deteriorating the work conditions. Based on the above literature, we derive the following Hypothesis (Figure 20):

H5: P-NDMP generates unfair works conditions.

According to Kozlowski (1993) and Zeitlin (1995), violations of the PC have adverse effects on workers, potentially resulting in experienced tension and strain. (Maslach et al. 2001). Indeed, when PC obligations are not met, workers may suffer from lowered predictability and command, resulting in tension (Shore & Tetrick, 1994).

The repetitive modifications, applied by the platform unilaterally, are perceived by the workers as arbitrary. This control exerted by the platforms on the gig workers may generate workers' PCV (Duggan et al. 2020; Ravenelle, 2019), which may negatively impact their perception of their work conditions. Based on the above discussion, we derive the following Hypothesis (Figure 20):

H6: Drivers' PCVs generate unfair work conditions

According to research on platform labor, the gig workers' awareness of their shared duty with platform firms is varied and imprecise. Depending on their own experiences, workers construct PCs using various of sources ununiform (Rosenblat & Stark, 2015, p. 14).

Furthermore, the PC is influenced by more prominent ideologies and is therefore closely linked to the political goals of influential groups within businesses and the larger community (Dick & Nadin, 2011, page 296). Shanahan & Smith (2021) found that certain workers kept favorable judgments towards the terms of the exchange and continued perceiving them as fair despite experiencing PC violations resulting from the first and second aspects of platforms' power. Additionally, they trusted the platforms to uphold these terms in the long term. These workers' witnesses indicated the facilitating role of PIP, which altered their evaluations of their interests.

The potential separation between objective and subjective interests, false awareness, and marginalization are facilitated by ideological power (Dick & Nadin, 2011). Thus, ideological dominance helps explain how people can maintain flawed deals. Shanahan & Smith (2021) noticed that despite facing violations via the decision and non-decision-making platforms' powers, some workers perceive the terms of the exchange as fair, and they keep believing that platforms will honor these terms in the long term. These workers' accounts indicated the attenuating effect of the PIP, which modified workers' appraisals of their own interests. Indeed, platforms recast the idea of autonomy by absorbing workers' aspirations for autonomy and linking the satisfaction of this requirement to the deterioration of worker compensation and conditions (Gandini, 2019), hence disabling condemnation by eliminating its foundation (Daudigeos et al. 2021). The fact that couriers are self-employed individuals aids the assimilation of this ideology. It is a crucial component of the platform's ideological influence, encouraging risk individualization (Duggan et al. 2020), decreasing

workers' PCVs, and helping them see unfair work conditions as fair. Based on the above discussion, we derive the following hypotheses (Figure 20):

H7(-): PIP decreases drivers' PCVs frequency.

H8(-): PIP enhances drivers' perception of the fairness of their work conditions, which decreases their anger.

Noggle (2018) labels those techniques of persuasion that circumvent the target's logical reasoning ability as manipulative. The platform's power mechanisms influence job quality and working conditions in various ways. For example, PMP, using gamification, might subconsciously encourage drivers to accept poor wages levels and lengthy shifts (Pastuh & Geppert, 2020), which may worsen their work conditions, and if repeated, it may violate their PCs. In the same vein, Scheiber (2022) explains, through the Uber example, how the platform is conducting a remarkable secret experiment in behavioral science to manipulate drivers for the benefit of the company's expansion by using psychological inducements and other methods to control when, where, and for how lengthy drivers put in their shifts.

Additionally, several "non-cash-rewards," such as achievement badges (for things like high ride-acceptance percentages, positive customer reviews, and availability on time), have been identified as key features of gamification by academicians (Scheiber, 2022). These features of nudging and gamification appear to be particularly powerful control-and-influence tools for Uber (Pastuh & Geppert, 2020). In accordance with research on the ethical implications of gamification (Kim & Werbach, 2016), opponents assert that gamification that promotes unnecessary or fictitious satisfaction might have a manipulative

goal (Schmidt, 2016). Some scholars have also referred to software-based gamification in a commercial environment as "exploitation ware" since it "replaces actual rewards with fictitious ones" (Pastuh & Geppert, 2020). This fictitious satisfaction may cause potential violation of workers' PC each time they realize its falsity. Building on the above discussion, we derive the following hypotheses (Figure 20):

H9: PMP increases drivers' PCV frequency.

H10: PMP generates unfair work conditions.

3.3.3.2 Relation Between Gig Workers Work Conditions Fairness and Gig Workers' Resistance (Overt and Covert Resistance)

Difficulties were expressed by gig platform couriers who were unable to resolve their issues via direct appeal to the platform (Lei, 2021). Dissatisfaction and anger exacerbated complaints. According to Lei (2021), gig platform couriers contacted platforms in most evaluated group actions but received no substantial answers. They quickly understood that this method would not alleviate their grievances (Lei, 2021) and would not enhance their work conditions. Additionally, Communications between couriers and platforms were effectively obstructed, with inquiries about workers' issues being routed through a contact center that frequently provided only automated answers. Therefore, couriers resorted to one another, primarily via online forums, to contrast stories and extrapolate the causes and motivations behind non-decisions (Shanahan & Smith, 2021). Based on the above discussion, we derive the following hypothesis (Figure 20):

H11(-): Unfair work conditions decrease direct appeal to the platform.

Researchers of industrial relations contend that the collective voice of labor involves the construction of a feeling of unfairness amid grievances (Lei, 2021), where work conditions must be seen as unethical or unfair and not simply unsatisfactory (Beck & Brook, 2020; Kelly, 1998). Gig workers who perceive their work relationships as exploitative tend to organize opposition (Lei, 2021; Anwar & Graham, 2020).

Workers' antagonism partially revealed itself as anger over unfair work conditions: unpredictability about working hours, the lack of sick pay, health and safety, shift assignment, and deactivation (Wood et al. 2021). Additionally, the unfairness of contract, pay, and management reflecting the P-DMP and the P-NDMP exerted on the workers (Shanahan & Smith, 2021), lead to unfair work conditions. Moreover, the workers' perception of the exerted platforms' power and the unfairness of their work conditions resulting from it reflects the degree of their anger, potentially driving them to participate in collective actions. Prior studies on platform work reveal that platform anger emanating from unfairness is a significant component that may help to explain discord in the gig economy. These results connect to Kelly's (1998) "Mobilization Theory" summary of social movement literature (Tilly, 1978; Snow et al. 1986). Kelly's thesis proposes that employees might participate in a wide variety of protests, depending on the employee's level of indignation and sense of unfairness generated by workplace antagonisms (Wood et al. 2021). Based on the above literature, we derive the following hypothesis (Figure 20):

H12: Unfair work conditions lead to participation in collective action.

According to Scott's (1985) reasoning, the exploited groups of people usually opt more

for covert resisting strategies to face the platform's power. In short, Scott's (1985) argument is that oppressed people need to be seen as strategic and tactical players who pretend to protect themselves during periods of dominance. According to Scott (1985), the resistance in ordinary life is subdued, scattered, masked, or in some other way appears undetectable.

Additionally, unsatisfied workers start using workarounds (Laumer et al. 2017). They use sense-making tactics to investigate the black box of algorithms to enhance their resilience with online platforms (Jarrahi & Sutherland, 2019), and therefore enhance their work conditions. On the other hand, workers may exit the platform due to low pay rates, unfair conditions, and if the exit cost is affordable to them (Wood et al. 2021). The pairing of self-employment with heavy managerial control via algorithmic management raises questions about how workers perceive and evaluate the legitimacy of these practices, which may help to explain crucial workers' behaviors, such as turnover and workarounds (Wiener et al. 2021). According to (Kellogg et al. 2020), workers may lose their sense of ethics and become more receptive to engaging in workarounds when they are controlled by an algorithm they view as unfair. According to Rosenblat & Stark (2016), some drivers believe that Uber unfairly favors passengers in adjudications; thus, they keep detailed records of their rides and use GPS devices to counteract Uber. Moreover, to safeguard their independence and privacy, some ride-hailing drivers may employ algorithm-manipulating strategies like turning their driver applications on and off at red lights to avoid receiving distant inquiries (Lee et al. 2015).

Some workers acknowledged that their original PC had been violated, negatively

affecting their work conditions, making them feel tension and strain (Kozlowski, 1993; Zeitlin, 1995). Workers exposed to such experience described responses aligning with behavioral disengagement (Shanahan & Smith, 2021). It can be realized as an exit intention. However, workarounds or withdrawal of effort were more common among the workers (Tomprou et al. 2015).

Based on the above literature review, we derive the following two hypotheses (Figure 20):

H13: Unfair work conditions lead to workers' workarounds.

H14: Unfair work conditions generate workers' intention to exit.

The subjugated, facing unfair conditions, are continuously and in all places resisting, secretly or openly (Scott, 1985). Scott (1985) demonstrates how frequent behaviors of subaltern groups, such as disloyalty, are not always what they seem to be but rather opposition to the dominant culture. According to Scott (1985), these covert resisting behaviors are techniques that oppressed people utilize to survive and undermine oppressive dominance, particularly in environments where rebelling is risky. It is particularly relevant in situations where repression is extreme, which is quite applicable to the gig economy case, where regulation usually denies the gig workers' right to representation, making the voice activities too risky (Tassinari & Maccarrone, 2020; Chen et al. 2020; Karanović et al. 2021). Based on the above discussion, we derive the following hypothesis (Figure 20):

H15(-): Unfair work conditions decrease workers' loyalty.

3.3.3.3 Communication as a Mediator Between Gig Workers' Anger and their Resistance (Overt and Covert Resistance)

Gig workers organizing together is an apparent strategy for addressing issues with job quality. They might, for example, develop their own processes for vetting prospective end-users, disseminating information about the compensation and other terms given on specific platforms (Stewart & Stanford, 2017). Lei (2021) reported that couriers for gig platforms vented their anger and feeling of unfairness in social media forums. According to Maffie (2020), online forums are used by drivers to share information about unfair conditions related to ride-hailing work, such as unexpected pay cutbacks, insurance voids, and how to contest disciplinary actions. Moreover, workers leverage online forums to compare their experiences and draw conclusions about the causes and motivations behind Platforms' subtle algorithmic management (Shanahan & Smith, 2021). In other words, workers aim to reveal the hidden transcripts of the platforms in order to understand and accordingly draw their resistance strategy, either overt or covert. Based on the above literature, we derive the following hypothesis (Figure 20):

H16: Unfair work conditions lead to communication among the gig workers.

Scholars demonstrate that the control exerted by the platforms on the labor through providing unfair contracts, unfair algorithmic management and control, unfair pay, and unfair conditions lead to shared grievances among workers and create a desire for collective action against platforms (Joyce et al. 2020; Lei, 2021; Tassinari & Maccarrone, 2020; Wood & Lehdonvirta, 2019).

Workers communicate not only to exchange information to understand and learn how to enhance their conditions; they may band together to oppose the platforms' mistreatment by taking joint action to protect their interests and to seek compensation for the exploitation they suffered from (Joyce et al. 2020). They leverage online forums to compare their experiences and draw conclusions about the causes and motivations behind platforms' hidden strategies (Shanahan & Smith, 2021). Such exchanges between gig workers might create a sense of collective resentment toward their platforms (Wood & Lehdonvirta, 2019), which might lead to organizing and creating a collective identity among workers, supporting trade unionism (Wood, 2015).

The development of technological communication offers a higher degree of anonymity, allowing gig workers to organize and express their anger freely. According to prior research, digital communication and exchange between gig workers mediate the way from sensing unfairness, dissatisfaction, and antagonism to resistance through different coping strategies (Oyetunde et al. 2022; Maffie, 2020).

The value of communication for creating solidarity among gig workers has been underlined in several studies of joint action in the local gig economy. Additionally, it was observed that protests towards platforms and endorsement of unions between ride-hailing and food delivery workers were supported by structured solidarity (Aslam & Woodcock, 2020; Cant, 2019; Cant & Woodcock, 2020; Cini & Goldmann, 2021; Maffie, 2020; Tassinari & Maccarrone, 2020). In addition to that, digital networks may help unions win over skeptics, boost membership engagement and communication, forge a shared identity

consistent with trade unionism, and organize and disseminate "swarming activities" that effectively harness symbolic power (Wood, 2015). Based on the above discussion, we derive the following hypothesis (Figure 20):

H17: Drivers' communication with each other boosts their participation in collective actions.

Algorithmic management is frequently accompanied by information asymmetry; accordingly, workers develop online forums dedicated to workers' empowerment and knowledge sharing (Kellogg et al. 2020). Such forums may assist workers in resolving their issues in multiple ways. Communication among workers allows sharing of information related to the unfairness of platform work (Maffie, 2020), enabling workers to compare their experiences and reducing the opacity of the platforms' algorithmic management (Shanahan & Smith, 2021).

This interchange permits gig workers to realize the substantial conflict of interest between them and the platforms. This conflict of interest may lead to workers' workarounds since that workarounds might arise when there is a mismatch between organizational and individual interests (Pollock, 2005; Alter, 2014) or workers are unsatisfied, which may also be legitimate workarounds in their eyes (Laumer et al. 2017).

Additionally, information exchange among gig workers may result in creating a sense of collective resentment toward their platforms (Wood & Lehdonvirta, 2019), however usually exploited groups of people opt more for covert resisting strategies to face employers' power since that people historically have opted to conceal their opposition for

the sake of safety and prosperity (Scott, 1990)**.**

It is acknowledged that workers' collective resistance is only one of the expressions of labor agency and probably not the most prevalent one for platforms' workers. Vandaele (2021) argued that similar to the conventional economy, other workers' strategies for coping with working conditions are, in all probability, more widespread than outright workers' resistance in the platform economy, though more hidden, due to their often-individualized nature (see, for instance, (Heiland, 2021)). Indeed, the development of technological communication offers a higher degree of anonymity, allowing gig workers to communicate and express their anger. Many workers' exchanges are hidden from platforms (Anwar & Graham, 2020), where they employ social media groups to provide support and information to one another (Maffie, 2020; Wood et al. 2018). These exchanges between workers are necessary to deeply understand the algorithm's functioning, either to facilitate and optimize the workers' journey or to work around the algorithm. Based on the above discussion, we derive our eighteenth hypothesis (Figure 20):

H18: Drivers' communication increases their workarounds.

3.3.3.4 Effect of Platforms' Ideological Power on Communication as well as on Gig Workers' Resistance (Overt and Covert Resistance)

Ideological power is especially constructive for comprehending platform workers' preservation of ostensibly broken interactions (Shanahan & Smith, 2021). As a result, it works against the interests of individuals by confusing them and, consequently, warping their judgment (Lukes, 2004). Indeed, platforms recast the idea of autonomy by absorbing

workers' aspirations for autonomy and linking the satisfaction of this requirement to the deterioration of worker pay and job security (Gandini, 2019), hence disabling condemnation by eliminating its foundation (Daudigeos et al. 2021).

The fact that couriers are self-employed individuals aids the assimilation of this ideology and is a key component of the platform's ideological influence, encouraging risk individualization (Duggan et al. 2020). Research investigating Uber has shown indications that this individual responsibility concept has been internalized to gain dominance in a vulnerable economic environment (Peticca-Harris et al. 2020).

Lukes (2005) defines ideological power as varying from total and exuberant acceptance of this supremacy to cautious assent that no alternative exists. He contends that power may act by ideologically influencing the beliefs and desires of individuals in a manner that may be contrary to their own beliefs.

As stated by Scott (1990), there are two distinct varieties of this "false consciousness," the more pervasive kind which maintains that a dominant ideology fulfills its objectives by persuading subjugated groups to embrace the ideas that justify and explicate their subordination actively. According to Scott (1990) the thick theory affirms acceptance; accordingly, workers under the effect of the platform ideological power are expected to be satisfied with their own exploitation, therefore, do not need to communicate with their coworkers, have no intention to participate in collective action, neither to exit the platform. They might be supportive and loyal to the platform, trusting platforms and therefore believing in the efficiency of direct appeal, avoiding workarounds, and waiting for the

situation to get enhanced. Based on the thick theory, we propose the following hypotheses (Figure 20):

H19(-): PIP decreases workers' communication.

H20 (-): PIP decreases workers' participation in collective action.

H21: PIP increases workers' direct appeal to the platform.

H22(-): PIP decreases workers' workarounds.

H23(-): PIP decreases workers' intention to exit the platform.

H24: PIP increases the workers' loyalty to the platform.

On the other hand, the thin theory of false consciousness holds that the dominant ideology forces those subjugated into obedience by persuading them that the social system within which they locate themselves is unavoidable and natural. The thin theory recognizes the validity of renunciation (Lukes, 2004). This can be realized by a more common resistance amongst the workers, which is workarounds or withdrawal of effort (Tomprou et al. 2015), and potentially avoiding platforms' direct appeal since they do not trust platforms anymore. Based on the thin theory, we derive the following rival hypotheses:

R-H21 (-): PIP decreases workers' direct appeal to the platform.

R-H22: PIP increases workers' workarounds.

R-H23: PIP increases workers' intention to exit the platform.

3.3.3.5 Moderation Effect of Platforms' Ideological Power

According to Degiuli & Kollmeyer (2007), ideological power may play a significant role in the labour-controlling process. Using the theories of Greenberg (1986) and Forgacs

(2000), they determined that management mainly attempted to establish dominance via ideological methods. Latest economic developments have made ideological power a crucial component of dominating labour control since new organizational structures are frequently inconsistent with conventional labour control (Degiuli & Kollmeyer, 2007). Lukes (2005) defines ideological power as varying from total and exuberant acceptance of this supremacy to cautious assent that no alternative exists. He contends that power may act by ideologically influencing the beliefs and desires of individuals in a manner that may be contrary to their own beliefs. For instance, drivers might see their work as fair, therefore, do not feel the need to participate in any collective action.

Additionally, communication among drivers would open the door to exchanging different perceptions of the gig workers, with several types and degrees of influence by the platforms' ideological power at several degrees, which would have an impact on the possibility of opting for collective actions. Based on the above discussion and reasoning, we derive the following hypothesis (Figure 20):

H17-a(-): PIP moderates the relationship between workers' communication and their participation in collective actions.

According to Degiuli & Kollmeyer (2007), ideological power may play a significant role in the labour-controlling process. Using the theories of Greenberg (1986) and (Forgacs, 2000), they determined that management was mainly attempting to establish dominance via ideological methods. Latest economic developments have made ideological power a crucial component of dominating labour control since new organizational structures are

frequently inconsistent with conventional labour control (Degiuli & Kollmeyer, 2007).

In a nutshell, the ideological power of the platform may influence gig workers' opinions about what is fair and what is not, in line with the interest of the party that detains the power. Based on the above discussion, we derive the following hypothesis (Figure 20):

H12-a(-): PIP moderates the relationship between unfair work conditions and workers' participation into collective actions.

Figure 20 depicts the research model that we use in the current study.

Figure 20. Proposed Research Model to Investigate the Mechanisms of Platforms' Power and Drivers' Resistance in the Local Gig Economy

3.4 Methodology and Empirical Data

The study utilizes a cross-sectional quantitative approach and applies a survey to allow statistical inference for testing the proposed hypotheses. This section describes the adopted methodology, measurement instrument, data sample, procedure for data collection, and demographic analysis.

In that, following steps were executed: (1) Focused literature review has been performed in order to clearly show the research gap and its relevance; (2) The theoretical development of the hypothesis is conducted with justification and evidence that supports the proposed research model; (3) the measurement instrument of the study is designed based on the literature and then validated with experts; (4) the questionnaire is translated into Arabic and French languages, since that the ride hailing drivers in Algeria understand Arabic and/or French; (5) the questionnaire understandability is checked with a group of four platform drivers, who invited other drivers for the same purpose (6) the data collection is then launched using online and offline approaches; (7) the collected data is statistically analysed and reported using partial least square structural equation modelling (PLS-SEM), using Smart-PLS version 4.0.9.1 software to test the hypothesis; (7) results are discussed and implications and conclusions are made accordingly. Figure 21 summarizes the methodology followed in this study.
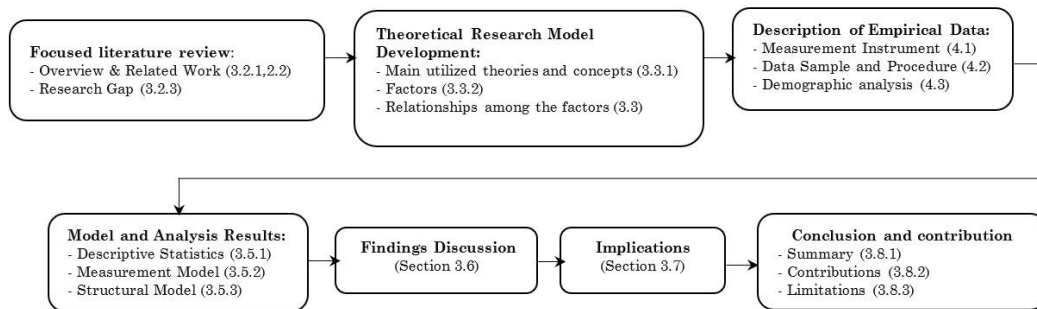
Figure 21. Summary of the Followed Steps

In the following subsections, we describe the measurement instrument, the data collection procedure, and the respondents' demographic analysis.

3.4.1 Measurement Instrument

The measurement of the factors comes mainly from the literature. Each proposed factor contains three or four items quantified using the Likert scale of 5 points. Generally, the minimum number of indicators to measure latent constructs is three to five (Hair, 2011). The complete measurement instrument is in Appendix C.

Gig Workers' Anger captures the drivers' perceptions of four factors: (1) Platform Decision-Making Power (P-DMP); (2) Platform Non-Decision-Making Power (P-NDMP); (3) Psychological Contract Violation (PCV); and (4) Work Conditions Fairness (WCF). The measurement items of the first factor, "Platform Decision-Making Power (P-DMP)," reported drivers' perception of the fairness of their contract with the platforms and the fairness of their pay. For the second factor, "Platform Non-Decision-Making Power" (P-NDMP), drivers were asked about their perception of the fairness of the communication and the platforms' algorithmic management. The third factor, "Psychological Contract

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Violation" (PCV), drivers were asked to report the frequency of the violation of their psychological contract by the platforms if experienced. For the fourth factor, "Work Conditions Fairness" (WCF), drivers were asked to report their perception of the fairness of their work conditions.

By measuring the four abovementioned factors, we aim first to capture the effect of the P-DMP and the P-NDMP effect on the drivers by measuring drivers' perception of the fairness of their contracts, pay, and management. Second, we capture drivers' perception of the fairness of their work conditions and the frequency of PCV by the platforms, if any. The drivers' perception of the fairness of their work represents the degree of their anger toward the platforms, the state, or even each other—detailed definitions of the four factors mentioned above are discussed in section 3.3.2.1. The measurement items for these abovementioned factors are adapted from prior literature (table 9).

Table 9. The Used Factors to Measure Gig Workers Anger Four Factors and Literature Adapted for the Measurement Items

	Factors	**Measurement Items Adapted From**
Gig workers anger	Platform Decision-making Power	Heeks et al. (2021)
		Stewart & Stanford (2017)
		Wood et al. (2021)
		Shanahan & Smith (2021)
	Platform non-decision-making power	Heeks et al. 2021)
		Wood et al. (2021)
		Shanahan & Smith (2021)
	Work Conditions fairness (WCF)	Heeks et al. (2021)

		Myhill et al. (2021)
	Psychological Contract violation (PCV)	Robinson & Rousseau (1994)
		Shanahan & Smith (2021)

Gig Workers' Overt Resistance uses two factors, (1) Participation in Collective Action (PCA); and (2) Direct Appeal (DA). The measurement items of the first factor, "Participation in Collective Action" (PCA), were adapted from Wood et al. (2021) study, while the measurement items of the second factor, "Direct Appeal" (DA), were adapted from Shanahan & Smith (2021). Through this measurement, we try to capture the density and frequency of the drivers' participation in voice initiatives, whether collective or individual—detailed definitions of the two factors mentioned above are discussed in section 3.3.2.2.

Gig Workers' Covert Resistance uses three factors, (1) Intention to Exit (IE); (2) Workaround (WA); and (3) Loyalty (LO). The measurement items of the first factor "Intention to Exit" (IE), are adapted from Rusbult et al. (1988) study. The second factor, "Workaround" (WA), is measured using items adapted from the theory of workaround Alter (2014) in addition to other works that explored the workarounds in the gig economy (Anwar & Graham, 2020; Jarrahi & Sutherland, 2019; Lee et al. 2015; Martin et al. 2016; Shanahan & Smith, 2021) studies. The third factor, "Loyalty" (LO), is measured using items adapted from (Graham, 1991; Turnley & Feldman, 1999; Van Dyne et al. 1994). By measuring the covert resistance factors of the drivers, we aim to capture the silent resistance through its different shapes. To see the degree to which drivers are willing to exit the work or perform work around the algorithm, stay loyal to the platform, and wait until the situation gets

ameliorated. Detailed definitions of the three factors mentioned above are discussed in section 3.3.2.3.

Communication (CO) is measured using three questions modified from those posed by Wood et al. (2021) and Maffie (2020), where the drivers were asked about the frequency of their intercommunication through different channels. A detailed definition of this factor is discussed in section 3.3.2.4.

Platforms' Ideological Power (PIP) is measured using three items adapted from the theory of power (Lukes, 2004), as well as (Scott, 1990; Shanahan & Smith, 2021). Here, we measure the effect of the platforms' ideological power on the drivers by trying to capture to what extent the platforms' ideological power influences the drivers through its neoliberal form. In other words, drivers report their perception of their subordination, whether they accept it or not, and if they accept it, they do it enthusiastically or not. A detailed definition of this factor is discussed in section 3.3.2.5.

Platforms' Manipulation Power (PMP) is a newly proposed variable, measured using three items adapted from (Attoh et al. 2019; Burawoy, 1982; Noggle, 2021; Pastuh & Geppert, 2020). In that, drivers were asked how they believe the platform tries to push them to do specific tasks they did not initially intend to do, using several channels based on gaming work processes. In addition, we explore the degree to which drivers perceive the platform process of work as a game, where they might implicitly accept the rules of the games and feel in competition with other workers. The measured effect may reflect the degree of isolation and atomization inflicted on gig workers. A detailed definition of this

factor is discussed in section 3.3.2.6.

Dependence on Platform (DP) is measured using three questions modified from those posed by Wood et al. (2021) and Myhill et al. (2021). The derived research questions try to clarify whether the drivers depend financially on the platform. Additionally, we capture their perception of the labor market, reflecting their dependence on the platforms. In that, we ask the drivers about the availability of attractive employment alternatives. The dependence on platforms (DP) measurement considers the average rate of the three items, defining whether the drivers are dependent or independent. If less than 2.5, the drivers are considered independent; if equal or above 2.5, drivers are considered dependent. A detailed definition of this factor is discussed in section 3.3.2.7.

3.4.2 Data Sample and Procedure

Empirical data come from surveying Algerian platform drivers (N = 339) who work in one more of the ride-hailing platforms in Algeria. The survey includes questions that ask the platforms' drivers to report their perception of the fairness of their work with platforms, their communication with each other, and their resistance. In addition to that, through our questionnaire, we tried to measure the effect of the platforms' ideological power and the effect of the manipulation power on the drivers.

The survey targets drivers aged 18 and over, with three months minimum experience as platform drivers. We started with (1) designing the measurement items and validating them with experts; (2) translating the questionnaire into Arabic and French languages, since the ride-hailing drivers in Algeria understand Arabic and French; (3) checking questionnaire

understandability with a group of four platform drivers, who invited other drivers for the same purpose (4) Launching data collection. We used Google Forms to design the survey, in addition to hard copies. The questionnaire is distributed to the drivers through different channels, including online forums, social media, and mobile phones, and reaching directly at the drivers through requesting real rides.

The authors started the discussion in the early stages with a group of three ride-hailing Algerian drivers to get familiar with the Algerian context and its specific challenges. These drivers are members-administrators of several ride-hailing drivers' discussions forum. The author informed the three drivers about the aim of this study, and they were very supportive.

They enhanced the questionnaire by participating with the author in several discussions and tests, aiming to ensure a high understanding of the research questions by drivers with different educational backgrounds. Many iterations of reviewing and testing the measurement instrument were exhausted until we reached a stable version of understandability. Additionally, we opted for a five Likert scale instead of seven since many drivers expressed frustration towards the seven Likert scale. Moreover, we adopted a detailed way of describing the two extremities of the scale based on our observation during the testing phase. Some drivers faced difficulties remaining focused while linking the question to its scale, which resulted, in many cases, in answering with the opposite of what they intended to answer. Another important observation was that drivers explicitly expressed the difficulty of precision of income interval due to its pricing policy instability, among many other factors. Instead, they were comfortable one it came to evaluating the

fairness of their incomes coming from their work in the ride-hailing sector.

The three administrators who helped align the questionnaire with the drivers' jargon were rewarded for their self-motivation and considerable effort by offering them digital tablets at the end of this operation.

Data Collection "Phase1": (Objective 300 Responses)

We describe the first phase as a hybrid, combining several approaches. In that, we targeted the ride-hailing platforms' drivers through Facebook discussion forums and contacted them directly over the phone (using two ride-hailing drivers' mobile numbers' databases). The drivers were contacted one by one through text and audio calls and messages explaining the study objective and inviting them to participate by answering the questionnaire. This process was very challenging and slow at the same time. In the same logic, a network of participants was recruited to support this data collection approach. Additionally, the formed network performed face-to-face meetings with the drivers simply by making requests for real rides, where the questions were asked directly to the driver during the trip. The network members also invited drivers in their entourage to participate in this study and invited their entourage to do the same to expand the network.

In addition to what was mentioned beforehand, requests for membership in Algerian ride-hailing drivers' main discussion forums were sent to their administrators. Some forum administrators and groups of platform drivers had doubts about the study. They did not see a clear interest in it and thought platforms were behind this survey to strengthen their market position further. Some went further, spreading rumors that the author was spying

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on Algerian ride-hailing drivers on behalf of foreign organizations. The author contacted the administrators in question and confirmed the identity of the principal author herself as well as the objective of the study, and therefore succeeded in convincing and reassuring them. From there, the administrators of drivers' groups and discussion forums opened their doors and the doors of their forum to posts about the study.

Several publications were shared on these discussion forums, where the authors invited drivers to participate in this study and to express their perceptions concerning working with ride-hailing platforms. Unfortunately, this high exposure was too risky, resulting in a fierce intrusion performed by an algorithm that generated around 280 almost similar responses within 24 hours, detected in our database.

This first phase resulted in 432 responses and allowed us to realize the challenges and difficulties surrounding the survey operation. Two significant conclusions were drawn from this first experience, namely

- The difficulty of convincing the drivers to participate remotely,

- The lack of patience to answer our questionnaire, which is quite long, and,

- The complexity and the difficulty of collecting data online through discussion forums.

Based on these lessons, we opted for a radical solution; a 100% offline face-to-face approach, starting from scratch, which can guarantee excellent data quality and faster data collection.

Phase2: Offline Data Collection (Objective: 300 Responses)

We trained four young, graduated university students, explaining the study to them and the exact meaning of each question so that they could go into the field and meet ride-hailing drivers. The survey was performed 100% offline using a hard-copy questionnaire to gain the drivers' complete trust, making them feel more comfortable giving their actual point of view. Additional explanations for questions were provided to the drivers in case of need, which drastically raised the survey quality.

The four individuals were each paid 100 USD. The final team comprised five members (the four young academics and the principal author) with well-determined objectives, namely, 60 respondents for each.

To meet the ride-hailing drivers, the team members did a subscription over several ride-hailing applications and started making ordinary ride requests for destinations that cost around 3 USD. The requests were performed while rotating applications; in order to avoid any issues with the applications as a customer, several sim cards were used to perform the rides requests in order to make sure that we gave enough time so as not to attract the attention of the platforms what is going on. The collection team avoided canceling the rides from their end to avoid being blocked by the platforms, as the platforms usually block customers if they keep canceling rides without clear justification.

The starting point and the targeted destinations were studied in the sense that there was a significant assemblage of drivers. As soon as the team member was in the driver's car, he systematically sat down in the front seat to reassure the driver by telling him that he was

fully aware of the situation and that he knew very well that he had to sit in the front seat to avoid the police causing trouble, and even avoid having his car impounded. After that, the team member explains to the driver the study's objective and offers to him to participate in this study while explaining that in return, the driver is given a tip of 2 to 3 USD.

In addition to what has been explained, the data collection team has diversified its way of surveying to put the driver at ease. The member proposed to the driver not to perform the ride, which makes him avoid the congestion of the road, and of course, he will not spend any penny for the fuel. In other words, it will give him a break, and at the same time, it will allow him to express his perception and objective point of view concerning the work with ride-hailing platforms anonymously and safely.

The driver wanted to make sure that the meeting was not recorded and that it was completely anonymous. All the drivers we met responded positively, and they very quickly started answering the survey questions. In addition, several drivers refused to get paid as long as they did not perform the ride. The data collection team explained that they spent time and energy answering the questionnaire, but still, it is somewhat bizarre when referring to Algerian culture.

Once the work was done, the collection team member asked the driver to accept the ride on the application and give it a 5-stars rating, and the member would do the same. The team did that intentionally to minimize the risk that the driver would contact the platform to denounce our study, out of fear or otherwise, which potentially would cause us to be blocked by the platform as the platform considers the team members as customers. Few

drivers insist on canceling the ride to benefit from the whole payment.

This second phase resulted in 339 high-quality valid responses due to some cases where some drivers were self-motivated and invited some of their colleagues to join the face-to-face operation without any incentive in return.

After finishing the data collection, the survey results are combined into a spreadsheet and prepared for analysis.; (5) Analyzing the data set, using structural equation modeling, and reporting findings. For that, we utilize Smart-PLS; (6) Discussing the results and drawing implications and future directions accordingly.

3.4.3 Demographic Analysis of Respondents

Table 10 depicts the demographic distribution of data according to gender, marital status, age, education, experience, platforms, and platform dependence. Regarding gender, male respondents predominate over female respondents (99.70% versus 0.03%). Most respondents are unmarried (57.52%) as opposed to married (42.48%). Most respondents are between 18 and 40 years old. Most of those surveyed hold a high school diploma or higher. The sample shows that nearly 66.67% of respondents have more than one year of experience. A large percentage of respondents work with Yassir (77.88%), Heetch (56.93%), and Coursa (44.84%). Almost 80% of the respondents depend on the platforms.

Table 10. Demographic Distribution of Respondents (Total Sample 339)

Item	Value	Frequency	Percentage
Gender	Male	338	99.70%
	Female	1	0.03%
Marital Status	Married	144	42.48%

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Item	Value	Frequency	Percentage
	Single	195	57.52%
Age	18 - 29 years	93	27.43%
	30 - 39 years	139	41%
	40 - 49 years	62	18.29%
	50 - 59	34	10.03%
	60 years and above	11	3.24%
Education	No Education	2	0.59%
	Primary School	6	1.77%
	Middle School	52	15.34%
	Secondary School	151	44.54%
	University	128	37.76%
Experience	3 – 6 Months	57	16.81%
	6 Months–1 year	56	16.52%
	More than 1 year	226	66.67%
Platform	Yassir	264	77.88%
	Heetch	193	56.93%
	Coursa	152	44.84%
	TemTem	46	13.57%
	Amir	18	5.31%
	Arbin	29	8.55%
	InDrive	83	24.48%
	lih Lih	4	1.18%
	Yango	58	17.11%
	Irkab	3	0.88%
	Sahla	4	1.18%
	Ouselni	2	0.59%

Item	Value	Frequency	Percentage
	Win	4	1.18%
	Witrack	2	0.59%
Dependence on Platform	Yes	270	79.65%
	No	69	20.35%

The distribution of respondents based on the ride-hailing platforms they work with is presented in Figure 22. The sample shows nearly 78% of the respondents working with Yassir, 56.93%working with Heetch, 44.84% working with Coursa, by 24.48% working with InDrive, 17.11% working with Yango, and 13.57% working with TemTem. Less than 10% of the participants work with Arbin, Amir, LihLih, Sahla, Irkab, Win, Witrack, Wassalni. This distribution shows a clear dominance of Yassir with reference to our sample.
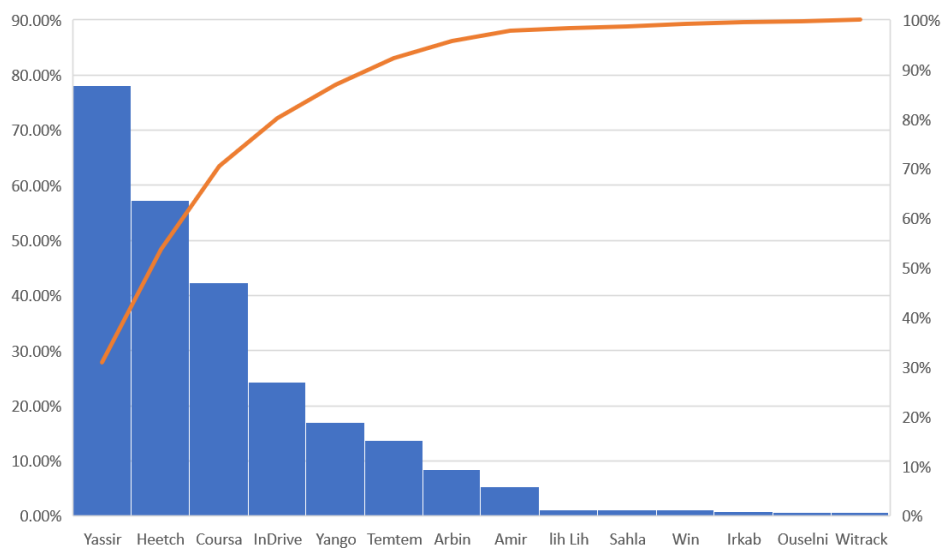
Figure 22. Distribution of the Respondents with Respect to the Ride-Hailing Platforms they Work with

Figure 23 shows the distribution of the respondents based on their dependence on the platforms. 80% of the respondents entirely depend on their work with the platforms and do not see other alternatives available in the labor market that suits them. For this category of respondents, the work with platforms represents their primary source of income. In contrast, 20% of the sample represent independent workers, whereas the work with the platforms represents a secondary source of income for them.
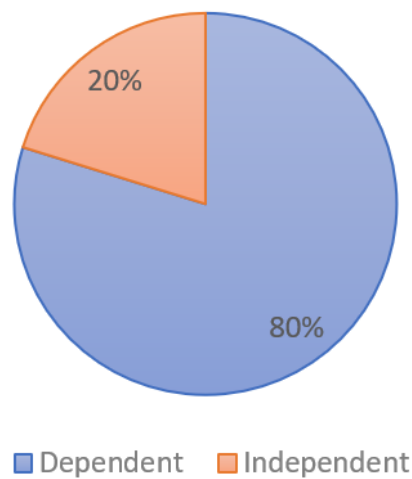
Figure 23. Distribution of Dependent and Independent Respondents

The respondents' distribution based on their education level is depicted in Figure 24. The sample shows that nearly 45% hold a secondary school diploma, whereas 38% hold a university degree. Around 15% of the respondents hold a middle school diploma, 0.59% hold a primary school diploma, and 1.77% did not study.
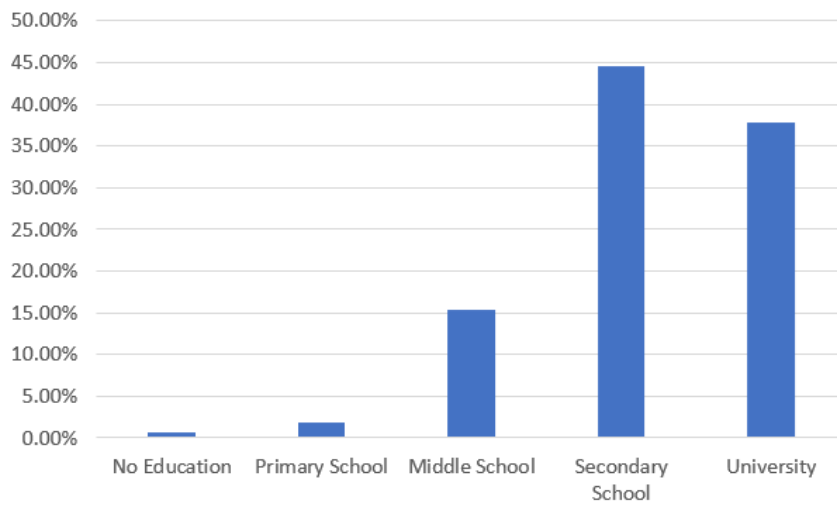
Figure 24. Distribution of the Respondents Based on their Level of Education

The distribution of the respondents concerning their experience in the ride-hailing sector is presented in Figure 25. Many respondents have more than one year of experience (67%). 17% of the respondents worked three to six months within the ride-hailing sector, whereas 16 % had six months to one year of working experience.
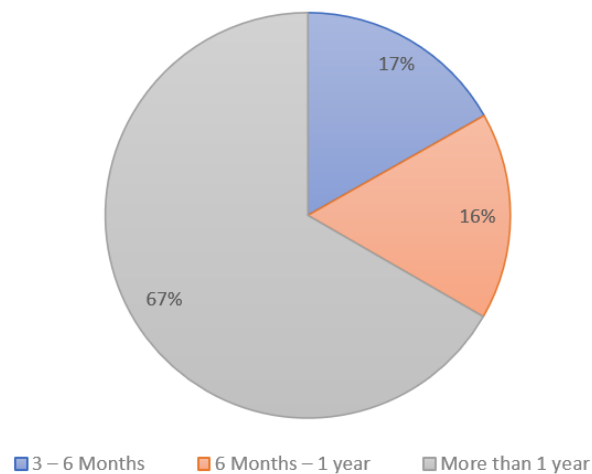
Figure 25. Distribution of the Respondents Based on their Work Experience in the Ride-Hailing Sector

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3.5 Research Model and Results' Analysis

To evaluate the hypotheses, we employed SEM. Hair et al. (2019) influenced the decision to use Partial Least Squares Structural Equation Modeling (PLS-SEM). According to Hair et al. (2019), researchers should utilize PLS-SEM when evaluating a theoretical framework from a predictive perspective. PLS-SEM is a causal-predictive alternative to SEM that emphasizes predictions when providing statistical models with causal-explanatory topologies. (Sarstedt et al. 2022; Wold, 1982). It eliminates the apparent conflict between explication, as frequently emphasized in academic research, and prediction, which is the basis for developing managerial implications (Hair, Risher, et al. 2019). Statistically, PLS-SEM is superior to factor-based SEM, even when estimating data from a conventional factor model population; hence its use is encouraged. The PLS-SEM method has greater statistical power. Therefore, it is more likely to detect a population-level effect when it exists and declare it significant. PLS-SEM's superior statistical power makes it well-suited for exploratory research, in which theory is still in its infancy (Sarstedt et al. 2022).

3.5.1 Descriptive Statistics

The results of the descriptive statistics of the factors and their measurement items are illustrated in Table 11. The mean and standard deviation SD are regarded as fundamental information that reveals the range and geometry of the sample distribution and the distance of the data from the mean value (Sekaran & Bougie, 2016). The data have a normal distribution around the factor means, indicating that they accurately represent most of the

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sample. Platform Decision Making Power (P-DMP) corresponds to the lowest standard deviation (SD) (1.093). On the other hand, Communication (CO) has the most significant standard deviation (1.548), followed by Platform Manipulation Power (PMP) (1.505), indicating that responses to the survey are a little more dispersed from the mean compared to other factors.

Table 11. Factors and their Descriptive Statistics

Factor	Number of Items	Mean	Standard Deviation
Platform Decision Making Power (P-DMP)	5	4.241	1.093
Platform Non-Decision-Making Power (P-NDMP)	3	4.198	1.131
Psychological Contract Violation (PCV)	3	3.913	1.249
Platform Manipulation Power (PMP)	3	3.607	1.505
Platform Ideological Power (PIP)	3	3.444	1.460
Work Condition Fairness (WCF)	3	3.921	1.256
Communication (CO)	3	3.218	1.548
Direct Appeal (DA)	3	2.382	1.335
Participation in Collective Action (PCA)	3	2.341	1.426
Workaround (WA)	3	3.166	1.492
Intention to Exit (IE)	3	3.344	1.442
Loyalty (LO)	3	2.264	1.374

Further descriptive analysis about respondent distribution who (1) perceive platforms' work as unfair, (2) perform communication among each other, (3) participate in covert and overt resistance, and (4) who are under the effect of platforms' ideological and manipulation powers, concerning different categories of age, education, experience, marital status. In

addition to that, the ANOVA test was performed to compare the means of those categories (Appendix D).

3.5.2 Measurement Model

Estimates of factor loading, composite reliability (CR), discriminant validity, and average variance extracted (AVE) are used to assess the stability of the model. Before testing the hypothesis, the validity of the factors and items can be established through these tests.

3.5.2.1 Reliability and Consistency of the Model

Examining the indicator loadings is the first step in evaluating a reflective measurement model. The second step involves assessing the internal consistency's reliability, using Jöreskog' (1971) composite reliability (CR). In most cases, a greater level of reliability can be inferred from figures that are higher. For exploratory research, reliability values between 0.60 and 0.70 are regarded as "acceptable," while values between 0.70 and 0.90 are deemed as "satisfactory to good" (Hair, Risher, et al. 2019).

Cronbach's alpha is an additional assessment of internal consistency reliability with comparable thresholds and lower values than composite reliability. Due to the unweighted nature of the elements, Cronbach's alpha is a less accurate measure of reliability. Composite reliability is more significant than Cronbach's alpha because the items are weighted following the component loadings of the construct indicators. While Cronbach's alpha may be excessively conservative, the composite reliability may be excessively liberal (Hair, Risher, et al. 2019).

The convergent validity of each construct measure is the object of the third step in evaluating a reflective measurement model. The degree to which the construct converges to explain the variance of its items is called convergent validity. Convergent validity is established by calculating the AVE across all items on the construct (Hair, Risher, et al. 2019). To calculate the AVE, we must square the loading of each indicator on a given construct and figure out the mean value. An accurate AVE is at least 0.50, meaning that the construct explains at least half of the variation between its items (Hair, Risher, et al. 2019). Table 12 shows the current study items' loading and the CR and AVE for each factor. In short, all factors passed the test of reliability.

Table 12. Reliability and Consistency of the Model

Factor	Items	Loading	Cronbach α	CR	AVE
Platform Decision Making Power (P-DMP)	P-DMP1	0.887	0.891	0.92	0.699
	P-DMP2	0.883			
	P-DMP3	0.821			
	P-DMP4	0.812			
	P-DMP5	0.771			
Platform Non-Decision-Making Power (P-NDMP)	P-NDMP 1	0.868	0.845	0.906	0.763
	P-NDMP 2	0.879			
	P-NDMP 3	0.874			
Psychological Contract Violation (PCV)	PCV1	0.935	0.901	0.938	0.834
	PCV2	0.932			
	PCV4	0.892			
Platform Manipulation Power (PMP)	PMP1	0.775	0.822	0.894	0.738
	PMP2	0.909			

Factor	Items	Loading	Cronbach α	CR	AVE
	PMP3	0.887			
Platform Ideological Power (PIP)	PIP1	0.756	0.701	0.833	0.625
	PIP2	0.859			
	PIP3	0.751			
Work Condition Fairness (WCF)	WCF1	0.771	0.717	0.841	0.638
	WCF2	0.784			
	WCF3	0.839			
Communication (CO)	CO1	0.876	0.868	0.919	0.792
	CO2	0.916			
	CO3	0.877			
Direct Appeal (DA)	DA1	0.840	0.760	0.861	0.675
	DA2	0.890			
	DA3	0.726			
Participation in Collective Action (PCA)	PCA1	0.913	0.913	0.945	0.852
	PCA2	0.920			
	PCA3	0.935			
Workaround (WA)	WA1	0.848	0.878	0.925	0.805
	WA2	0.927			
	WA3	0.914			
Intention to Exit (IE)	IE1	0.902	0.882	0.927	0.809
	IE2	0.911			
	IE3	0.886			
Loyalty (LO)	LO1	0.880	0.867	0.919	0.791
	LO2	0.923			
	LO3	0.864			

CR > 0.70 and AVE > 0.50, C.R: composite reliability, AVE: the average variance extracted,

Cronbach α > 0.6

3.5.2.2 Discriminant Validity

A factor's discriminant validity explains how much it varies from other factors (Hair, Sarstedt, et al. 2019; Henseler et al. 2015). Fornell & Larcker (1981) suggested comparing each construct's AVE to the squared inter-construct correlation (as a measure of shared variance) of that construct and all other reflectively measured constructs in the structural model. The variance shared by all model constructs should not exceed their respective AVEs (Hair, Sarstedt, et al. 2019). The data on the diagonal (in bold) in Table 13 represents the construct square root of the AVE, while other values denote correlations with other constructs. All investigated factors passed the discriminant validity test, according to the result.

Table 13. Discriminant Validity (Fornell & Larcker (1981) Criterion)

	CO	DA	IE	LO	P-DMP	P-NDMP	PCA	PCV	PIP	PMP	WA	WCF
CO	**0.890**											
DA	-0.213	**0.822**										
IE	0.174	-0.153	**0.900**									
LO	-0.254	0.497	-0.393	**0.889**								
P-DMP	0.290	-0.704	0.350	-0.562	**0.836**							
P-NDMP	0.190	-0.680	0.242	-0.515	0.787	**0.874**						
PCA	0.419	-0.103	0.236	-0.045	0.174	0.113	**0.923**					
PCV	0.326	-0.626	0.391	-0.622	0.722	0.705	0.171	**0.913**				
PIP	-0.265	0.051	-0.398	0.190	-0.186	-0.100	-0.527	-0.187	**0.790**			
PMP	0.195	-0.281	0.226	-0.333	0.330	0.313	-0.100	0.435	0.225	**0.859**		
WA	0.377	-0.244	0.293	-0.381	0.344	0.293	0.065	0.399	-0.112	0.312	**0.897**	
WCF	0.240	-0.651	0.178	-0.470	0.727	0.745	0.064	0.686	-0.083	0.372	0.314	**0.799**

If square root of AVE > inter-construct correlations; CO: Communication, DA: Direct Appeal, IE: Intention to Exit, Lo: Loyalty, P-DMP: Platforms'

Decision-Making Power, P-NDMP: Platforms' Non-Decision-Making Power, PCA: Participation in Collective Action, PCV: Psychological Contract Violation,

PIP: Platforms' Ideological Power, PMP: Platforms' Manipulation Power, WA: Workarounds, WCF: Work Conditions Fairness.

3.5.3 Structural Model

Statistically, SEM is an advanced version of general linear modeling techniques (e.g., multiple regression analysis) used to evaluate whether a proposed model is consistent with the data that reflects the theory (Lei & Wu, 2007). Unlike multiple regression, SEM can concurrently analyze relationships between multiple dependent variables (Astrachan et al. 2014; Jöreskog et al. 1999), as well as multi-level dependence relationships, where a dependent variable turns into an independent variable in the following relationships within the same analysis (Shook et al. 2004).

While CB-SEM is preferable when the hypotheses are built based on sufficient evidence and an established theoretical foundation (Astrachan et al. 2014), PLS-SEM is preferable when testing new relations and evolving concepts that have not theoretically matured (Dash & Paul, 2021; Hair et al. 2017). Additionally, Astrachan et al. (2014) recommended using SEM methods, specifically PLS-SEM, due to its ability to deal with tiny samples. These complex models include multiple endogenous and exogenous constructs and indicator factors, and non-normal data distributions while continuing to generate reliable outcomes. These configurations are typical in social science research (Hair, Sarstedt, et al. 2014). PLS-SEM, which is especially appropriate for the initial stages of theory formulation and assessment (Hair et al. 2013), enables the investigation of constructs and relationships within complex structural models. It applies as the primary objective of theory development is to identify relationships, their directions, strengths, and observable measures (Astrachan et al. 2014). On the other hand, PLS-SEM lacks a tried-and-true method of determining

whether or not a model has a good fit (Sarstedt et al. 2022).

Tenenhaus et al. (2005, p. 173) offered the goodness of fit index (GoF) as a potential operational solution to this challenge. This technique may be designed to test and validate the PLS model. The value of the GoF was called into doubt by Henseler & Sarstedt (2013), who demonstrated that the metric is not a requirement for PLS-SEM goodness-of-fit. This was done both conceptually and empirically. Other metrics that may be utilized include the accurate fit test, the root mean square residual covariance, and the standard root mean square residual (Henseler et al. 2014; Dijkstra & Henseler, 2015; Lohmöller, 1989). Dijkstra and Henseler developed these metrics. Although simulation studies attempted to demonstrate their usefulness for PLS-SEM-based model fit assessment (Schuberth et al. 2018), Hair et al. (2021) point out that these methods are ineffective for locating model misspecifications in the circumstances standard in a real investigation. Furthermore, the research that has been done on the topic raises problems about whether or not the concept of measured fit, as it is commonly utilized in the setting of factor-based SEM (Hair Jr et al. 2021; Lohmöller, 1989), applies to PLS-SEM.

The objective of parameter estimation in factor-based SEM is to reduce the degree of difference between the empirical and model-implied covariance matrices as much as possible. The PLS-SEM technique, on the other hand, takes a causal-prediction modeling approach by aiming to explain as much variation in the endogenous latent variables as possible (Sarstedt et al. 2022). According to Hair, Sarstedt, et al. (2019), the notions of statistical modeling and estimating can be broken down into two categories: explanation

and prediction. According to Sarstedt et al. (2022), explanatory modeling aims to gain the most accurate picture of the foundational theory by reducing biases. On the other hand, predictive modeling tries to minimize the estimation bias and variance together, which might occasionally come to the detriment of theoretical accuracy (Shmueli, 2010).

Additionally, predictive modeling can propose enhancements to existing explanatory models by identifying underlying complex patterns and relationships (Shmueli, 2010). Similarly, using PLS-SEM allows potential model enhancements, such as adding a new latent variable, an indicator, an inner relation, or the omission of such a component to be evaluated for their predictive accuracy, and the various tests are quick and inexpensive. "PLS-SEM is appropriate for exploratory research, but also for confirmatory research, which is particularly important (Hair et al. 2021).

Based on the above discussion, PLS-SEM is believed to be most suitable for analyzing and examining the results to evaluate the hypotheses for the modeled data. In this section, the model assessment is presented. First, the collinearity is examined, and then the standard evaluation criteria are assessed. Among these criteria is the coefficient of determination R square (R^2) and the cross-validated redundancy measure Q square (Q^2) based on blindfolding. We then move to verify hypotheses with PLS-SEM to provide a solid basis for the discussion and the implications.

3.5.3.1 Collinearity

Estimating the series of regression equations provides coefficients for the structural model that describe the relationships between the factors. To prevent collinearity from

skewing the regression outcomes, examining it before drawing any conclusions regarding the structural connections is necessary. Variance inflation factor (VIF) values greater than 5 reveal a potential collinearity issue within the predictor variables; nevertheless, collinearity issues may also appear at VIF between 3 and 5 (Mason & Perreault, 1991;Becker et al. 2015). VIF values ought to ideally be less than 3 (Hair, et al. 2019). Table 7 indicates that all VIF values are less than three except one, displaying a VIF of 3.141; accordingly, we conclude that collinearity is not at critical levels.

Table 14. Collinearity Statistics (*VIF < 5)*

	CO	DA	IE	LO	P-DMP	P-NDMP	PCA	PCV	PIP	PMP	WA	WCF	PIP x CO	PIP x WCF
CO							1.16				1.134			
DA														
IE														
LO														
P-DMP					1			2.827				3.141		
P-NDMP								2.66				2.971		
PCA														
PCV												2.654		
PIP	1.007	1.007	1.007	1.007			1.134	1.148			1.076	1.203		
PMP								1.247				1.408		
WA														
WCF	1.007	1.007	1.007	1.007			1.099				1.061			
PIP x CO							1.135							
PIP x WCF							1.158							

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3.5.3.2 R Square and Q Square

After accomplishing the collinearity examination, the endogenous factors' R-square (R^2) value is examined. The R^2 indicates the model's explanatory power by quantifying the variance that can be explained by each endogenous variable (Shmueli & Koppius, 2011). R^2 is also known as predictive power within the sample (Rigdon, 2012). It extends from 0 to 1, with greater values revealing better explanation capacity. In some fields, R^2 values as low as 0.10 are acceptable (Hair, et al. 2019). In addition, Falk & Miller (1992) suggested that for an endogenous factor to be accepted as having a substantial percentage of variance explained, the R^2 values must be equal to 0.10 or greater.

According to Hair, et al. (2019), R^2 is proportional to the number of predictor constructs; as we propose multiple predictor constructs, R^2 increases. As a result, the R^2 should always be read in light of the study background and comparison to the R^2 results of comparable studies and models' complexity. For instance, R^2 values of 0.90 may be plausible when measuring an inherently predictable concept, while similar R^2 values in a model predicting human perceptions reflect an overfit (Hair, et al. 2019). The indicated R^2 results range from 0.118 to 0.636 and are estimated to be excellent since we are measuring drivers' perceptions. The highest R^2 is related to the Work Conditions Fairness (0.636), which means that 64% of the perceived work conditions fairness (WCF) is well explained by its antecedents, i.e., P-DMP: Platform Decision Making Power, P-DMP: Platform Non-Decision-Making Power, PCV: Psychological Contract Violation, and PMP: Platform Manipulation Power (column 2, Table 15). The Work Conditions Fairness (WCF) factor is presented as a proxy

to assess the drivers' anger concerning its elevated predictability through its antecedents. Additionally, the R^2 related to the Participation in Collective Action (PCA) shows that 40% of the change in this factor can be explained by the change in its predecessor (namely: WCF: Work Conditions Fairness, CO: Communication, and PIP: Platform Ideological Power), which is quite robust (Column 2, Table 15).

Calculating the Q^2 value is a further approach to assessing the prediction accuracy of the PLS path model (GEISSER, 1974; Stone, 1974). This measurement is based on a blindfolding procedure that eliminates single data points, assigns the removed points the mean, and estimates the model's parameters (Rigdon, 2014; Sarstedt et al. 2014). Therefore, Q^2 is not a measure of out-of-sample prediction but combines both out-of-sample prediction and in-sample explanatory power (Shmueli et al. 2016). This method predicts the removed data points for every factor. Minor discrepancies between predicted and actual values result in a higher Q^2 value, thereby indicating a higher level of prediction precision. As the , Q^2 prediction is not based on holdout specimens but rather on single dismissed and imputed points of data, this indicator is a mixture of in-sample and out-of-sample prediction that does not show if the model has a good fit for explaining or predicting (Shmueli et al. 2019).

In general, Q^2 values for an endogenous factor must be more significant than zero to indicate the accuracy of the structural model for that factor. In general, Q^2 values for an endogenous factor must be larger than zero to indicate the accuracy of the structural model for that factor. Q^2 values greater than 0, 0.25, and 0.50, respectively, indicate the PLS-path model's small, moderate, and substantial predictive relevance (Hair, et al. 2019). The

aggregate results of R² and Q² are presented in Table 15.

Table 15. R-Square and Q-Square

	R-square	Q²predict
CO	0.118	0.122
DA	0.424	0.439
IE	0.179	0.203
LO	0.244	0.29
P-NDMP	0.62	0.616
PCA	0.398	0.272
PCV	0.623	0.57
WA	0.196	0.114
WCF	0.636	0.536

$0.1 > r^2 > 0.99 ; Q^2 > 0$

3.5.3.3 Hypotheses Testing

The study's hypotheses are tested using the PLS-SEM results generated by Smart-PLS to determine if they can be supported (version 4.0.9.1). Table 16 displays the results of each hypothesis along with its respective path, estimate, standard error, and P-value. The hypothesis is generally supported when the p-value is less than 0.05.
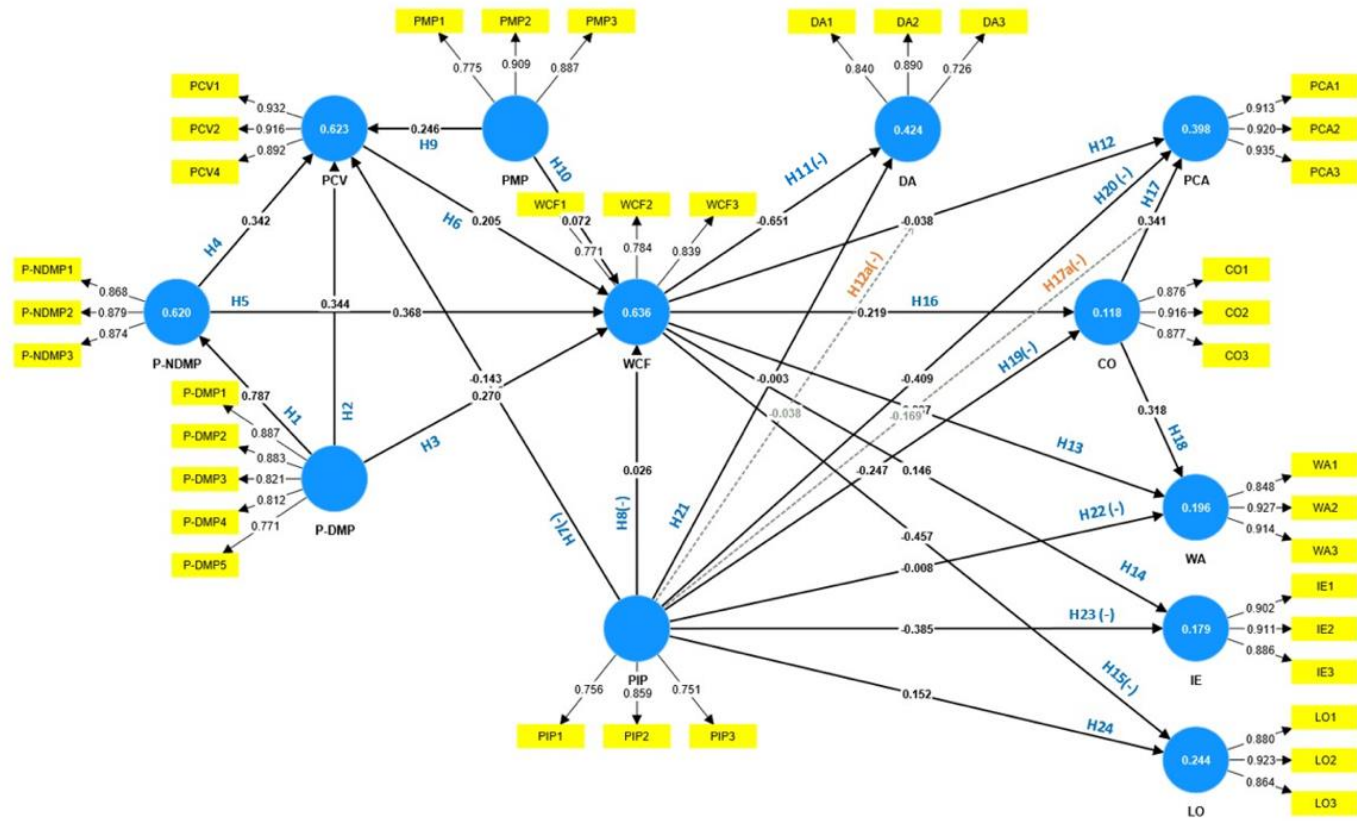
Figure 26. Output Results of Smart-PLS Model

The results of the bootstrapping procedure with 5,000 samples reveal that most of the structural model relationships are significant (Table 16; Figure 26). Specifically, we find that P-DMP has a significant and pronounced effect on the platform P-NDMP, PCV, and WCF. Additionally, we found that P-NDMP significantly impacts both PCV and WCF. Also, the impact of PCV on WCF was confirmed.

The results also revealed that PIP decreases PCV, whereas it has a non-significant effect on WCF. Additionally, PMP has a significant impact on PCV, whereas it has no significant effect on WCF.

The direct relationship between WCF and PCA was rejected. In contrast, a significant impact of WCF on CO, as well as a significant impact of CO on PCA and WA, were confirmed, which confirms the existence of a mediation effect of CO. Additionally, the relationship between WCF and (1) DA; (2) WA; (3) IE; as well as (4) LO, are significant.

For PIP, the results showed that it has a substantial and well-pronounced negative impact on PCA (-0.409, p<0.01). In the same vein, PIP has a significant negative impact on CO and IE, whereas it has a significant positive impact on LO.

On the other hand, results rejected the proposed direct relationships between PIP and both DA and WA.

Table 16. Main Model Results

H	Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
H1	P-DMP → P-NDMP	0.787	0.031	25.513	0.000 ***	Accepted

H	Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
H2	P-DMP → PCV	0.344	0.071	4.850	0.000 ***	Accepted
H3	P-DMP → WCF	0.270	0.077	3.500	0.000 ***	Accepted
H4	P-NDMP → PCV	0.342	0.071	4.842	0.000 ***	Accepted
H5	P-NDMP → WCF	0.368	0.061	6.067	0.000 ***	Accepted
H6	PCV → WCF	0.205	0.069	2.973	0.001 ***	Accepted
H7(-)	PIP → PCV	-0.143	0.037	3.904	0.000 ***	Accepted
H8(-)	**PIP → WCF**	**0.026**	**0.038**	**0.687**	**0.246**	**Rejected**
H9	PMP → PCV	0.246	0.040	6.200	0.000 ***	Accepted
H10	PMP → WCF	0.072	0.048	1.506	0.066	Weakly accepted
H11(-)	WCF → DA	-0.651	0.037	17.474	0.000 ***	Accepted
H12	**WCF → PCA**	**-0.038**	**0.048**	**0.787**	**0.216**	**Rejected**
H13	WCF → WA	0.237	0.054	4.369	0.000 ***	Accepted
H14	WCF → IE	0.146	0.050	2.898	0.002 **	Accepted
H15(-)	WCF → LO	-0.457	0.047	9.650	0.000 ***	Accepted
H16	WCF → CO	0.219	0.056	3.913	0.000 ***	Accepted
H17	CO → PCA	0.341	0.043	7.853	0.000 ***	Accepted
H18	CO → WA	0.318	0.055	5.788	0.000 ***	Accepted
H19(-)	PIP → CO	-0.247	0.052	4.784	0.000 ***	Accepted
H20(-)	PIP → PCA	-0.409	0.045	9.043	0.000 ***	Accepted
H21	**PIP → DA**	**-0.003**	**0.040**	**0.079**	**0.468**	**Rejected**
H22(-)	**PIP → WA**	**-0.008**	**0.055**	**0.148**	**0.441**	**Rejected**
H23(-)	PIP → IE	-0.385	0.051	7.625	0.000 ***	Accepted
H24	PIP → LO	0.152	0.046	3.333	0.001 ***	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

3.5.3.4 Indirect Effect Analysis (Mediation Analysis)

In a causal relationship, the indirect effect indicates that a third factor mediates the

impact of one factor on another (Alwin & Hauser, 1975).

Significant results were obtained from the indirect effect using PLS-SEM. Through the use of mediation analysis, the primary emphasis of our attention is placed on the function of CO as a mediator in the interaction among anger, as reflected by its proxy, WCF, and PCA (see Table 17, subsection 3.5.3.4.1). Additionally, we aim to understand the relationships of the four faces of platforms power, namely: (1) P-DMP; (2) P-NDMP; (3) PIP; and (4) PMP, with the drivers' covert and overt resisting strategies. In order to achieve our goal, we examine the indirect significant paths among the power and the resistance factors. For that, we present four Tables (tables 18, 19, 20, and 21) depicting the indirect relationships between the four abovementioned types of platforms' power with the covert as well as the overt drivers' resisting strategies (subsections 3.5.3.4.2, 3.5.3.4.3, 3.5.3.4.4 and 3.5.3.4.5). We summarize the most important observations for each power, and we accordingly derive the full or partial mediating role of specific factors.

3.5.3.4.1 Mediating Effect of Communication

Referring to the hypotheses testing, hypothesis H12 stipulating that "*Unfair work conditions lead to participation in collective action*," was rejected (table 16). At the same time, the role of CO in mediating the relationship between WCF and PCA was confirmed (table 17). Based on that, we derive that CO fully mediates the relation between WCF and PCA.

Table 17. Mediating Role of Communication (CO)

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
WCF → CO → PCA	0.075	0.021	3.544	0.000 ***	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

3.5.3.4.2 Indirect Relationship Between Platforms' Decision-Making-Power (P-DMP) and Drivers' Resisting Strategies

Results show different significant paths connecting P-DMP to the factors representing the drivers' resisting strategies, namely: (1) PCA; (2) DA; (3) WA;(4) LO; and (5) IE. These paths differ in terms of the presence of some mediating factors, which allow us, in some cases, to deduce whether the mediation effect is partial or full.

Results showed that P-DMP indirectly and positively impacts (1) PCA through three paths (table 18). The relationships are mediated by: (1) WCF and CO; (2) P-NDMP, PCV, as well as WCF, and CO; and (3) PCV as well as WCF, and CO.

Given the above findings, we can confirm that P-NDMP and PCV partially mediate the relationship between P-DMP and PCA since other factors can mediate the relationship in question.

We still cannot confirm whether the rest of the mediators represent full or partial mediators since we ignore the significance of the direct relationship between P-DMP and PCA.

Summarizing the results regarding P-DMP's indirect impact on drivers' resisting

strategies, we confirm the existence of significant and indirect positive impact of P-DMP on PCA, IE, and WA, whereas it has a negative impact on LO and DA. Additionally, four mediators intervene in these significant connections, mainly: P-NDMP, PCV as well as WCF, and CO (Table 18);

Table 18. Indirect Effect of Platforms' Decision-Making Power (P-DMP) on Drivers Resisting Strategies

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
P-DMP → WCF → CO → **PCA**	0.020	0.008	2.387	0.009 **	Accepted
P-DMP → P-NDMP → PCV → WCF → CO → **PCA**	0.004	0.002	2.000	0.023 *	Accepted
P-DMP → PCV → WCF → CO → **PCA**	0.005	0.003	1.842	0.033 *	Accepted
P-DMP → PCV → WCF → **IE**	0.010	0.006	1.712	0.044 *	Accepted
P-DMP → WCF → **IE**	0.039	0.018	2.150	0.016 *	Accepted
P-DMP → P-NDMP → WCF → **IE**	0.042	0.016	2.674	0.004 **	Accepted
P-DMP → P-NDMP → PCV → WCF → **IE**	0.008	0.005	1.769	0.038 *	Accepted
P-DMP → WCF → **LO**	-0.124	0.040	3.051	0.001 ***	Accepted
P-DMP → P-NDMP → PCV → WCF → **LO**	-0.025	0.010	2.458	0.007 **	Accepted
P-DMP → P-NDMP → WCF → **LO**	-0.133	0.026	5.040	0.000 ***	Accepted
P-DMP → PCV → WCF →	-0.032	0.014	2.280	0.011 *	Accepted

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
LO					
P-DMP → P-NDMP → PCV → WCF → **WA**	0.013	0.006	2.073	0.019 *	Accepted
P-DMP → WCF → CO → **WA**	0.019	0.008	2.238	0.013 *	Accepted
P-DMP → P-NDMP → PCV → WCF → CO → **WA**	0.004	0.002	1.932	0.027 *	Accepted
P-DMP → P-NDMP → WCF → **WA**	0.069	0.019	3.648	0.000 ***	Accepted
P-DMP → PCV → WCF → CO → **WA**	0.005	0.003	1.860	0.031 *	Accepted
P-DMP → WCF → **WA**	0.064	0.023	2.768	0.003 **	Accepted
P-DMP → P-NDMP → WCF → CO → **WA**	0.020	0.007	2.820	0.002 **	Accepted
P-DMP → WCF → **DA**	-0.176	0.054	3.240	0.001 ***	Accepted
P-DMP → P-NDMP → WCF → **DA**	-0.189	0.035	5.404	0.000 ***	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

3.5.3.4.3 Indirect Relationship Between Platforms' Non-Decision-Making Power (P-NDMP) and Drivers' Resisting Strategies

Results show different significant paths connecting P-NDMP to the factors representing the drivers' resisting strategies, namely: (1) PCA; (2) DA; (3) WA;(4) LO; and (5) IE. These paths differ in terms of the presence of some mediating factors, which allow us, in some cases, to deduce whether the mediation effect is partial or full (table 19).

Results showed that P-NDMP indirectly and positively impacts (1) PCA through three

paths (table 12). The relations are mediated by: (1) WCF and CO; and (2) PCV and WCF and CO.

In line with the above findings, we can confirm that PCV partially mediates the relationship between P-NDMP and PCA since other factors can mediate the relationship in question. We still cannot confirm whether the rest of the mediators represent full or partial mediators since we ignore the significance of the direct relationship between Platform P-NDMP and PCA.

Summarizing the results regarding the P-NDMP indirect impact on drivers' resisting strategies, we confirm the existence of significant and indirect positive impact of P-NDMP on PCA, IE, and WA, whereas it has a negative impact on LO and DA. Additionally, three mediators intervene in these significant connections, mainly: PCV as well as WCF, and CO (table 19);

Table 19. Indirect Effect of Platforms' Non-Decision-Making Power (P-NDMP) on Drivers' Resisting Strategies

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
P-NDMP → WCF → CO → **PCA**	0.027	0.008	3.280	0.001 ***	Accepted
P-NDMP → PCV → WCF → CO → **PCA**	0.005	0.003	1.995	0.023 *	Accepted
P-NDMP → WCF → **DA**	-0.240	0.041	5.780	0.000 ***	Accepted
P-NDMP → PCV →	-0.046	0.018	2.537	0.006 **	Accepted

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
WCF → **DA**					
P-NDMP → WCF → **WA**	0.087	0.023	3.747	0.000 ***	Accepted
P-NDMP → PCV → WCF → **WA**	0.017	0.008	2.073	0.019 *	Accepted
P-NDMP → WCF → CO → **WA**	0.026	0.009	2.856	0.002 **	Accepted
P-NDMP → PCV → WCF → CO → **WA**	0.005	0.003	1.921	0.027 *	Accepted
P-NDMP → PCV → WCF → **IE**	0.010	0.006	1.773	0.038 *	Accepted
P-NDMP → WCF → **IE**	0.054	0.020	2.724	0.003 **	Accepted
P-NDMP → WCF → **LO**	-0.168	0.031	5.358	0.000 ***	Accepted
P-NDMP → PCV → WCF → **LO**	-0.032	0.013	2.465	0.007 **	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

3.5.3.4.4 Indirect Relationship Between Platforms' Manipulation Power (PMP) and Drivers' Resisting Strategies

Regarding the hypotheses testing, hypothesis H10 stipulating that "*Platform manipulation power generates unfair works condition.*" was rejected (table 16). However, the role of PCV in mediating the relationship between PMP and WCF is confirmed (table 20). Based on that, we derive that PCV fully mediates the relationship between PMP and WCF. In other words, the PMP boosts the drivers' perception of violating their PC and the

unfairness of their work conditions, raising their anger.

In summary, we confirm the existence of significant and indirect positive impacts of PMP on PCA, IE, and WA, whereas it has a negative impact on LO and DA. Additionally, three mediators intervene in these significant connections, mainly: PCV, WCF, and CO (table 20).

Table 20. Indirect Effect of Platforms' Manipulation Power (PMP)

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
PMP → PCV → **WCF**	0.051	0.019	2.670	0.004 **	Accepted
PMP → PCV → WCF → CO → **PCA**	0.004	0.002	1.979	0.024 *	Accepted
PMP → PCV → WCF → CO → **WA**	0.004	0.002	1.962	0.025 *	Accepted
PMP → PCV → WCF → **WA**	0.012	0.006	2.117	0.017 *	Accepted
PMP → PCV → WCF → **IE**	0.007	0.004	1.783	0.037 *	Accepted
PMP → PCV → WCF → **LO**	-0.023	0.009	2.608	0.005 **	Accepted
PMP → PCV → WCF → **DA**	-0.033	0.012	2.662	0.004 **	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

3.5.3.4.5 Indirect Relationship Between Platforms' Ideological Power (PIP) and Drivers' Resisting Strategies

Referring back to the hypotheses testing, hypothesis H8(-), stipulating that "PIP

enhances drivers' perception of the fairness of their work conditions, which decreases their anger," was rejected (table 16). However, the role of PCV in mediating the relationship between PIP and WCF is confirmed (table 21). Based on that, we derive that PCV fully mediates the relationship between PIP and WCF. In other words, PIP reduces the drivers' perception of violating their PC, therefore, the unfairness of their work conditions, which reduces their anger.

Additionally, hypothesis H21 stipulating that "*PIP increases workers' direct appeal to the platform*" was rejected (Table 16). However, PCV and WCF mediate the relationship between PIP and DA (Table 21). Based on that, we derive that PCV, in addition to WCF, fully mediates the relationship between PIP and DA. In other words, PIP raises the drivers' DA to the platforms, which reveals that the more drivers are under the effect of PIP, the more they trust platforms as well as the efficiency of DA process.

Findings also rejected hypothesis H22(-), stipulating that "*PIP decreases workers' workarounds*" (table 16). While PCV, WCF, and CO mediate the relationship between PIP and WA (table 21).

Based on the significant indirect relationships relating PIP to WA and DA, we confirm that PCV or WCF or CO mediate the relationship between PIP and WA, as well as DA.

In other words, the PIP decreases the drivers' WA and raises their DA to the platform, which reveals that the more drivers are under the effect of the PIP, the more they trust and respect their deal with platforms.

The main results in Table 16 showed that the PIP directly and negatively impacts PCA,

CO, and IE, while increasing drivers' LO. Indeed, Hypothesis (H19(-), H20(-), H23(-), H24) were supported (table 16):

- ✓ H19(-): PIP decreases workers' communication.

- ✓ H20 (-): PIP decreases workers' participation in collective action.

- ✓ H23(-): PIP decreases workers' intention to exit the platform.

- ✓ H24: PIP increases the workers' loyalty to the platform.

Additionally, results show different significant indirect paths connecting PIP to the factors representing the drivers' resisting strategies, namely: (1) PCA); (2) DA; (3) WA; (4) LO; and (5) IE. These paths differ in terms of the presence of some mediating factors, which permits, in some cases, to deduce whether the mediation effect is partial or full (table 21).

For instance, the finding confirms the indirect negative impact of PIP on (1) PCA through two different paths (Table 21). The relationships are mediated by: (1) CO, (2) PCV as well as WCF, and CO.

Building on the above direct and indirect effects findings, we can confirm that, in this case, CO, WCF, and PCV are partial mediators of the relationship between the PIP and PCA since there is a confirmed direct relationship between PIP and PCA (table 16).

Summarizing the rest of the indirect effects of PIP on drivers' resisting strategies, we confirm the existence of significant and indirect negative impacts of PIP on PCA, IE, and WA, whereas it has a positive impact on LO and DA. Additionally, three mediators intervene in these significant connections, mainly: PCV, WCF, and CO (table 21).

Table 21. Indirect Effect of Platforms' Ideological Power (PIP)

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
PIP → CO → **PCA**	-0.084	0.020	4.175	0.000 ***	Accepted
PIP → PCV → WCF → CO → **PCA**	-0.002	0.001	1.885	0.030 *	Accepted
PIP → CO → **WA**	-0.079	0.022	3.572	0.000 ***	Accepted
PIP → PCV → WCF → **WA**	-0.007	0.003	2.002	0.023 *	Accepted
PIP → PCV → WCF → CO → **WA**	-0.002	0.001	1.893	0.029 *	Accepted
PIP → WCF → CO → WA	**0.002**	**0.003**	**0.636**	**0.262**	**Rejected**
PIP → WCF → WA	**0.006**	**0.009**	**0.675**	**0.250**	**Rejected**
PIP → PCV → WCF → **LO**	0.013	0.006	2.380	0.009 **	Accepted
PIP → PCV → WCF → **DA**	0.019	0.008	2.384	0.009 **	Accepted
PIP → PCV → WCF → **IE**	-0.004	0.002	1.767	0.039 *	Accepted
PIP → PCV → **WCF**	-0.029	0.012	2.376	0.009 **	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

3.5.3.5 Moderation Effect

The moderating effect measures how much one variable alters the strength of a relationship between two others. It analyses the effect a given variable has on the strength of the relationship (Byrne, 2016). Table 22 summarizes the results of the moderating effect suggested by the hypotheses H12a(-) and H17a(-). To assess the moderating impact, it

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proved necessary to calculate the moderation and interaction effects by estimating how the independent and moderating variables affect the dependent factor and the interaction effect. The interaction effect is estimated by multiplying the independent and moderator factors and then calculating the significance level of the result on the dependent variable. The interaction effect is the most telling value when looking for evidence of a moderating influence (Byrne, 2016). A moderating effect is present if the P-value of the interaction impact is below or equivalent to 0.05. The results of the moderating effect presented by hypotheses H12a(-) and H17a(-) are summarized in Table 22.

Table 22. Moderation Effect of Platform Ideological Power (PIP)

H	Moderator	Path	Independent Effect (p value)	Moderator Effect (p value)	Interaction Effect		Result
					Coefficient	p value	
H12a (-)	**PIP**	**WCF → PCA**	**0.216**	**0.000 *****	**-0.038**	**0.193**	**Rejected**
H17a (-)	PIP	CO → PCA	0.000 ***	0.000 ***	-0.169	0.000 ***	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

Statistically, PIP moderates the effect of CO on PCA, whereas it does not moderate the effect of WCF on PCA, which can be understandable, as hypothesis H12 stipulates that " *Unfair work conditions lead to participation in collective action* ," was rejected (Table 16).

Figure 27 depicts how PIP weakens the effect of CO on PCA. This result further explains why angry drivers are reluctant to participate in collective action and raise their voices.
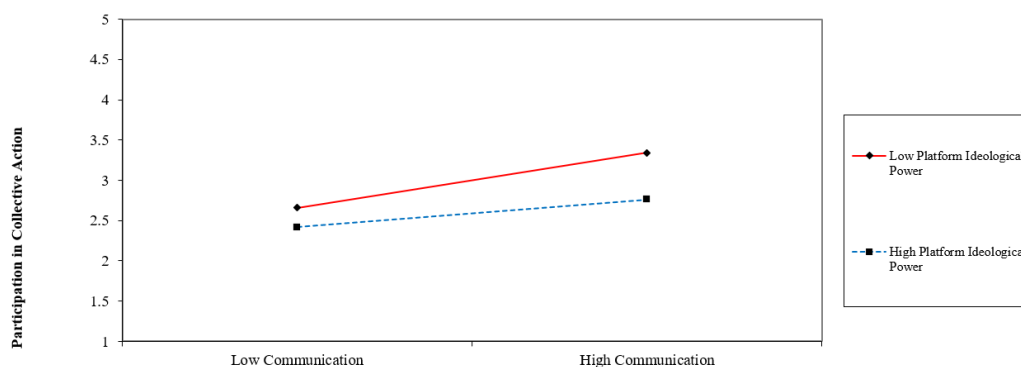
Figure 27. Moderation Effect of Platforms' Ideological Power (PIP)

3.5.3.6   Control Effect

The control effect measures the overall impact of a variable on endogenous factors (Becker, 2005).

Our data analysis shows that respondents have various backgrounds, including different marital statuses, ages, and years of experience, working with different platforms and within different districts. Additionally, they can be independent or dependent on their work with the platforms.

In the current study, we mainly focus on two control variables: the Dependence on the Platform (DP) and the drivers' work experience.

3.5.3.6.1   The Control Effect of Dependence on the Platform (DP)

The analysis (table 23) shows that there is a control effect of Dependence on Platform (DP) on:

- CO, revealing that dependent drivers communicate more than independent ones.

- IE, revealing that dependent drivers have higher intention to exit than independent ones.

- LO, revealing that dependent drivers have lower loyalty towards platforms compared to independent ones.

- PCV, revealing that dependent drivers perceive a higher frequency of psychological contract violations than independent ones.

- WA, revealing that dependent drivers perform more workarounds than independent ones.

On the other hand, findings revealed that drivers' dependence on platforms has no significant control effect on Drivers' PCA and DA.

Table 23. Dependence on Platforms (DP) Control Effect

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
DP → CO	0.262	0.133	1.973	0.024 *	Accepted
DP → DA	**-0.044**	**0.110**	**0.400**	**0.345**	**Rejected**
DP → IE	0.837	0.130	6.437	0.000 ***	Accepted
DP → LO	-0.271	0.123	2.206	0.014 *	Accepted
DP→ PCA	**0.072**	**0.096**	**0.746**	**0.228**	**Rejected**
DP → PCV	0.223	0.104	2.141	0.016 *	Accepted
DP → WA	0.436	0.129	3.392	0.000 ***	Accepted

$* := p < .05;\ ** := p < .01;\ *** := p < .001.$

3.5.3.6.2 The Control Effect of Work Experience with Ride-Hailing Platforms (EXP)

The analysis presented in Table 24 shows that there is a control effect of drivers' work experience of three to six months on:

- CO, revealing that drivers with 3 to 6 months of work experience with the ride-

haling platforms communicate less than the rest with more experience.

- DA, revealing that drivers with 3 to 6 months of work experience with the ride-haling platforms believe in the efficiency of directly appealing platforms, compared to the rest with more experience.

- IE, revealing that drivers with 3 to 6 months of work experience with the ride-haling platforms have fewer intentions to exit platforms than the rest with more experience.

- LO, revealing that drivers with 3 to 6 months of work experience with the ride-haling platforms are more loyal to the platforms than those with more experience.

- PCV, revealing that drivers with 3 to 6 months of work experience with the ride-haling platforms perceive fewer violations of their psychological contract than the rest with more experience.

- WA, revealing that drivers with 3 to 6 months of work experience with the ride-haling platforms perform fewer workarounds than the rest with more experience.

On the other hand, findings revealed that drivers' work experience (3 to 6 months) has no significant control effect on Drivers' PCA.

Table 24. Drivers' Work Experience (Three to Six Months) Control Effect

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
3 to 6 Months → CO	-0.290	0.149	1.945	0.026 *	Accepted
3 to 6 Months → DA	0.252	0.126	2.002	0.023 *	Accepted
3 to 6 Months → IE	-0.383	0.121	3.152	0.001 ***	Accepted

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
3 to 6 Months → LO	0.484	0.132	3.655	0.000 ***	Accepted
3 to 6 Months → PCA	**0.050**	**0.117**	**0.422**	**0.337**	**Rejected**
3 to 6 Months → PCV	-0.351	0.113	3.093	0.001 ***	Accepted
3 to 6 Months → WA	-0.284	0.129	2.200	0.014 *	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

Additionally, findings revealed that drivers' work experience (6 months to 1 year) has no significant control effect on all dependent variables (table 25).

Table 25. Drivers' Work Experience (Six Months to One Year) Control Effect

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
6 Months to 1 Year → CO	**0.081**	**0.129**	**0.627**	**0.265**	**Rejected**
6 Months to 1 Year → DA	**-0.035**	**0.110**	**0.320**	**0.375**	**Rejected**
6 Months to 1 Year → IE	**-0.113**	**0.129**	**0.875**	**0.191**	**Rejected**
6 Months to 1 Year → LO	**-0.036**	**0.142**	**0.257**	**0.399**	**Rejected**
6 Months to 1 Year → PCA	**-0.030**	**0.114**	**0.266**	**0.395**	**Rejected**
6 Months to 1 Year → PCV	**-0.065**	**0.099**	**0.661**	**0.254**	**Rejected**
6 Months to 1 Year → WA	**0.030**	**0.134**	**0.222**	**0.412**	**Rejected**

* := p < .05; ** := p < .01; *** := p < .001.

The analysis presented in Table 26 shows that there is a control effect of drivers' work experience above one year on:

- IE, revealing that drivers with more than one year of work experience with the ride-haling platforms have more intentions to exit platforms than the rest.

- LO, revealing that drivers with more than one year of work experience with the ride-haling platforms have lower loyalty towards platforms than the rest.

- PCV, revealing that drivers with more than one year of work experience with the ride-haling platforms perceive more frequent violations of their psychological contract than the rest.

Table 26. Drivers' Work Experience (Above One Year) Control Effect

Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
More than 1 Year → CO	**0.131**	**0.111**	**1.178**	**0.119**	**Rejected**
More than 1 Year → DA	**-0.135**	**0.091**	**1.480**	**0.070**	**Rejected**
More than 1 Year → IE	0.310	0.102	3.046	0.001 ***	Accepted
More than 1 Year → LO	-0.278	0.105	2.655	0.004 **	Accepted
More than 1 Year → PCA	**-0.011**	**0.093**	**0.121**	**0.452**	**Rejected**
More than 1 Year → PCV	0.263	0.080	3.281	0.001 ***	Accepted
More than 1 Year → WA	**0.157**	**0.103**	**1.519**	**0.064**	**weakly accepted**

* := p < .05; ** := p < .01; *** := p < .001.

On the other hand, findings revealed that drivers' work experience (above one year) has no significant control effect on Drivers' PCA.

3.5.3.7 Predictive Power of the Model

Even though social life is notoriously difficult to study, straightforward linear additive models are the methods of choice in the social sciences for this purpose. It may be because we have become accustomed to adapting such models for so long that we find it difficult to accept that more complex functional forms are appropriate. A more probable explanation

is that basic models allow for a more straightforward interpretation of results, which is typically not the case with complex nonlinear models, although they are objectively superior at capturing reality (Verhagen, 2022). A significant challenge is that we frequently are unsure if our models are overly simplistic, extending the utilization of such models in practice. Prediction allows us to determine if the proposed models' complexity is appropriate through benchmarking, as predictive accuracy can be applied as a comprehensive gauge of model fit for any empirical model (Hindman, 2015; Verhagen, 2021). Shmueli et al. (2019) considers that Predictive power examination is an integral part of any scientific investigation.

Shmueli & Koppius (2011) outline the many applications of predictive analytics in the sciences and make the case for combining explanation and methods for prediction. This explanation-first strategy constrains the model's predictive potential, but it allows us to test the theory's ability to anticipate the future (Danks & Ray, 2018). Such a strategy corresponds to Shmueli & Koppius (2011) advocated a joint explanatory and predictive approach (2011). A dogmatic decision between prediction and explanation is unneeded when considering prediction as a fundamental tool to assess a model's capacity to approach the result of interest, which is valid for most social scientific problems (Verhagen, 2022). According to Danks & Ray (2018), journal editors and reviewers are expected to increasingly anticipate the examination of predictive validity in new PLS submissions in light of calls for more attention to this issue in the literature (Dijkstra, 2010; Hair et al. 2011).

As a "causal-predictive" method for SEM, PLS were developed to bridge the gap between explanatory and predictive power (Shmueli et al. 2019). Although PLS-SEM researchers regularly emphasize the predictive nature of their research, the assessment of models relies solely on metrics intended to evaluate the path model's explanatory capacity (Shmueli et al. 2019).

Shmueli et al. (2016) developed PLS-predict, a holdout-sample-based approach that yields case-level predictions on an item or constructs level to get the advantages of predictive model evaluation in PLS-SEM. PLS-predict provides an alternative to traditional structural model assessment measures like R^2 and Q^2 for gauging a model's out-of-sample predictive capacity (i.e., its accuracy when predicting the result of new instances) (Shmueli et al. 2019).

Shmueli et al. (2016) acknowledged shortcomings of the PLS-predict algorithm when applied to a model including one or more mediating constructs, such as our model. In the predictive context, mediators present a distinctive obstacle because their composite scores can be predicted by antecedent composites or by the composite's indicators and training weights; nevertheless, only one can be used in the predictive algorithm.

Shmueli et al. (2016) suggest either addressing the mediator as a simply intervening variable and using the earlier predecessors to predict its composite score or dealing with mediators as entirely exogenous constructs (therefore, omitting earlier predecessor constructs) and utilizing their indicator scores and training weights to produce their composite score and then directly predict outcome constructs.

When evaluating a model's predictive ability, Danks & Ray (2018), separate the earliest antecedent (EA) and direct antecedents (DA) methods. While the EA method relies on the earliest exogenous antecedents to predict the composite score, the DA method eliminates these factors in favor of mediators as pure exogenous constructs. The EA and DA approaches have limitations, and future studies should empirically contrast the two methods of assessing predictive power to establish best practices (Shmueli et al. 2019). More benchmarks for comparing PLS-SEM outcomes are needed; thus, researchers should create those. Known model layers might be considered in such benchmarking (Shmueli et al. 2019), leading to exciting models with predictive solid power providing academia with robust and generalizable theory while providing practice with trustful implications.

In order to interpret and enhance the predictive power of our model, firstly, we analyze the predictive power of our proposed model as a whole. (section 3.5.3.7.1); secondly, we adapt DA techniques proposed by (Danks & Ray, 2018) to overcome the shortcomings of PLS-predict algorithms in managing the mediators raised by (Danks & Ray, 2018). This procedure will allow us to check the predictive power of the primary model from several perspectives (section 3.5.3.7.2). Finally, we benchmark two models to raise the predictive power for further generalizing the proposed theory (Shmueli et al. 2019). Figure 28 depicts the utilized process for predictive power assessment. For the three steps (subsections 3.5.3.7.1, 3.5.3.7.2, and 3.5.3.7.3), we follow the Shmueli et al. (2019), below guidelines into interpreting the results (Figure 28).

Before starting the PLS-predict procedure, we made certain that all of the measurement

models for the constructs were of an adequate level of quality, as the reliability, convergent, and discriminant validity of reflectively specified measurement models have to be satisfactory (Hair et al. 2021; Henseler et al. 2015; Shmueli et al. 2019).

Initially, we employed ten folds (k= 10), but we ensured that we had enough data to train the model even with only one-fold. The predictive ability of a model should be evaluated mainly based on a single key construct. We utilized the root-mean-squared error (RMSE) for all three analyzed scenarios to evaluate our predictions' accuracy since our errors' distribution is relatively symmetric. The PLS-SEM analysis's Q^2 predict value for each indicator was then analyzed. We then compared the RMSE of each indicator to its LM value to see if PLS-SEM analysis (in comparison to the LM) results in more minor RMSE prediction errors.
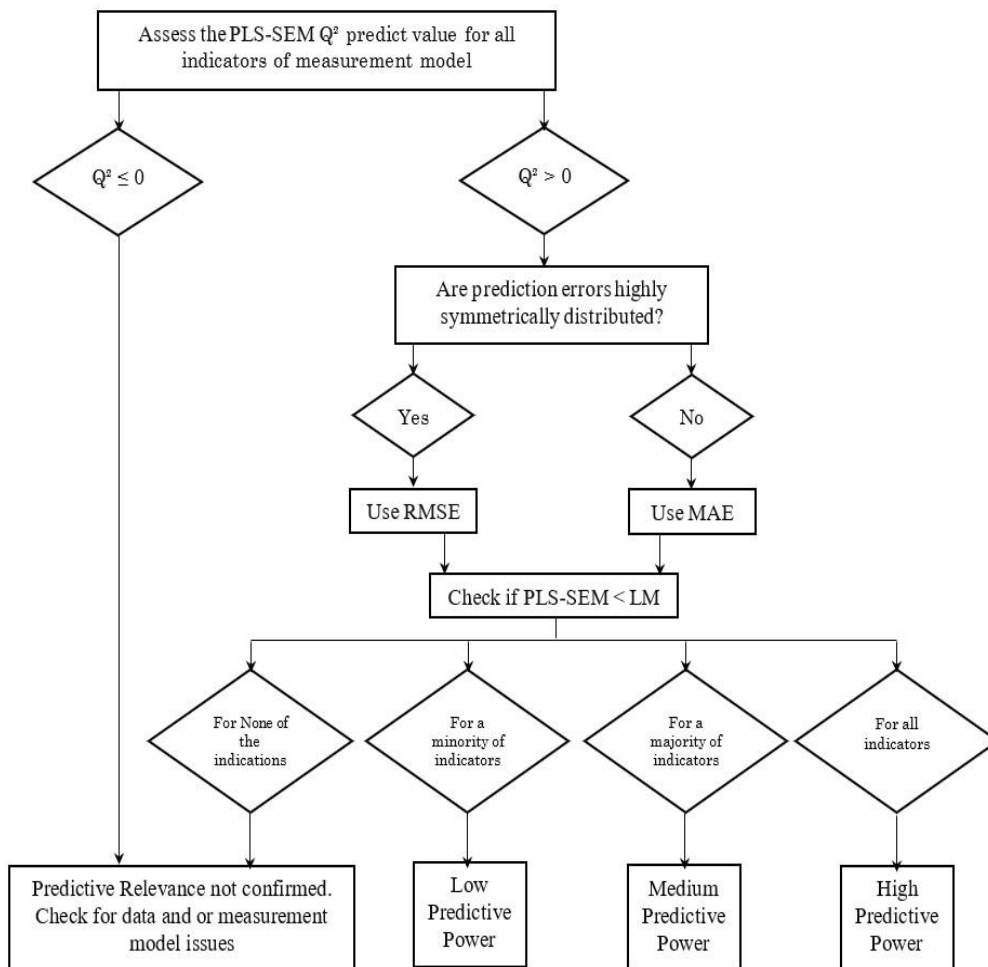
Figure 28. Adopted Guide for Reading PLS-Predict output (Shmueli et al. 2019)

If RMSE < LM for (1) every indication: means that the model exhibits high predictive power; (2) most indications: mean that the model exhibits medium predictive power; (3) a few indications: means that the model exhibits low predictive power, or (4) none of the indications: means that the model has poor potential for making accurate predictions. (Shmueli et al. 2019).

3.5.3.7.1 Evaluating the Predictive Power of the Primary Model

(Model A)

In this section, we evaluate the predictive power of our primary model, which we call "Model A" (Figure 29), using the PLS-predict function available in Smart-PLS (v.4.0.9.1). We aim through performing this step to visualize to what extent the pls-predict algorithms shortcoming impacts the predictive power of our model, accordingly, we propose several solutions to remedy.
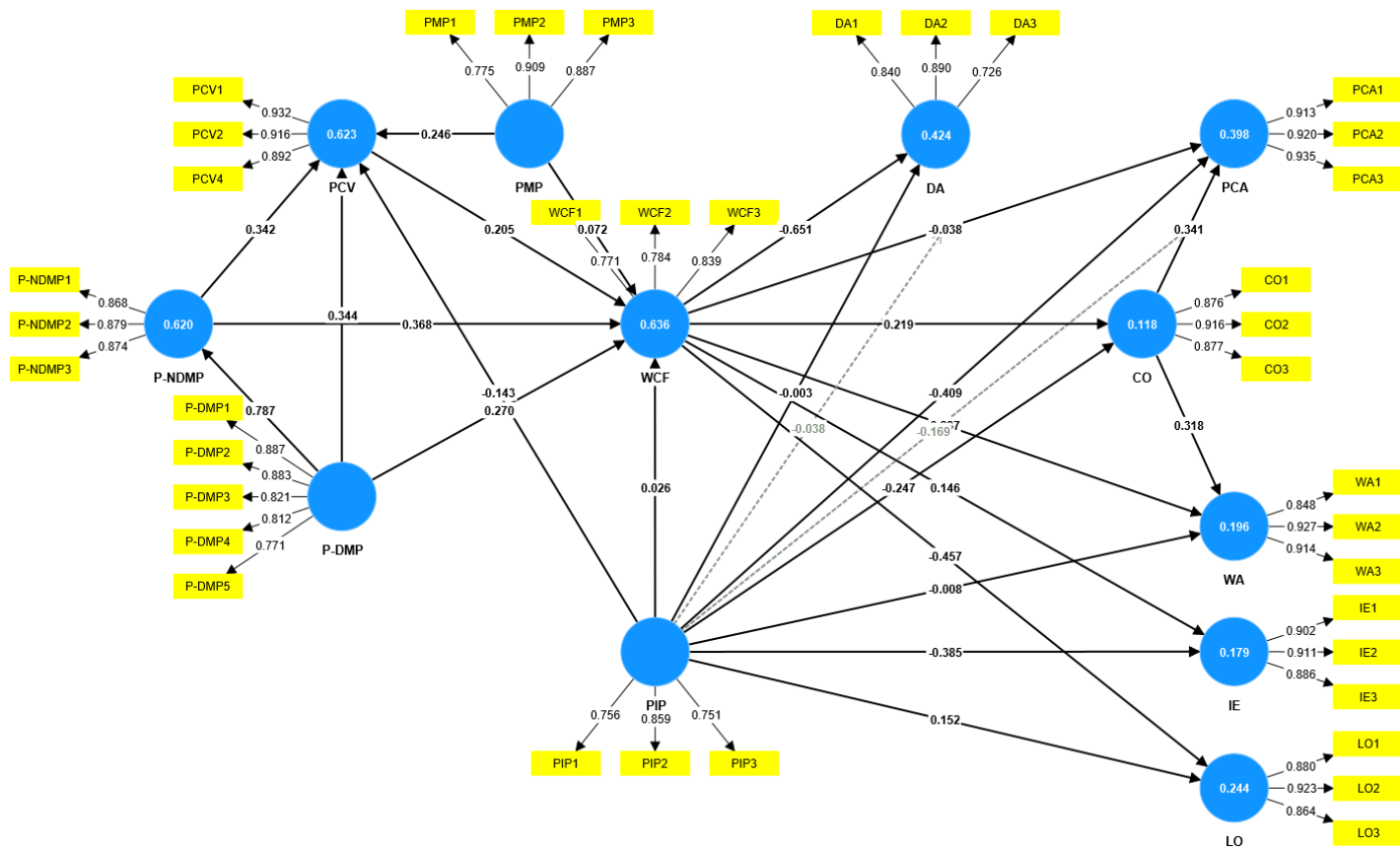
Figure 29. Output Results of Smart-PLS Main Model: "Model A"

The totality of our 27 Q^2 predicts values is greater than 0, ranging between 0.085 and 0.574, which indicates that the model exhibits predictive power (table 27). However, 30% of the registered PLS-SEM_RMSE are greater than LM_RMSE, reflecting the model's low predictive power (table 27). We consider that a good result, being aware of the limitation that Shmueli et al. (2019) recognized in the PLS-predict method. As per we explained earlier, according to Shmueli et al. (2019), mediators pose a distinctive challenge in the context of prediction. Consequently, we propose another perspective into evaluating the predictive power of our model proposed by Danks & Ray (2018).

Table 27. Prediction Power Summary for Model A.

	Q²predict	PLS-SEM_RMSE	LM_RMSE
CO1	0.108	1.41	1.384
CO2	0.094	1.49	1.467
CO3	0.087	1.53	1.501
DA1	0.429	0.883	0.819
DA2	0.289	1.113	1.106
DA3	0.146	1.414	1.395
IE1	0.141	1.359	1.315
IE2	0.185	1.35	1.316
IE3	0.165	1.261	1.204
LO1	0.24	1.134	1.131
LO2	0.22	1.229	1.203
LO3	0.225	1.274	1.221
P-NDMP1	0.574	0.781	0.784
P-NDMP2	0.395	0.779	0.782
P-NDMP3	0.417	0.923	0.948
PCA1	0.207	1.246	1.195

	Q²predict	PLS-SEM_RMSE	LM_RMSE
PCA2	0.232	1.208	1.177
PCA3	0.254	1.308	1.283
PCV1	0.463	0.899	0.903
PCV2	0.445	0.877	0.877
PCV4	0.512	0.948	0.952
WA1	0.085	1.37	1.365
WA2	0.098	1.545	1.496
WA3	0.093	1.366	1.364
WCF1	0.242	1.229	1.252
WCF2	0.406	0.751	0.756
WCF3	0.365	1.11	1.103

Q²>0, *PLS-SEM_RMSE < LM_RMSE*

3.5.3.7.2   Evaluating the Predictive Power of the Primary Model

(Model A) Using Direct Antecedents (DA) Technique

Shmueli et al. (2016) acknowledged shortcomings of the PLS-predict algorithm when applied to a model including one or more mediating constructs, such as our model. In the predictive context, mediators present a distinctive obstacle because their composite scores can be predicted by antecedent composites or by the composite's indicators and training weights; nevertheless, only one can be used in the predictive algorithm. Shmueli et al. (2016) suggest either addressing the mediator as a simply intervening variable and using the earlier predecessors to predict its composite score or dealing with mediators as entirely exogenous constructs (therefore, omitting earlier predecessor constructs) and utilizing their indicator scores and training weights to produce their composite score and then directly predict outcome constructs (Figure 30). The greyed-out parts of the model indicate data

and parameter estimates that were not utilized to predict Y1 or Y2.

While our primary attention is on the model's three primary target constructs (WCF, COM, and PCA), we also include the prediction statistics for all the endogenous constructs in our analysis. Visual assessment of the prediction error distribution provides no evidence of extreme asymmetry. Therefore, we utilize RMSE to measure how well a model can predict. In light of the above discussion, we propose three scenarios that we believe would help evaluate our model's real predictive power.
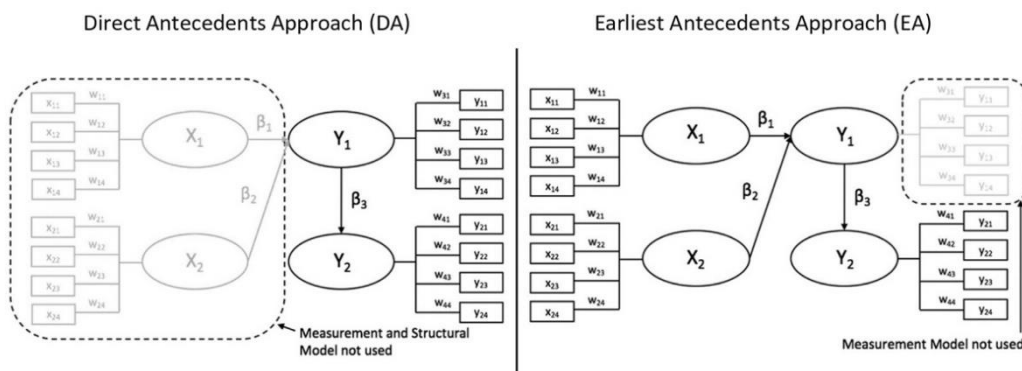
Figure 30. Information Disregarded in Direct Versus Earliest Antecedents Approaches

(Danks & Ray, 2018).

Scenario 1: Focusing on the Participation in Collective Action (PCA).

The predictive ability of a model should be evaluated mainly based on a single key construct (Shmueli et al. 2019). The critical construct is Participation in Collective Action (PCA). Which represents the essence of our key research question RQ3: What hinders angry platform drivers from raising their voices collectively? Accordingly, in the first step,

we adopt the direct antecedents approach (DA) proposed by Danks & Ray (2018) (Figure 30), where we consider the mediators that represent direct antecedents of the construct of Participation in Collective Action PCA, namely: Work Conditions Fairness (WCF), Platform Ideological Power (PIP), as well as Communication (CO), as exogenous variables (Figure 31).

The totality of Q^2 predicts values are more significant than 0, ranging between 0.326 and 0.328, which indicates that the model exhibits predictive power (Table 28). While 100% of the registered PLS-SEM_RMSE are greater than LM_RMSE, which, based on Shmueli et al. (2019), exhibits a high predictive power for the sub-model A-a (Figure 31). —this finding further robustness to our model by giving potential generalization to our supported hypotheses.

This finding reconfirms that the platform ideological power (PIP) significantly hinders the (PCA), while the Communication (CO) among the gig workers enhances the Participation in Collective Action (PCA). On the other hand, the result confirms that the gig workers' collective voice does not depend on their perception of the fairness of their work conditions (WCF). In other words, we cannot say that angry drivers automatically raise their voices collectively. This fascinating finding confirms the complexity and subtility of power and resistance in the gig economy, which we will detail in the discussion section.

Table 28. Prediction Power Summary for Model A-a

	Q²predict	PLS-SEM_RMSE	LM_RMSE
PCA1	0.326	1.149	1.152
PCA2	0.326	1.131	1.168
PCA3	0.328	1.241	1.257

Q²>0, *PLS-SEM_RMSE < LM_RMSE*
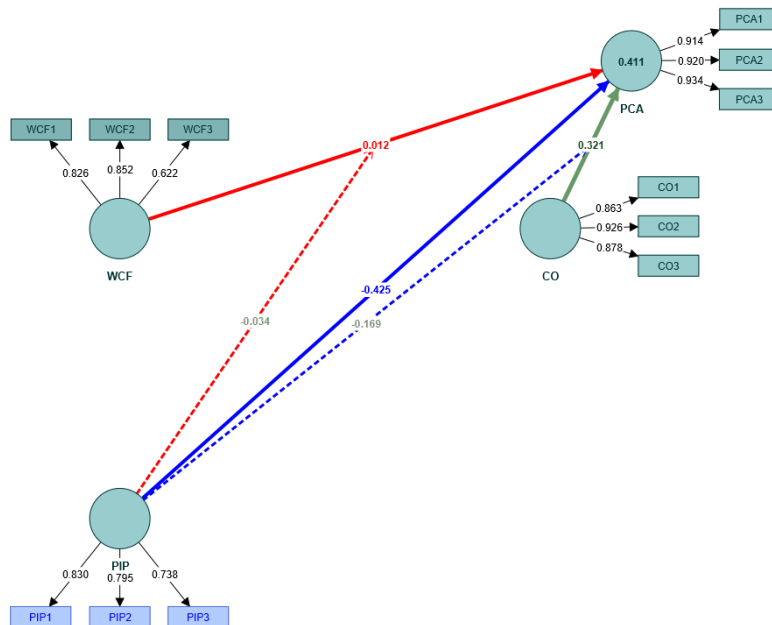
Figure 31. Output Results of Smart-PLS Model A-a

Scenario 2: We are focusing on the drivers' overt resistance strategies and CO. In the same vein, we propose the second scenario, we apply the direct antecedents approach (DA) proposed by Danks & Ray (2018), where we focus solely on the drivers' overt resistance strategies. In this case, WCF is considered an exogenous variable (Figure 32).

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The result depicted a totality of Q² predict values greater than 0, ranging between 0.082 and 0.082, which indicates that the model exhibits predictive power (Table 29). Additionally, around 70% of the registered PLS-SEM_RMSE are greater than LM_RMSE (Table 29), which according to Shmueli et al. (2019), reflects medium to high predictive power for the sub-model A-b (Figure 32). This finding further strengthens the supported hypotheses related to what shapes the drivers' overt resisting strategies, reinforcing our answer to the second research question in the current study: Q2. What is the role of platforms' power in shaping the driver's resistance strategies?

We reconfirm through the second scenario that PIP significantly hinders drivers' PCA, while the gig drivers' PCA does not depend on their perception of the fairness of their work conditions. Additionally, CO among the drivers is raised by the unfair work conditions, whereas hindered by the effect of PIP. Moreover, DA decreases when the drivers perceive that their conditions are unfair since they doubt the efficiency of DA as a tool for enhancing their work conditions.
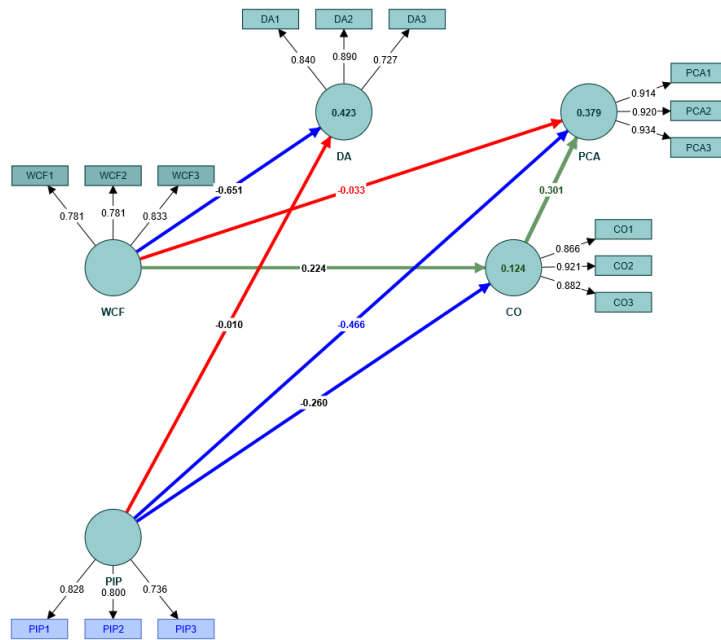
Figure 32. Output Results of Smart-PLS Model A-b

Table 29. Prediction Power Summary for Model A-b

	Q²predict	PLS-SEM_RMSE	LM_RMSE
CO1	0.087	1.427	1.417
CO2	0.082	1.5	1.501
CO3	0.098	1.52	1.513
DA1	0.346	0.945	0.947
DA2	0.314	1.093	1.101
DA3	0.16	1.403	1.4
PCA1	0.228	1.23	1.206
PCA2	0.237	1.203	1.212
PCA3	0.265	1.297	1.304

Q²>0, *PLS-SEM_RMSE < LM_RMSE*

Scenario 3: Focusing Concurrently on the Drivers' Covert and Overt Resistance Strategies.

In the same line, we propose the third scenario; we also apply the direct antecedents approach (DA) proposed by Danks & Ray (2018), where we focus concurrently on the covert and overt drivers' resistance strategies. In this case, WCF, PIP and CO are considered exogenous variables (Figure 33).

The totality of Q^2 predicts values are more significant than 0, ranging between 0.11 and 0.347, which indicates that the model exhibits predictive power (Table 30). Additionally, 40% of the registered PLS-SEM_RMSE are greater than LM_RMSE (Table 30), which according to Shmueli et al. (2019), reflects a low to medium predictive power for the sub-model A-c (Figure 33). This finding further strengthens the supported hypotheses related to what shapes the drivers' resisting strategies, reinforcing our answer to the second research question in the current study: Q2. What is the role of platforms' power in shaping the driver's resistance strategies?

We reconfirm through the third scenario that PIP significantly hinders the PCA, and IE, whereas it raises the drivers' LO. On the other hand, the perception of the drivers of their Work Conditions' unfairness (their anger) raises their WA and IE, whereas it decreases LO. Additionally, CO among drivers increases both drivers' PCA and their WA.

Figure 33. Output Results of Smart-PLS Model A-c

Table 30. Prediction Power Summary for Model A-c

	Q²predict	PLS-SEM_RMSE	LM_RMSE
DA1	0.347	0.944	0.944
DA2	0.315	1.093	1.11
DA3	0.159	1.404	1.407
IE1	0.11	1.383	1.379
IE2	0.155	1.375	1.366
IE3	0.131	1.286	1.277
LO1	0.2	1.163	1.172
LO2	0.153	1.28	1.264

	Q²predict	PLS-SEM_RMSE	LM_RMSE
LO3	0.193	1.3	1.281
PCA1	0.292	1.177	1.152
PCA2	0.297	1.155	1.168
PCA3	0.314	1.254	1.257
WA1	0.118	1.344	1.337
WA2	0.154	1.496	1.488
WA3	0.154	1.319	1.328

Q²>0, *PLS-SEM_RMSE < LM_RMSE*

Scenario 4: Focusing on How Platforms' Power Shapes Drivers' Anger

In this section, we focus on drivers' anger mechanisms independently from the rest of the primary model (Model A). We believe this analysis will shed light on the role of platforms' power in shaping the drivers' anger. In that, we acknowledge shortcomings in the proposed techniques of direct and earliest antecedent approaches (Danks & Ray, 2018), to overcome cases where the model contains long paths of mediators, which is our model's case. Therefore, we join our voice to calls for further enhancement for the PLS-predict algorithm to handle more complex models.

In the sub-model A-d (Figure 34), we focus on the role of platforms' different types of power, namely: P-DMP, P-NDMP, PIP, and PMP, in shaping PCV, as well as the WCF of the drivers. This perspective promotes the drivers' perception of their WCF as a proxy representing the drivers' anger.

Overall, Q² predict values are more significant than 0, ranging between 0.243 and 0.574, which indicates that the model exhibits predictive power (Table 31). Additionally, 88.9 %

of the registered PLS-SEM_RMSE are greater than LM_RMSE (Table 31), which according to Shmueli et al. (2019), reflects almost a high predictive power for the sub-model A-d (Figure 34). This finding further strengthens the supported hypotheses (H1 to H10) related to what shapes the drivers' anger, which further robustness to the first research question of the current study: Q1. What shapes the platform drivers' anger?

The results shown in Table 31 strengthen the fact that the P-DMP represents a root cause of raising the feeling of unfairness among the drivers, therefore, their anger against platforms, through (1) stimulating P-MDMP and (2) raising the frequency of PCV; and (3) raising the perception of the unfairness of work conditions among the drivers.

Additionally, PMP contributes to raising the feeling of unfairness among the drivers through its significant ability to increase the frequency of the drivers' PCV and deteriorate the drivers' perception of their WCF. This feeling of unfairness reflects a feeling of anger among the drivers based on the literature. However, the anger is not necessarily against platforms, knowing that platform manipulation uses gaming means, therefore creating adherence to the rules imposed by the platforms, and isolating the drivers from each other by transferring the contention and the anger to be among them. Further explanations will be presented in the discussion section.

On the other hand, PIP balances the situation by decreasing the driver's anger and decreasing the frequency of the perceived PCV by the drivers.
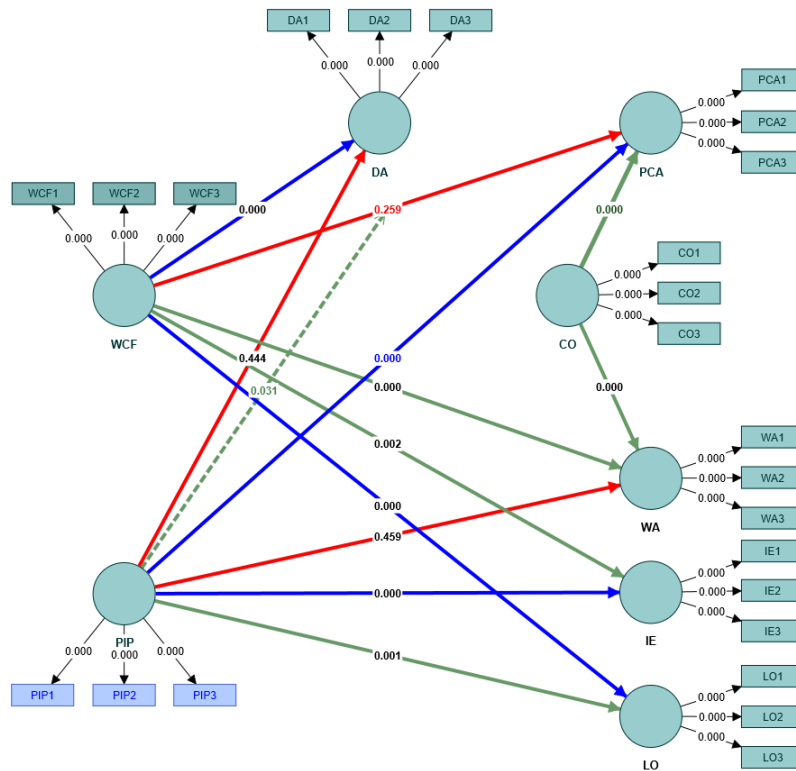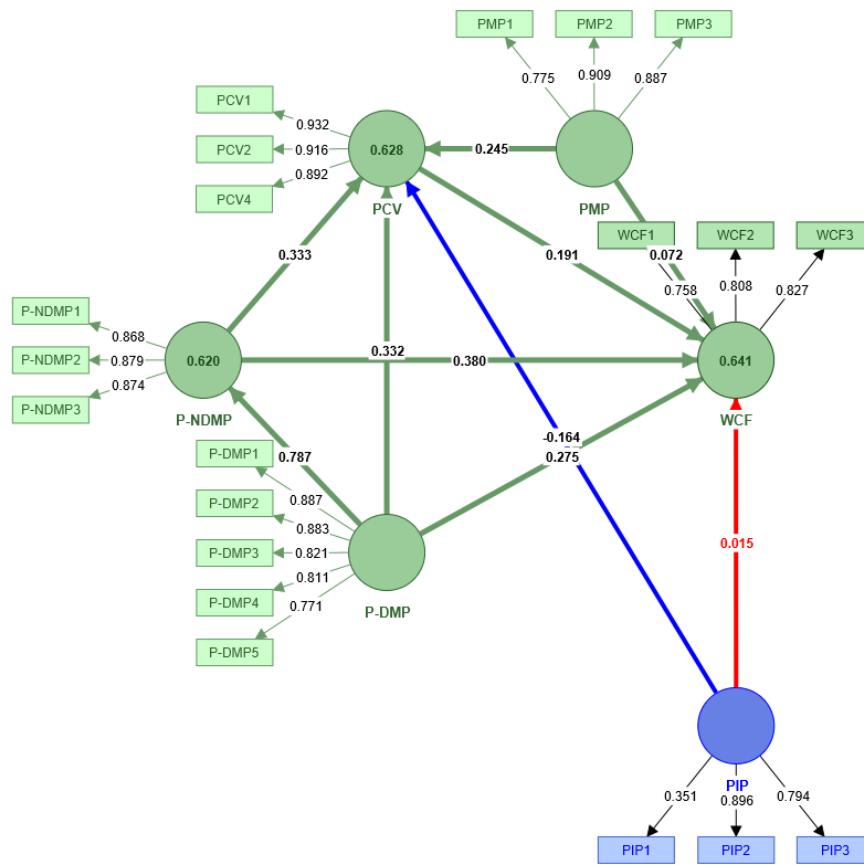
Figure 34. Output Results of Smart-PLS Model A-d

Table 31. Prediction Power Summary for Model A-d

	Q²predict	PLS-SEM_RMSE	LM_RMSE
P-NDMP1	0.574	0.781	0.784
P-NDMP2	0.395	0.779	0.782
P-NDMP3	0.417	0.923	0.948
PCV1	0.471	0.893	0.903
PCV2	0.453	0.871	0.877
PCV4	0.515	0.946	0.952
WCF1	0.243	1.228	1.252

	Q²predict	PLS-SEM_RMSE	LM_RMSE
WCF2	0.408	0.749	0.756
WCF3	0.364	1.111	1.103

Q²>0, *PLS-SEM_RMSE < LM_RMSE*

3.5.3.7.3   Models Benchmark for Stronger Predictability Power

According to Shmueli et al. (2019), more benchmarks for comparing PLS-SEM results should be developed. Such benchmarks could take into account various known model layers. Balancing between model sophistication and prediction accuracy is a real challenge scholars face. Indeed, increasing a model's complexity may increase its observable explanatory power (as measured by R^2), but it may also reduce the model's potential generalizability (Myung, 2000). If the model is overly basic, PLS-SEM-based prediction errors may seem quite similar to the naive LM benchmark. PLS-predict permits scholars to find a middle ground between these extremes (Shmueli et al. 2019).

Researchers may choose a concise model with greater predictive power and generalizability to new samples by comparing models in terms of their core-based prediction errors (e.g., using the RMSE or the MAE statistic). Even if the prediction accuracy of a path model is high, its lack of explanatory power may indicate the need to expand on the current theory or create an entirely new one. In other words, a researcher might look into the reasons for the high accuracy of predictions and if the correlations between variables can be tied to a causal theory, thereby engaging in developing theory (Gregor, 2006).

In line with this reasoning, we propose two models, B and C, where we apply the same

guidelines for evaluating their predictive power (Figure 28). In the primary model (model A), the Work Conditions Fairness (WCF) displayed the highest R-square ($R^2 =0.636$); therefore, it is considered the drivers' anger proxy. Whereas model B considers Psychological Contract Violation (PCV) as a proxy of drivers' anger, which we consider legitimate, according to its R squared classified as the second highest one ($R^2 =0.623$) in the primary model (model A). Finally, model C considers Platform Decision-Making Power (P-DMP), as a proxy of drivers' anger, based on its R squared classified as the third highest one ($R^2 =0.62$) in the primary model (Model A).

We first confirm that the constructs' measurement of the two models meets the relevant quality standards. In other words, models B and C should exhibit sufficient reliability, convergent validity, and discriminant validity. Additionally, we omit the shortcomings of the PLS-predict algorithm in dealing with mediators; hence, we evaluate each of the proposed models B and C, as integral entities.

Model B: In this model, PCV is seen as a proxy for the drivers' anger instead of WCF. Additionally, Model B focuses on PCA as the drivers' sole overt resisting strategy (Figure 35). In this case, the concept of anger will slightly change; however, the main findings remain the same, and the predictive power will rise.

The totality of the items' Q^2 predicts values are more significant than 0, ranging between 0.101 and 0.576, which indicates that the model exhibits predictive power (Table 32). Additionally, 52.38 % of the registered PLS-SEM_RMSE are greater than LM_RMSE (Table 32), which according to Shmueli et al. (2019), reflects a medium predictive power

for the model B (Figure 35).

Figure 35. Output Results of Smart-PLS Model B

In a nutshell, model B exhibits sufficient levels of reliability, convergent validity, and discriminant validity. The results of the bootstrapping procedure with 5,000 samples reveal that most of the structural model relationships are significant (84.21%) and tightly aligned with the theories used to build out the primary model, which is model A. Additionally, the predictive power assessment of model B revealed excellent results, which according to Shmueli et al. (2019), reflects a medium predictive power. We consider model B a strong theory proposition with a high potential for generalizability into other samples.

Table 32. Prediction Power Summary for Model B

	Q²predict	PLS-SEM_RMSE	LM_RMSE
CO1	0.126	1.395	1.384
CO2	0.104	1.482	1.467
CO3	0.101	1.518	1.501
IE1	0.187	1.322	1.315
IE2	0.226	1.316	1.316
IE3	0.204	1.231	1.204
LO1	0.275	1.108	1.131
LO2	0.256	1.2	1.203
LO3	0.265	1.241	1.221
P-NDMP1	0.576	0.78	0.784
P-NDMP2	0.395	0.779	0.782
P-NDMP3	0.417	0.922	0.948
PCA1	0.213	1.241	1.195
PCA2	0.243	1.199	1.177
PCA3	0.259	1.303	1.283
PCV1	0.464	0.899	0.903
PCV2	0.445	0.877	0.877
PCV4	0.513	0.947	0.952
WA1	0.104	1.356	1.365
WA2	0.13	1.518	1.496
WA3	0.111	1.352	1.364

$Q^2 > 0$, *PLS-SEM_RMSE < LM_RMSE*

Model C: We discard PCV and WCF, focusing exclusively on the factors representing

platforms' power versus gig workers' resistance (Figure 36). In this case, the concept of

anger will slightly change and focus on the unfair contract, pay, and management, while ignoring the psychological contract violation and unfair work conditions. 26 out of 27 Q² predict values are more significant than 0, ranging between 0.046 and 0.576, except one value which showed a negative value (-0.029). This result indicates that the model exhibits predictive power (Table 33). Additionally, 70.37 % of the registered PLS-SEM_RMSE are greater than LM_RMSE (Table 33), which according to Shmueli et al. (2019), reflects a medium to high predictive power for the model C (Figure 36).
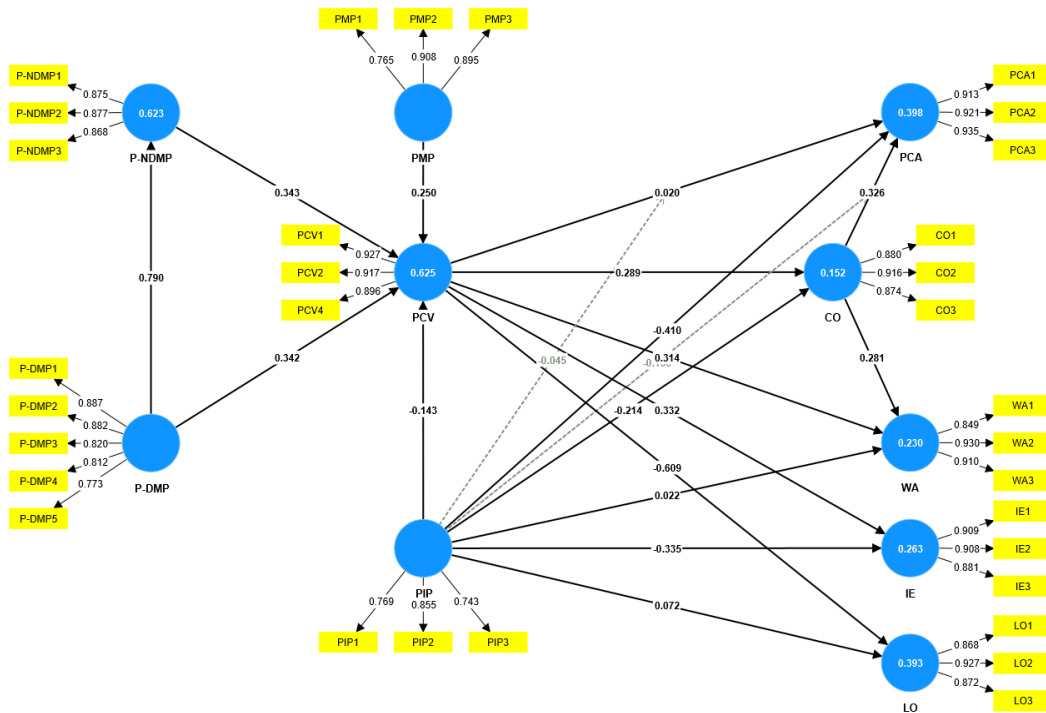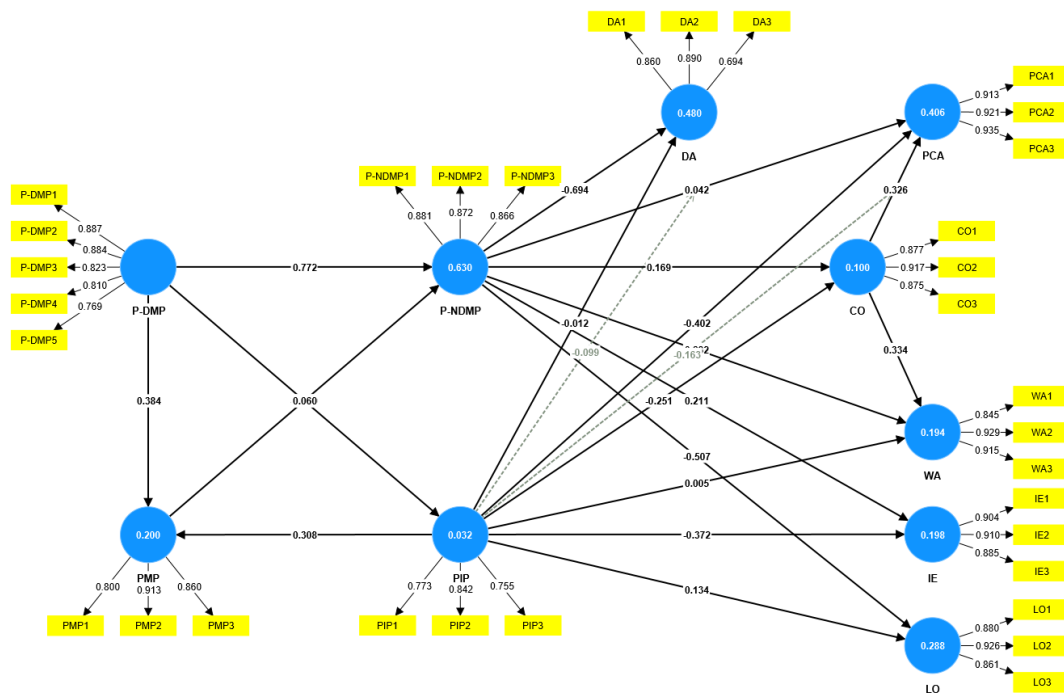

Figure 36. Output Results of Smart-PLS Model C

In a nutshell, model B exhibits sufficient levels of reliability, convergent validity, and discriminant validity. The results of the bootstrapping procedure with 5,000 samples reveal that most of the structural model relationships are significant (85.71%) and tightly aligned

with the theories used to build our primary model, which is model A, with minor differences that need to be checked in theory. Additionally, the predictive power assessment of model C revealed excellent results, which reflects a medium to high predictive power. We consider model C a robust theory proposition with a high potential for generalizability into other samples.

Table 33. Prediction Power Summary for Model C

	Q²predict	PLS-SEM_RMSE	LM_RMSE
CO1	0.061	1.447	1.456
CO2	0.046	1.529	1.548
CO3	0.055	1.556	1.562
DA1	0.463	0.857	0.817
DA2	0.311	1.096	1.108
DA3	0.156	1.406	1.407
IE1	0.097	1.393	1.395
IE2	0.089	1.428	1.434
IE3	0.067	1.333	1.345
LO1	0.243	1.132	1.136
LO2	0.227	1.223	1.218
LO3	0.222	1.276	1.265
P-NDMP1	0.576	0.78	0.779
P-NDMP2	0.395	0.779	0.786
P-NDMP3	0.418	0.922	0.934
PCA1	0.02	1.385	1.406
PCA2	0.037	1.353	1.359
PCA3	0.023	1.496	1.507

	Q²predict	PLS-SEM_RMSE	LM_RMSE
PIP1	-0.029	1.539	1.535
PIP2	0.048	1.447	1.434
PIP3	0.026	1.374	1.374
PMP1	0.031	1.556	1.57
PMP2	0.116	1.373	1.379
PMP3	0.072	1.433	1.452
WA1	0.075	1.377	1.382
WA2	0.087	1.554	1.549
WA3	0.088	1.37	1.365

Q²>0, *PLS-SEM_RMSE < LM_RMSE*

Although proposed model C see (Figure 36) demonstrated its robust predictive power, we maintain our primary model A since we believe in the importance of diversifying anger's dimensions while exploring its interplay. For instance, we clearly distinguish between the anger coming from (1) drivers' perception of unfair contracts, pay, or algorithmic management and (2) drivers' repeatedly living a violation of their psychological contract through unilateral change exerted by the platform, which maintains residual anger for the drivers. The control effect of drivers' work experience endorsed this distinction and showed that drivers with short experience might not experience psychological contract violation while the ones with more extended experience do. Additionally, we believe it is crucial to show the roles of psychological contract violation predecessors in impacting the psychological contract lifecycle. All these reasons give further legitimacy to our model choice.

Additionally, model A allowed us to see the indirect effect of platforms' ideological power on enhancing the drivers' perception of their work conditions.

3.5.3.8 Answering Research Questions

In summary, the analysis of our structural model provides results confirming 21 hypotheses among a total of 26 hypothesized relationships. Figure 37 depicts the supported hypotheses as well as the rejected ones. Nevertheless, the five rejected hypotheses found support in the supported mediated relationships.

In this section, we try to answer our respective research questions, leveraging the findings, whether direct or indirect. In that we divide this section into three subsections (3.5.3.5.**1**, 3.5.3.5.**2**, and 3.5.3.5.**3**), in line with our three research questions.
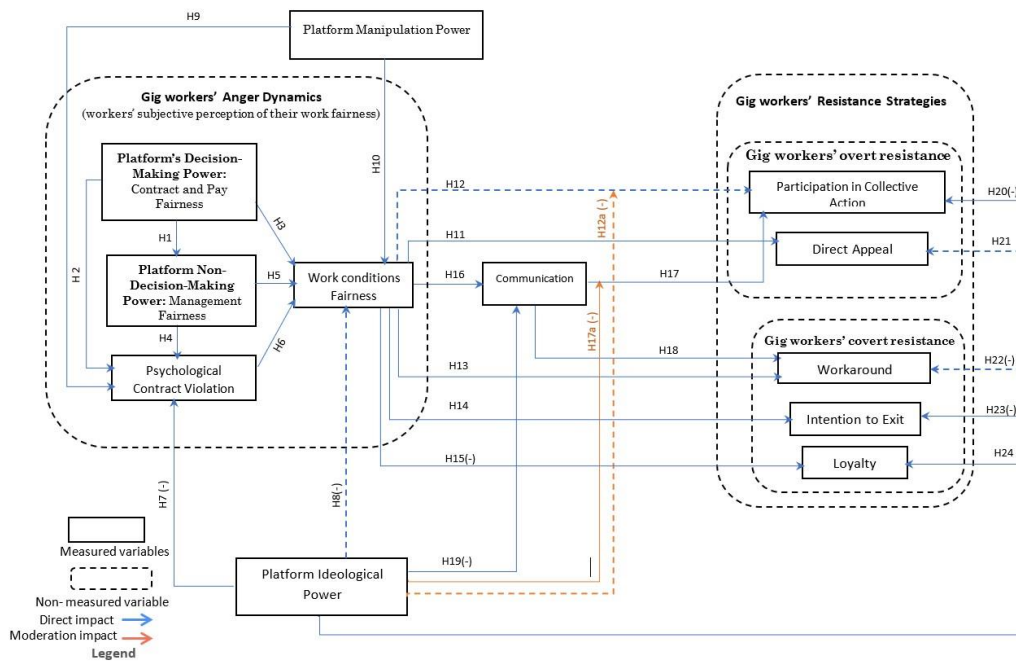
Figure 37. Research Model Results (the Dashed Paths Represent the Rejected Hypotheses)

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3.5.3.8.1   Drivers' Anger Interplay

In order to answer our first research question RQ1: *What shapes the platform drivers' anger?* We proposed ten hypotheses, where nine of them were supported, and one rejected (Table 34). Nevertheless, the rejected hypothesis is supported by a significant indirect relationship. The findings revealed that P-DMP, employing unfair contracts and unfair pay, generates P-NDMP characterized by the opacity of its algorithmic management and asymmetrical communications (H1). Additionally, P-DMP generates unfair work conditions (H3) and violations of psychological contracts (H2). Indeed, P-DMP is founded on the variability and instability of the contract and pay resulting from the unilateral power of change attributed to the platforms themselves. Unilateral changes in general, and more specifically in pay, lead to deterioration in drivers' work conditions and raises the frequency of the drivers' PCV. This arrangement might raise drivers' anger.

Similarly, results confirmed that P-NDMP generates unfair work conditions (H5). The P-NDMP, characterized by its opacity in management, is perceived by the drivers as arbitrariness, leading to their exploitation. This perception makes them sense that their work conditions, with the platforms, as deteriorating and unfair. Similarly, P-NDMP generates violations of drivers' psychological contracts (H4). P-NDMP is characterized by unpredictable management, endorsed by unbalanced communication, placing drivers in the weakest position while expecting the worst anytime. The feeling of unfairness among the drivers, resulting from these types of power, nurtures drivers' anger and gives it a shape.

PMP is quite different from P-DMP, as well as P-NDMP; However, it can be seen as

part of management; it is distinguished by its unique specificity of generating drivers' anger from each other, leveraging the gaming tools and techniques to create an individualistic environment, where the drivers consciously accept the platforms' rules of the game, hence loose the rational of being angry against it. Nevertheless, the study results confirm the impact of PMP on generating violations of the drivers' psychological contract (H9) and worsening the drivers' work conditions (H10). These repeated violations of drivers' psychological contracts, and deterioration in work conditions, certainly generate anger among drivers. However, this anger is redirected between each other and not against platforms anymore. This is "*The game*".

PIP is working in the opposite direction of the other three platforms' power. While P-DMP, P-NDMP and PMP work towards raising the drivers' anger toward the platform or towards each other, PIP statistically attenuates anger by making the unfair seen as fair by the drivers. Indeed, by absorbing workers' aspirations for freedom while tying its realization to the erosion of their compensation and job quality, the platform recasts the concept of autonomy and so renders criticism ineffective by eliminating its justification, and so renders criticism ineffective by eliminating its justification.

Results showed a clear negative relationship between PIP and PCV (H7(-)), where PIP decreases the drivers feeling that their psychological contracts have been violated. Regardless of believing in the fairness of the platforms toward drivers, drivers under the effect of PIP believe that the platform is inevitable, especially when the high authorities' support of the platform is evident. Therefore, they accept it as a fact, whether good or bad.

Surprisingly, results revealed the nonexistent direct relationship between PMP and WCF, H8(-) (table 34). Referring back to the hypotheses testing, hypothesis H8(-) stipulating that "*Platform ideological power enhances drivers' perception of the fairness of their work conditions, therefore decreases their anger*" was rejected (Table 34). On the other hand, PCV mediates the connection between PIP and WCF (Table 34). Based on that, we derive that PCV fully mediates the relationship between PIP and WCF. In other words, PIP reduces the drivers' perception of their PCV, decreasing their perception of the unfairness of their work conditions and reducing their anger.

Table 34. Main Results Related to the Drivers' Anger Interplay

H	Path	Coefficient	Standard deviation (STDEV)	T statistics ($|O/STDEV|$)	P values	Results
H1	P-DMP → P-NDMP	0.787	0.031	25.513	0.000 ***	Accepted
H2	P-DMP → PCV	0.344	0.071	4.850	0.000 ***	Accepted
H3	P-DMP → WCF	0.270	0.077	3.500	0.000 ***	Accepted
H4	P-NDMP → PCV	0.342	0.071	4.842	0.000 ***	Accepted
H5	P-NDMP → WCF	0.368	0.061	6.067	0.000 ***	Accepted
H6	PCV → WCF	0.205	0.069	2.973	0.001 ***	Accepted
H7(-)	PIP → PCV	-0.143	0.037	3.904	0.000 ***	Accepted
H8(-)	**PIP → WCF**	**0.026**	**0.038**	**0.687**	**0.246**	**Rejected**
-	PIP → PCV → WCF	-0.029	0.012	2.376	0.009 **	Accepted
H9	PMP → PCV	0.246	0.040	6.200	0.000 ***	Accepted
H10	PMP → WCF	0.072	0.048	1.506	0.066	Weakly accepted
-	PMP → PCV → WCF	0.051	0.019	2.670	0.004 **	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

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In a nutshell, statistical results support the role of WCF as a proxy of drivers' anger with the highest R squared value ($R^2 = 0.636$), showing that around 67% of WCF changes are well explained by its predecessors. Additionally, PCV and the four platforms' power faces play three different roles in shaping the drivers' anger (Table 34). The first role of the platforms' power is: to raise the drivers' anger. In this, P-DMP, as well as P-NDMP and PMP Intervene. The second role is controversial since it reduces the drivers' anger towards platforms. In this, PIP intervenes.

At this stage of the analysis, we found that statistically, the attenuating effect of PIP on anger is weaker than the forces raising it (Table 35). This finding gives further legitimacy to our second and third questions, aiming to understand the platforms' power role in shaping the resistance of these angry drivers.

Table 35 depicts drivers' anger interplay. We present the impact coefficients of the four faces of the platform's power and PCV on the anger Proxy presented by WCF.

Table 35. Drivers' Anger Interplay: Platforms' Power and Psychological Contract Violation (PCV) Impact on Work Conditions Fairness (WCF)

| | Type of the Relationship | Impact Coefficients | | | | |
| | | Platform Power | | | | PCV |
		P-DMP	P-NDMP	PMP	PIP	
Anger Proxy: Work Conditions fairness (WCF)	Direct	0.270	0.368	0.072	-	0.205
	Indirect	0.416	0.070	0.051	-0.084	-

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3.5.3.8.2 Impact of Drivers Work Conditions Fairness, and Platforms' Power on Drivers' Resisting Strategies

To provide a response to our second research question (RQ2): "*What is the role of platforms' power in shaping the driver's resistance strategies*?" We proposed 14 hypotheses, of which 11 were supported and three were rejected (Table 36). Nevertheless, the rejected hypotheses are supported through significant indirect relationships. The direct proposed relationships between (1) WCF, which represents the proxy of drivers' anger representing the face of the platforms' power, exerted on the drivers, and (2) drivers' covert and overt resistance. Additionally, we check through testing hypotheses the impact of the (1) PIP on the (2) CO among the drivers, as well as on (3) their resisting overt and covert strategies.

The Impact of P-DMP, P-NDMP, and PMP on the drivers resisting overt and covert strategies is tested indirectly (detailed explanation is given in subsections 3.5.3.5.2, 3.5.3.5.3, and 3.5.3.5.4).

Findings showed that WCF has a significant positive impact on impact Communication (H16), Intention to Exit (H14), and Workarounds (H13), whereas it has a significant negative impact on Loyalty (H15(-)) as well as on Direct Appeal (H11(-)). Surprisingly, results revealed the nonexistence of any relationship between drivers' WCF and their PCA (H12) (Table 36).

Referring to the hypotheses testing, hypothesis H12 stipulating that "Unfair work conditions lead to participation in collective action," was rejected (table 36). However, it was determined that CO had a role in mediating the connection between WCF and drivers'

PCA (Table 36: H16 and H17). Based on that, we derive that CO fully mediates the relationship between WCF and drivers' PCA.

In addition, the results showed that the function of CO in mediating the connection between WCF, and drivers' WA was verified in both hypotheses H16 and H18 (Table 36). This finding provides evidence that CO plays a role in mediating the connection between WCF and drivers' WA. This is the case even though there is also a significant direct connection between WCF and drivers' WA (Table 36: H13).

Table 36. Results Related to the Interrelationships Between Platforms' Power, Drivers' Work Conditions and Drivers' Resistance Strategies (Direct & Indirect Effects)

H	Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
H11(-)	WCF → DA	-0.651	0.037	17.474	0.000 ***	Accepted
H12	WCF → PCA	-0.038	0.048	0.787	0.216	Rejected
-	WCF → CO → PCA	0.075	0.021	3.544	0.000 ***	Accepted
H13	WCF → WA	0.237	0.054	4.369	0.000 ***	Accepted
-	WCF → CO→WA	-0.70	0.022	3.149	0.001 ***	Accepted
H14	WCF → IE	0.146	0.050	2.898	0.002 **	Accepted
H15(-)	WCF → LO	-0.457	0.047	9.650	0.000 ***	Accepted
H16	WCF → CO	0.219	0.056	3.913	0.000 ***	Accepted
H17	CO → PCA	0.341	0.043	7.853	0.000 ***	Accepted
H18	CO → WA	0.318	0.055	5.788	0.000 ***	Accepted
H19(-)	PIP → CO	-0.247	0.052	4.784	0.000 ***	Accepted
H20(-)	PIP → PCA	-0.409	0.045	9.043	0.000 ***	Accepted
H21	PIP → DA	-0.003	0.040	0.079	0.468	Rejected

H	Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
-	PIP → PCV → WCF → DA	0.019	0.008	2.384	0.009 **	Accepted
H22(-)	PIP → WA	-0.008	0.055	0.148	0.441	Rejected
-	PIP → CO → WA	-0.079	0.022	3.572	0.000 ***	Accepted
-	PIP → PCV → WCF → WA	-0.007	0.003	2.002	0.023 *	Accepted
-	PIP → PCV → WCF → CO → WA	-0.002	0.001	1.893	0.029 *	Accepted
H23(-)	PIP → IE	-0.385	0.051	7.625	0.000 ***	Accepted
H24	PIP → LO	0.152	0.046	3.333	0.001 ***	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

We summarize the results of the tested direct, indirect, and total indirect effect relationships that describe the connections between the four platforms' power faces and the drivers' resisting overt and covert strategies (Table 36 and Table 37).

The results show that the P-DMP has an insignificant relationship with PCA and has a significant positive total indirect impact on IE and WA. However, it has a negative impact on DA and LO (Table 36). Additionally, the findings showed the same effects for P-NDMP and PMP on the drivers resisting overt and covert strategies: PCA, DA, IE, and WA (Table 36).

On the other hand, the significant direct and total indirect negative effect of PIP on PCA

was confirmed by the results (Tables 36 and 37). Additionally, PIP has a significant negative total indirect effect on WA (Table 37), while it has a non-significant direct effect on DA (Table 36: H21 rejected), neither on WA (Table 36: H22 (-) rejected). Also, PIP has a significant direct negative effect on CO (Table 36: H19 (-)), as well as on IE (Table 36: H23(-)), while it has a significant direct positive effect on LO (Table 36: H24).

Moreover, H21 stipulating that "PIP increases workers' direct appeal to the platform" was rejected (Table 36). However, PCV and WCF mediate the relationship between PIP and DA (Table 36). Based on that, we derive that PCV, in addition to WCF, fully mediates the relation between PIP and DA. In other words, PIP raises the drivers' DA to the platforms, which reveals that the more drivers are under the effect of ideological power, the more they trust the platform and the efficiency of the direct appeal process.

Findings also rejected hypothesis H22(-), stipulating that "*Platform ideological power decreases workers' workarounds*" (Table 36). While PCV, in addition to WCF and CO, mediates the relationship between PIP and WA (Table 36). Based on the three significant indirect relationships relating PIP to WA (Table 36), we confirm that PCV, WCF, and CO partially mediate the relationship between PIP and WA. In other words, PIP decreases the drivers' WA, which reveals that the more drivers are under the effect of ideological power, the more they trust and respect their deal with the platforms.

Table 37 summarizes the total indirect effects of the four platforms' power faces on the overt and covert drivers' resisting strategies.

Table 37. Total Indirect Effects of the Four Faces of Platform Power

	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
P-DMP -> DA	-0.448	0.049	9.114	0.000 ***	Accepted
P-DMP -> IE	0.1	0.035	2.822	0.002**	Accepted
P-DMP -> LO	-0.315	0.045	6.966	0.000 ***	Accepted
P-DMP -> PCA	**0.026**	**0.034**	**0.75**	**0.227**	**Rejected**
P-DMP -> WA	0.21	0.038	5.612	0.000 ***	Accepted
P-NDMP -> DA	-0.284	0.043	6.666	0.000 ***	Accepted
P-NDMP -> IE	0.063	0.023	2.74	0.003**	Accepted
P-NDMP -> LO	-0.199	0.034	5.958	0.000 ***	Accepted
P-NDMP -> PCA	**0.017**	**0.022**	**0.729**	**0.233**	**Rejected**
P-NDMP -> WA	0.133	0.028	4.737	0.000 ***	Accepted
PIP -> DA	**0.002**	**0.025**	**0.088**	**0.465**	**Rejected**
PIP -> IE	**-0.001**	**0.006**	**0.083**	**0.467**	**Rejected**
PIP -> LO	**0.001**	**0.018**	**0.088**	**0.465**	**Rejected**
PIP -> PCA	-0.085	0.02	4.149	0.000 ***	Accepted
PIP -> WA	-0.081	0.024	3.314	0.000 ***	Accepted
PMP -> DA	-0.08	0.028	2.825	0.002**	Accepted
PMP -> IE	0.018	0.01	1.82	0.034*	Accepted
PMP -> LO	-0.056	0.021	2.735	0.003**	Accepted
PMP -> PCA	**0.005**	**0.007**	**0.669**	**0.252**	**Rejected**
PMP -> WA	0.038	0.016	2.325	0.01**	Accepted

* := p < .05; ** := p < .01; *** := p < .001.

In a nutshell, the four platforms' power faces play two contradictory roles in shaping the drivers' resisting strategies (Table 38). They have no direct effect on the drivers' collective action, except for the PIP, which directly and indirectly significantly hinders the drivers' PCA. Additionally, P-DMP, P-NDMP, and PMP indirectly contribute to raising

drivers' PCA and WA, decreasing their LO and their DA to the platforms.

Another exciting facet of the PIP, revealed by the results, is its significant direct and indirect negative impact on drivers' IE and its indirect negative impact on their WA. However, it has a significant positive direct and indirect effect on drivers' LO. In simpler words, PIP hinders the drivers' collective voice, raises their loyalty, and decreases their workarounds and intention to Exit platforms.

Table 38. Summary of Findings Covering Relationships Between Platforms' Power and Drivers' Resisting Strategies Based on the Direct and the Total Indirect Effect

			Platforms' Power			
		Type of the Relationship	P-DMP	P-NDMP	PMP	PIP
Drivers Resisting Strategies	Participation in Collective Action (PCA)	Direct				- - -
		Total Indirect				-
	Direct Appeal (DA)	Direct				
		Total Indirect	- - -	-	-	
	Workarounds (WA)	Direct				
		Total Indirect	+	+	+	-
	Intention to Exit (IE)	Direct				- -
		Total Indirect	+	+	+	-
	Loyalty (LO)	Direct				+
		Total Indirect	-	-	-	+

(-) Significant negative impact (Coefficient absolute value <0.300)

(+) Significant positive impact (Coefficient absolute value <0.300)

(- -) 0.400 > Coefficient absolute value >0.300

(++) 0.400 > Coefficient absolute value > 0.300

(- - -) Coefficient absolute value > 0.400

(+++) Coefficient absolute value > 0.400

(++) 0.400 > Coefficient absolute value > 0.300

3.5.3.8.3   The Unheard Voice of Ride Hailing Drivers

In order to answer our third research question RQ3: *What hinders angry platform drivers from raising their voice collectively*?

We proposed six hypotheses focusing exclusively on the drivers' collective voice, represented by PCA and its antecedents. Four hypotheses were supported, whereas two were rejected (Tables 39 and 40).

In summary, the drivers' voice is hindered by PIP in concordance with the theory we developed, as well as the empirical examination of our sample.

PIP directly hinders PCA (H20(-)) and CO (H19(-)) among drivers, therefore indirectly hinders their PCA (Table 39). Additionally, the PIP showed a significant negative moderating effect, weakening the relationship between CO and PCA, which contributes to hindering the drivers' voice (Table 40: H17a(-)).

Table 39. Results Related to the Antecedents of Participation in Collective Action (PCA) in Addition to the Relationships Between Platforms' Ideological Power (PIP), and Drivers' Resisting Strategies.

H	Path	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
H12	WCF → PCA	-0.038	0.048	0.787	0.216	Rejected
H17	CO → PCA	0.341	0.043	7.853	0.000 ***	Accepted
H19 (-)	PIP → CO	-0.247	0.052	4.784	0.000 ***	Accepted
H20 (-)	PIP → PCA	-0.409	0.045	9.043	0.000 ***	Accepted

Table 40. Results Related to the Moderating Effect of Platforms' Ideological Power (PIP).

H	Moderator	Path	Independent Effect (p value)	Moderator Effect (p value)	Interaction Effect		Result
					Coefficient	p value	
H12a (-)	PIP	WCF → PCA	0.216	0.000 ***	-0.038	0.193	Rejected
H17a (-)	PIP	CO → PCA	0.000 ***	0.000 ***	-0.169	0.000 ***	Accepted

Table 41 Summarizes the interplay shaping drivers' voices by hindering or boosting them, which offers a clear answer to our third and last research question in this study.

Table 41. Interplay Shaping Drivers' Participation in Collective Action (PCA) Based on the Direct and the Total Indirect Significant Effects Findings.

	Type of the Relationship	Platforms' Power Impact on PCA Coefficients					CO
		P-DMP	P-NDMP	PMP	WCF	PIP	
Drivers' Participation in Collective Action (PCA)	Direct	-	-	-	-	-0.409	0.341
	Total Indirect	-	-	-	-	-0.085	-

3.6 Discussion

The primary goal of this research is to hone in on what determines gig workers' collective voices. We confront the platforms' power versus the drivers' resistance. We examined how the platforms' power shapes the drivers' anger. Afterward, we confronted the platforms' power and the drivers' perceived anger with the drivers' resisting strategies. Finally, we deeply examined the factors that hinder drivers' participation in collective action. Building on the theoretical lens of Hirschman (1970) stipulating that dissatisfaction leads to voice, Exit, and loyalty, our proposed theoretical model linked between power

theory by Lukes (2004) and resistance concept of Scott (1985), aiming to bring a comprehensive view of the studied phenomenon.

Our research model draws its primary concepts from power theory by Lukes (2004), psychological contract violation by Robinson & Rousseau (1994) and Rousseau (1989), work conditions by Wood et al. (2021), Shanahan & Smith (2021), Heeks et al. (2021), workers' anger by, Wood et al. (2021), Lei (2021), and Argyris (1960), Rousseau (1989), gig workers' communication by, resistance by Scott (1985), Fleming & Spicer (2008), Barbalet (1985), and Ackroyd & Thompson (1999), voice by Hirschman (1970), Tassinari & Maccarrone (2020), Chen et al. (2020), Karanović et al. (2021), and Lei (2021), direct appeal by, workarounds by Alter (2014) and loyalty and exit by Rusbuldt et al. (1988). Figure 38 depicts the utilized theories and concepts in developing the conceptual model of the current research.

In the following three subsections (3.6.1, 3.6.2, and 3.6.3), we discuss the hypotheses testing results in line with our three research questions. Additionally, in subsection 3.6.4, we discuss the control effect of both; drivers' dependence on platforms and drivers' work experience.
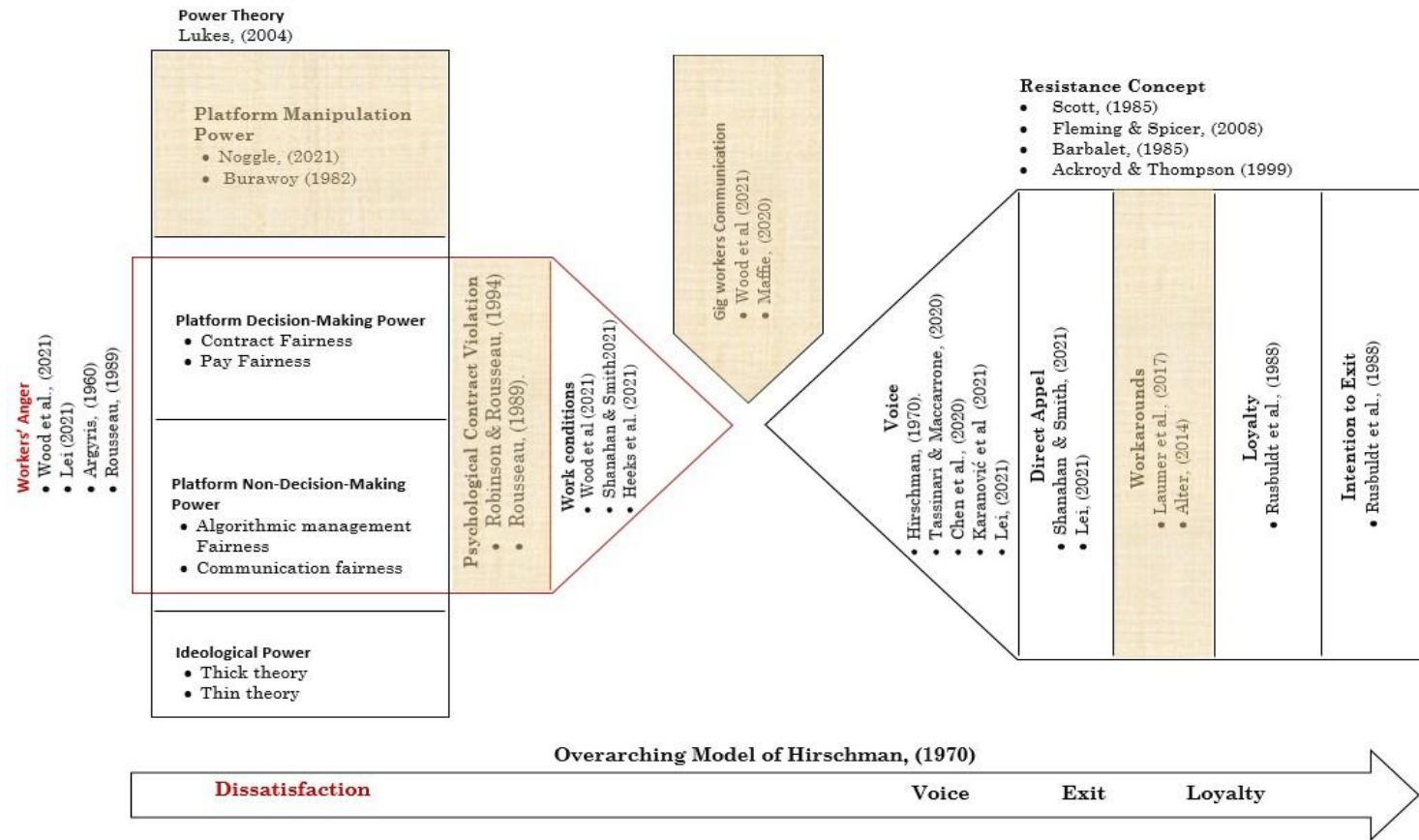
Figure 38. Theories and Concepts Used Along with the Extensions Introduced by this Study (Shaded Areas Indicate Extended Theory by the Author)

3.6.1 Role of the Platforms into Shaping the Drivers' Anger

Referring back to the research questions, the first research question RQ1 seeks to clarify what shapes the platform drivers' anger. We proposed ten hypotheses (H1 to H10), where nine of them were supported, and one rejected. Nevertheless, the rejected hypothesis is supported through significant indirect relationship.

The findings revealed that P-DMP, using unfair contracts and unfair pay, generates P-NDMP characterized by the opacity of its algorithmic management and asymmetrical communications (H1). Previous studies also found that unfair contract generates unfair algorithmic management. Indeed, contracts may also permit algorithmic control (Lei, 2021), it dramatically influences the mix of algorithmic and human control (Newlands, 2021). Some platforms grant themselves the unilateral right to change the agreement's terms and conditions regulations (Lei, 2021; Rahman, 2021), compensations (Shanahan & Smith, 2021), and impose their guidelines for workers (Chen et al. 2020; Schor et al. 2020). In other words, unfair contracts give the platforms the power and freedom to shape and design their algorithms in line with their interests.

Additionally, P-DMP generates PCVs and unfair work conditions (H2, H3). Indeed, P-DMP is founded on the variability and instability of the contract and pay resulting from the unilateral power of change attributed to the platforms by the platforms themselves. Unilateral changes, in general, explicitly manifest in pay fluctuation, lead to deterioration in drivers' work conditions and raise the frequency of the drivers' PCV. This result was confirmed by (Shanahan & Smith, 2021), who asserted that platforms' use of decision-

making power among the many forms of power had been demonstrated by the platforms' unilateral modification of exchange arrangements resulting in a violation of workers' PC. Additionally, priors studies found that terms and conditions for gig workers often do not address social security and job stability (Chen et al. 2020; Tassinari & Maccarrone, 2020; Karanović et al. 2021; Nilsen et al. 2022; Beckman et al. 2021; Moisander et al. 2018), which has a direct influence on the workers' conditions. Moreover, platforms name gig workers freelancers as independent contractors to evade labor rights and social security obligations (Ahsan, 2020; Chen et al. 2020; Wood et al. 2019b; Tassinari & Maccarrone, 2020). All these arrangements contribute to deteriorating drivers' work conditions, increasing their anger.

Similarly, P-NDMP generates violations of drivers' psychological contracts (H4). P-NDMP is characterized by unpredictable management, endorsed by unbalanced communication, placing the driver in the weakest position while expecting the worst all the time. Shanahan & Smith (2021) found that once the workers understood how platforms' actions regarding technology and communication setup impacted their interests and the initially described conditions of the deal, their perceptions of the terms of the deal got altered. Therefore, their psychological contract gets violated. The feeling of unfairness among the drivers, resulting from these types of power, nurtures drivers' anger and gives it a shape.

Likewise, results confirmed that P-NDMP and PCV generate unfair work conditions (H5 and H6). P-NDMP, by its opacity in management, is perceived by the drivers as

arbitrariness, leading to their exploitation. This finding makes them perceive their work conditions with the platforms deteriorated and unfair. Prior researchers asserted that gig workers' work conditions are significantly impacted by P-NDMP using unfair algorithmic management. The algorithmic control may result in insecure working conditions such as overwork, lack of sleep, exhaustion, social alienation (Wood et al. 2019a), isolation (Deng et al. 2016), psychological risk (Chen et al. 2020), and much more. In addition, human resource management activities are being substituted by platform members responsible for algorithm design who act as rudimentary human resource managers (Duggan et al. 2020), ignoring workers' tangible embodied reality (Shanahan & Smith, 2021), which contribute into deteriorating drivers' work conditions.

According to Kozlowski (1993) and Zeitlin (1995), violations of the psychological contract have adverse effects on workers, potentially resulting to experienced tension and strain (Maslach et al. 2001). Indeed, when psychological contract obligations are not met, workers may suffer from lowered predictability and command, resulting in tension for the individual (Shore & Tetrick, 1994).

PIP operates in the opposite direction of the other three platforms' power. While P-DMP, P-NDMP, and PMP work towards raising the drivers' anger toward platforms or towards each other, PIP works on attenuating anger towards platforms by making the unfair looks fair to the drivers. Indeed, by absorbing workers' aspirations for freedom while tying its realization to the erosion of their compensation and job quality, platforms recast the concept of autonomy and so render criticism ineffective by eliminating its justification

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(Gandini, 2019), hence disabling condemnation by eliminating its foundation (Daudigeos et al. 2021).

Results showed a significant negative relation between PIP and PCV (H7(-)), where the Ideological power decreases the drivers feeling that their PCs have been violated. Regardless of believing in the fairness of the platforms toward drivers, drivers under the effect of PIP believe that the platform is inevitable, especially when the high authorities' support of the platform is clear. Therefore, drivers accept it as a fact, whether good or bad. This result is supported by Shanahan & Smith (2021), who found that certain workers who experienced PC violations, resulting from the first and second aspects of platforms' power, kept favorable judgments towards the terms of the exchange and continued perceiving them as fair.

According to (Dick & Nadin, 2011, p 296), PC is influenced by more prominent ideologies and is therefore closely linked to the political goals of influential groups within businesses and the larger community. These workers' witnesses indicated the facilitating role of PIP, which altered workers' evaluations of their interests. The potential separation between objective and subjective interests, false awareness, and marginalization are facilitated by ideological power (Dick & Nadin, 2011).

Although the findings showed no significant direct relationship between PIP and WCF H8(-), PCV acts as a mediator for this relationship. Indeed, results confirmed that PCV fully mediates the relationship between PIP and WCF. In other words, PIP reduces the drivers' perception of violating their psychological contract and the unfairness of their work

conditions by giving legitimacy to all that the platform does, which was confirmed by Shanahan & Smith (2021).

PMP is exerted through gaming strategies. It is pretty different from P-DMP, as well as the P-NDMP; although it can be seen as part of management, it is distinguished by its unique specificity of generating drivers' anger from each other or even from themselves. According to Burawoy (1982), platforms leverage gaming tools and techniques to create an individualistic environment where the drivers consciously accept the platforms' rules of the game, hence losing the rationale of being angry against it.

Nevertheless, the study results confirm the impact of PMP by means of gamification and nudging, generating violations of the drivers' psychological contract and worsening the drivers' work conditions (H9 and H10). Indeed, prior research proclaimed that nudging and gamification features are compelling platforms' control and influence tools (Pastuh & Geppert, 2020). These practices promote "unnecessary" or fictitious satisfaction and might have a manipulative goal (Schmidt, 2016). Some scholars have also referred to software-based gamification in a commercial environment as "exploitation ware" (Pastuh & Geppert, 2020), negatively impacting work conditions. As well as violating workers' PC each time they realize its falsity. These repeated violations of drivers' PC, and deterioration in work conditions, certainly generate anger among drivers. However, this anger is redirected between each other and not against platforms anymore.

Statistical results support the role of WCF as a proxy of drivers' anger, with the highest R squared value ($R^2 = 0.636$), showing that around 64% of the variability of WCF is well

explained by its predecessors. Additionally, PCV and the four platforms' power faces play three different roles in shaping the drivers' anger (Figure 39). The first role of the platforms' power is: raising the drivers' anger towards platforms. In this, P-DMP and P-NDMP intervene. The second role is: raising the drivers' anger towards each other and the situation in general. In this, PMP intervenes. The third and last role is controversial since it reduces the drivers' anger towards platforms. In this, PIP intervenes.

Another critical finding reveals the vital role of P-DMP, utilizing unfair contracts and unfair pay, as a root cause, shaping: (1) P-NDMP, reflected by the fairness of platforms' algorithmic management; (2) PCV, as well as (3) WCF.

One way that ride-hailing platforms can unfairly exercise decision-making power is through the use of unfair contracts and unfair pay. For example, a platform might require workers to sign contracts that limit their ability to negotiate better pay or working conditions. Alternatively, the platform might use algorithms to determine workers' pay unilaterally. This type of decision-making power can lead to a violation of the PC of the drivers. Workers may feel disillusioned when their expectations are violated, and they lose trust in the platform. In summary, the exercise of decision-making power by platforms can significantly impact drivers' perceptions of platforms' management fairness, the violation

of their PC, and the fairness of their work conditions.

Raising Drivers' Anger Towards Platform
- Platform Decision-Making Power (P-DMP)
- Platform Non-Decision-making Power (P-NDMP)

Raising Drivers' Anger Towards Each other
- Platform Manipulation Power(PMP)

Attenuating Drivers' Anger Towards Platforms
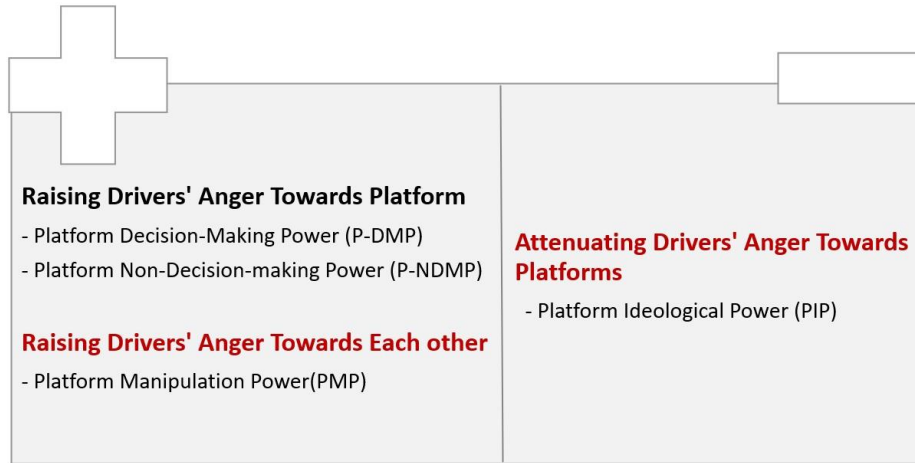- Platform Ideological Power (PIP)

Figure 39. Drivers' Anger Interplay through the Lens of Platforms' Power

Also, results statistically revealed that the attenuating effect of PIP on anger is weaker than the forces raising it. This finding gives further legitimacy to our second and third questions, aiming to understand the platforms' power role in shaping the resistance of these angry drivers.

3.6.2 Relationships Between Platforms' Power and Drivers Resisting Strategies

To answer our second research question, RQ2, which seeks to clarify the role of platforms' power in shaping the driver's resisting strategies, we proposed fourteen hypotheses: eleven were supported, and three were rejected. Nevertheless, the rejected hypotheses are supported through captured significant indirect relationships.

The direct proposed relations depict the impact of (1) the WCF, which represents the proxy of drivers' anger, on (2) drivers' covert and overt resistance (H11, H12, H13, H14,

and H15(-)), as well as on CO among the drivers (H16). In addition, we tested the impact of CO among drivers on both PCA (H17) and WA (H18). Moreover, we check through our hypothesis the impact of the (1) PIP on (2) CO among the drivers (H19(-)), as well as on their resisting overt and covert strategies (H20(-), H21, H22(-), H23 (-), and H24).

3.6.2.1 Effect of Work Conditions on Communication as well as on Drivers' Overt and Covert Resisting Strategies

Findings showed that WCF has a significant positive impact on CO (H16), IE (H14), and WA (H13); conversely, it has a significant negative impact on LO (H15(-)), as well as on DA (H11(-)). Surprisingly, results revealed the nonexistence of any relationship between drivers' WCF and their PCA (H12 rejected).

Most results are consistent with prior findings. For instance, Lei (2021) reported that most workers contacted platform firms but received no substantial answers; they quickly understood that this method would not alleviate their grievances (Lei, 2021) therefore, would not enhance their work conditions.

According to Scott (1985) reasoning, the exploited groups of people usually opt more for covert resisting strategies to face platforms' power. Scott (1985) explained the typical behavior of exploited groups of people, for example, disloyalty and theft, which can be considered as resistance. Moreover, workers exposed to unfair conditions may exhibit behavioral disengagement (Shanahan & Smith, 2021), leading to workarounds, or intention to exit.

Lei (2021) reported that couriers for gig platforms vented their anger and feeling of

unfairness in social media forums. Drivers use online forums to share information about unfair conditions related to ride-hailing work, such as unexpected pay cutbacks, insurance voids, and how to contest disciplinary actions (Maffie, 2020).

3.6.2.2 Mediating Effect of Drivers' Communication

Back to our hypotheses testing, H12 stipulating that "Unfair work conditions lead to participation in collective action" was rejected. Nevertheless, H12 is consistent with prior literature, which contends that the collective voice of labor involves the construction of a feeling of unfairness amid grievances (Lei, 2021), where work conditions must be seen as unethical or unfair, as distinct to just unsatisfactory (Beck & Brook, 2020; Kelly, 1998). In other words, gig workers who perceive their work relationships as exploitative tend to organize opposition (Lei, 2021; Anwar & Graham, 2020).

According to our results, CO mediates the relationship between WCF and the drivers' PCA as both hypotheses (H16 and H17) were supported, affirming that CO fully mediates the relationship between WCF and drivers' PCA. The mediating role of CO as a facilitator boosting the chances to shift from anger toward collective voice activities has been confirmed by prior reviews and studies (Oyetunde et al. 2022; Maffie, 2020). Indeed, communication and exchange between gig workers play the role of mediator, bridging the way from sensing unfairness, dissatisfaction, and antagonism to resistance through different coping strategies. Additionally, findings confirmed CO in mediates the relationship between WCF and the drivers' WA as both hypotheses (H16 and H18) were supported. This result affirms that CO partially mediates the relationship between WCF

and drivers' WA since a significant direct relationship exists between WCF and drivers' WA (H13). Prior research demonstrated that many workers' exchanges are hidden from platforms (Anwar & Graham, 2020), where they employ social media groups to provide support and information to one another (Maffie, 2020;Wood et al. 2018). These exchanges between workers are necessary to deeply understand the algorithm's functioning, either to facilitate and optimize the workers' journey or to work around the algorithm.

3.6.2.3 Effect of Platforms' Ideological Power on Communication as well as on Drivers' Overt and Covert Resisting Strategies

Results revealed that PIP has a significant negative impact on CO among the drivers (H19(-)), PCA (H20(-)), as well as Intention to IE (H23(-)). In contrast, it has a significant positive impact on LO (H24). Simply put, results showed that PIP hinders the drivers' communication and collective voice, raises their loyalty, and decreases their intention to Exit platforms.

Additionally, hypothesis H21 stipulating that PIP increases workers' DA to the platform was rejected. However, PCV, in addition to WCF, is found to mediate the relationship between PIP and DA. Based on that, we derive that PCV and WCF fully mediate the relationship between PIP and DA.

Findings also rejected hypothesis H22(-), stipulating that "PIP decreases workers' workarounds." However, drivers' PCV, in addition to their WCF and CO, mediates the relationship between PIP and drivers' WA. We confirm that PCV, WCF, and CO partially mediate the relationship between PIP and WA. This result is in line with Scott (1990) thick

theory, which states that those who live under the rule of an ideology are persuaded and actively adhere to the values that justify and clarify their own subordination, exhibiting a form of enthusiastic consent.

The thicker false consciousness, as Scott (1990) described, suggests that subjugated groups can be manipulated into accepting the concepts that clarify and defend their subordination by the dominant ideology. This theory asserts acceptance (Scott, 1990). Accordingly, workers under the effect of the platform ideological power are expected to be satisfied with their own exploitation, which is a kind of enthusiastic acceptance. In this case, workers do trust platforms and have faith in their fairness, which is reflected by the fact that they(1) believe in the efficiency of directly appealing to them, (2) are against PCA, (3) respect their deal with them and accordingly avoid workarounds, (4) and remain loyal to them. Additionally, this finding eradicates the proposed rival hypotheses (R-H21(-), R-H22, and R-H23 were rejected), which we derived from the thin theory of false consciousness by Scott (1990), where he argues that the dominant ideology coerces the subordinate groups into submission by making them believe that the social order in which they find themselves is inevitable and natural.

Also, results statistically revealed that the attenuating effect of the PIP on anger is weaker than the forces raising it. This finding gives further legitimacy to our second and third questions, aiming to understand the role of platform power in shaping these angry drivers' resistance.

3.6.2.4 Indirect Effect of Platforms' Decision-Making-Power, Non-Decision-Making-Power, and Platform Manipulation Power on Drivers' Overt and Covert Resisting Strategies

The results showed that P-DMP has an insignificant total indirect effect on PCA and has a significant positive total indirect effect on IE and WA. In contrast, it has a negative impact on the DA and LO (Table 29). Additionally, the findings showed the same effects for the P-NDMP and PMP on the drivers resisting overt and covert strategies: PCA, DA, IE, and WA. Although the study showed weak positive indirect effects of P-DMP, P-NDMP, and PMP on PCA, findings confirmed that P-DMP, P-NDMP, and PMP have insignificant total effects on PCA. However, they have a significant positive total indirect effect on WA, IE and a negative significant total effect on LO and DA. Although not hypothesized, for considerations related to the size of the study, the registered findings were expected. Shanahan & Smith (2021) observed that workers were exposed to PC violation due to the exerted first and second types of platform power on them (P-DMP and P-NDMP). The violation of drivers' PC contributes to the deterioration of their work conditions. Indeed, when PC obligations are not met, workers may suffer from lowered predictability and command, resulting in deteriorated work conditions (Shore & Tetrick, 1994). This situation recalls the same supported results depicting the relationships between WCF and the drivers' covert and overt resisting strategies (H11, H13, H14, and H15(-)).

This situation recalls the same supported results depicting the relationships between WCF and the drivers' covert and overt resisting strategies (H11, H13, H14, and H15(-)).

In a nutshell, the four platforms' power faces play two contradictory roles in shaping the drivers' resisting strategies. The four platforms' power faces do not directly affect the drivers' collective action, except PIP, which indirectly, directly, and significantly hinders the drivers' PCA.

3.6.3 The Unheard Voice of Ride-Hailing Drivers

At this stage of discussion, we believe we were able, in subsection 3.6.1, to explain the interplay of drivers' anger, where we analyzed the different roles of the four faces of the platforms' power in shaping workers' anger. Results revealed that platforms' power that increases the drivers' anger dominated the platforms' power with decreasing effect. In subsection 3.6.2, we were also able to explain the antecedents of the overt as well as the covert resisting strategies adopted by the drivers.

Based on the findings, we demonstrated that although workers are angry, they do not necessarily raise their voices, which reflects our third research question RQ3 seeking to find what hinders angry platforms' drivers from raising their voices collectively. In summary, the drivers' collective voice is hindered by PIP, in concordance with the theory we developed, as well as the empirical examination of our sample. Indeed, PIP directly hinders drivers' PCA (H20(-)) and hinders CO (H19(-)) among drivers, therefore indirectly hinders their PCA. Additionally, PIP showed a significant negative moderating effect, weakening the relationship between drivers' CO and their PCA., which hinders the drivers' voice (H17a(-)).

Such a straightforward answer can be legitimate in line with the statistics that confirmed

the effect of PIP in hindering the drivers' PCA and weakening the relationship between CO and PCA (Figure 40). This conclusion would be a naïve answer since the current study aims to see the whole picture, to constitute the most plausible answer, approaching reality in line with both developed theories and empirical analyses. For that, we need to answer why there is no direct relationship between the proxy of anger (i.e., WCF) and the collective voice of drivers (H12 rejected). Mainly, many prior studies asserted the existence of a direct relationship between gig workers' anger and their participation in the collective voice. For instance, existing qualitative research on platform labor protest (e.g., Tassinari & Maccarrone (2020), Wood et al. (2021), Cini & Goldmann (2021), Cant & Woodcock (2020), Lei (2021), Wood & Lehdonvirta (2021)), provide insight into why gig workers start raising voices, as the scholars underline how demonstrations against platforms, organically arose as a consequence of inherent antagonism in the work process. This reasoning connects to Kelly (1998) "Mobilization Theory" summary of social movement literature (Tilly, 1978; Snow et al. 1986). Kelly's thesis proposes that employees might participate in a wide variety of protests, depending on the employee's level of indignation and sense of unfairness generated by workplace antagonisms (Wood et al. 2021).

Our research examines the collective voice of gig workers from two perspectives; on the one hand, it implies that collective resistance is improbable owing to the atomized character of the activity (e.g., Collier et al. 2017; Webster, 2016). The gig economy is also beyond traditional collective bargaining and unionization(Tassinari & Maccarrone, 2020; Chen et al. 2020; Karanović et al. 2021). On the other hand, researchers confirmed the

emergence of worker activity and solidarity in the platform economy (e.g., Tassinari & Maccarrone (2020), Cini & Goldmann (2021), Aslam & Woodcock (2020)), Cant (2019), Lei (2021) and, Cant & Woodcock (2020)), regardless of their missing representation right.

This dilemma gives way mainly to two scenarios:

First scenario: In concordance with the thin theory of "false consciousness" proposed by Scott (1990), the dominant ideology compels those subjugated into obedience by leading them to conclude that the social structure in which they locate themselves is both natural and unavoidable. Lukes (2004) argues that the thin theory can accommodate surrender. In other words, drivers believe there is no alternative and show a reluctant acceptance (Lukes, 2004). In this theory case, although they feel angry against the platforms, they do not react overtly due to fear.

Second Scenario: PMP and PIP redirect the drivers' anger away from platforms. The ideological power is highly beneficial for comprehending platform workers' preservation of supposedly broken interactions (Shanahan & Smith, 2021). As a result, it operates contrary to the interests of individuals by fooling them, which in turn warps their judgment (Lukes, 2004). Additionally, platforms leverage the nudging and gaming tools and techniques to create an individualistic environment, where the drivers consciously accept the rules of the game set by the Boss "platforms," hence losing the rationale of being angry against this Boss. At this stage, workers' primary point of contention is no longer their employer; instead, conflicts diffuse among workers and their physical constraints (Burawoy, 1982)**.**

The first scenario cannot be supported since results showed that the ideological power effect in our sample endorses the thick theory by Scott (1990) (i.e., H19(-), H20(-), H23(-), and H24 were supported, whereas R-H21(-), R-H22, and R-H23 were rejected)

The second scenario is more viable; although we did not procure statistical evidence demonstrating that the majority of the drivers' anger is not directed towards the platforms, we were able to demonstrate deductively by leveraging empirical evidence from prior studies (Burawoy, 1982), as well as with our empirical results. Moreover, platforms utilize gamification mechanics to alienate gig workers and undercut any attempt at group action (Attoh et al. 2019).

Although the vital role played by PMP in redirecting the drivers away from platforms, the form of ideological domination is deeper-seated, more complete, and more challenging to break through (Xu & Zhang, 2022) due to its high subtlety.

Though drivers exhibited anger, their anger did not lead to collective action. However, communication demonstrated a crucial role in reversing the platforms' manipulation power effect, exerted through gaming and nudging, as well as the effect of its ideological power on the drivers with the benediction of the state, yet not sufficient to make drivers' voices heard.

3.6.1 Control Effect of Drivers' Dependence on Platforms and Work Experience

3.6.1.1 Control Effect of Drivers' Dependence on Platforms:

Demographic results showed that 79.65% of the respondents depend on platforms. In

addition, statistical results (Table 23) confirmed the existence of a significant control effect of drivers' Dependence on Platform (DP) on drivers' CO, Intention to IE, LO, PCV, and WA. This control effect reveals that dependent drivers communicate more with each other than independent ones and have higher intention to exit the ride-hailing sector than independent ones. Also, they have lower loyalty towards platforms than independent ones, and they perform more workarounds than independent ones. Moreover, dependent drivers perceive a higher frequency of psychological contract violations than independent ones.

These results go with our reasoning and concord with Scott (1985) theory of 'everyday forms of peasant resistance,' where he affirms that exploited groups usually opt more for covert resisting strategies to face power.

On the other hand, findings revealed that drivers' dependence on platforms has no significant control effect on Drivers' PCA. Previous dependence literature concerning dependent gig workers' participation in collective action showed different results. Scholars confirmed that dependent workers tend more to participate in collective action than independent ones (Wood et al. 2021). Wood & Lehdonvirta (2021) explain how anger in the remote gig economy takes the shape of resentment at platform fees, poor pay rates, and a lack of voice channels and how this anger can lead to collective protest when workers cannot freely exit their respective platforms. Joyce et al. (2020) make a similar point, arguing that the unstable 'cash- nexus' between workers and platforms is what sparks a rebellion. It has been shown that Chinese food delivery workers who depend on the job are more likely to participate in collective action (Lei, 2021). Nevertheless, a lack of

dependence on platforms' work has been linked to less conflict among Australian food delivery workers (Barratt et al. 2020). Atzeni (2009, 2010) and Tassinari & Maccarrone (2020) argue that when workers share the status of 'dependent workers', an embryonic solidarity develops between them; this solidarity provides the foundation for the active solidarity required for adopting collective action.

On the other hand, we identified studies from traditional employment that explain that vulnerable employees may keep silent despite their exploitation. For instance, (Brinsfield & Edwards, 2020), explained that workers in vulnerable positions may employ silence as a survival tactic. Additionally, when their rights are violated, vulnerable employees in organizations may be more likely to remain mute and not take any action (An & Bramble, 2018).

A viable explanation for this unexpected finding, showing the absence of control effect of drivers' dependence on platforms on their participation in collective action, could result from the fact that they are under the effect of platforms' ideological and manipulation powers. These two powers contribute to angelizing the platforms through 'false consciousness' (Scott, 1990) and gaming tactics (Burawoy, 1982). Dependent or independent, drivers accept to play the game; therefore, they must respect its rules and the 'boss' who sets them. They also see the endorsement given by the government to the platforms, which indicates that nothing would change.

According to Myhill et al. (2021), more focus is on workers who rely on gig work for subsistence. Indeed, not having other job alternatives, relying on platforms' work as the

primary source of income, or simply suffering from the fluctuation of wages make the workers more vulnerable, requiring further attention by theoreticians and practitioners.

3.6.1.2 Control Effect Drivers' Work Experience:

Drivers Work Experience of Three to Six Months: Results (Table 24) confirmed the existence of a significant control effect of drivers' work experience of three to six months on CO, DA, IE, LO, WA, and PCV. This control effect reveals that drivers with 3 to 6 months of work experience with the ride-hailing platforms communicate less with each other and believe more in the efficiency of directly appealing platforms than the rest of the drivers with more experience. Also, they have more loyalty to platforms, and less intention to exit platforms work, compared to the rest of the drivers with more experience. Additionally, they perceive fewer violations of their psychological contract than the rest of the drivers with more experience. Moreover, compared to the rest of the drivers with more experience, they perform fewer workarounds.

On the other hand, findings revealed that drivers' work experience (3 to 6 months) has no significant control effect on PCA.

Drivers Work Experience of Six Months to One Year: Results (Table 25) revealed that drivers' work experience (6 months to 1 year) has no significant control effect on all dependent variables (Table 25). This show that they start having no opinion about many factors, whereas, at earlier stages of their experience, they used to think that communication among drivers was not necessary, as well as loyalty to platforms being a good resolution, having less intention to exit platforms work. Moreover, perceiving fewer violations of their

psychological contract and perform fewer workarounds.

Drivers Work Experience Above One Year: Results (Table 26) confirmed existence of significant control effect of drivers work experience of more than one year on IE, LO, WA, and PCV. This control effect reveals that drivers having more than one year of work experience with the ride haling platforms, have more less to platforms, and more intention to exit platforms work, compared to the rest of the drivers who have less experience. Additionally, they perceive frequent violations of their psychological contract, compared to the rest of the drivers who have less experience. Moreover, they perform more workarounds, compared, to the rest of the drivers who have less experience.

Here, we see clearly, that drivers who have more than one year experience been subject to more psychological contract violations. Which is supported by prior literature (Shanahan & Smith, 2021). On the other hand, findings revealed that drivers' work experience (above one year) has no significant control effect on Drivers' PCA.

To close the control section, we remind that results converged to a straightforward conclusion that drivers' dependence on platforms and work experience do not control their PCA. These findings recreate organized anarchy in our simplistic reasoning and make us see the hidden and subtle effects of other factors in the story. These factors, namely PIP and PMP, hinder drivers' collective voice.
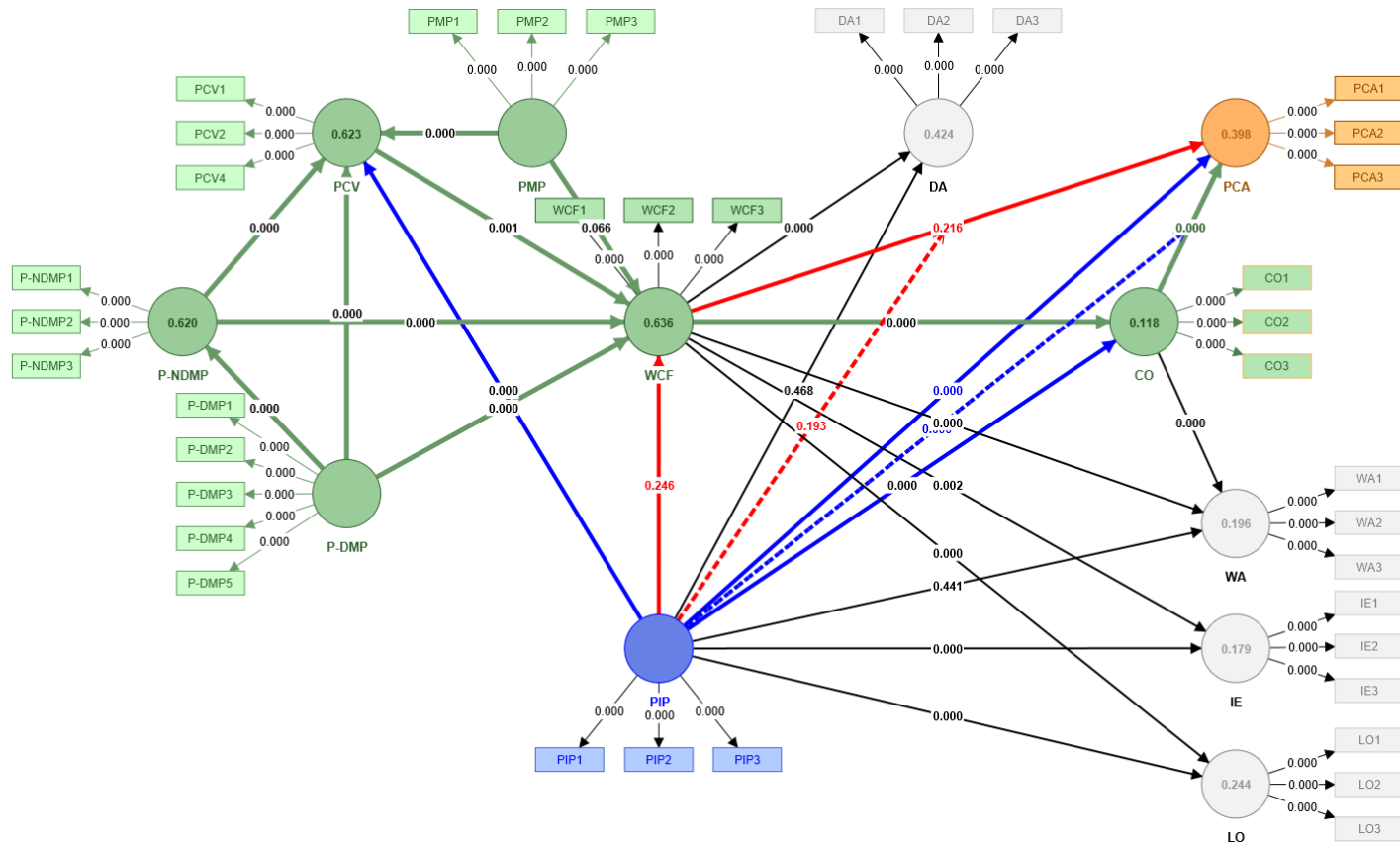
Figure 40. Output Results of Smart-PLS Model with Focus on what Hinders Drivers' Participation in Collective Action (PCA)

3.7 Implications for Theory and Practice

There are various implications for theory, as well as for practice, that can be proposed from this study. We use empirical evidence obtained through detailed analysis using PLS-SEM to derive our theoretical and practical implications.

The results deliver the following significant findings:

(1) P-DMP, P-NDMP, as well as PMP raise drivers' anger's proxy (work conditions fairness), whereas the PIP decreases it, through its indirect negative impact (mediated by the drivers' PCV), on drivers' perception of the fairness of their work conditions; (2) the total effect of P-DMP, P-NDMP, as well as PMP is insignificant to drivers' PCA. Paradoxically, PIP significantly negatively impacts drivers' participation in collective actions (Table 42).

Table 42. Total Indirect Effects of the Four Faces of Platform Power on the Participation in Collective Action (PCA)

	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
P-DMP -> PCA	0.026	0.034	0.75	0.227	Rejected
P-NDMP -> PCA	0.017	0.022	0.729	0.233	Rejected
PIP -> PCA	-0.085	0.02	4.149	0.000 ***	Accepted
PMP -> PCA	0.005	0.007	0.669	0.252	Rejected

* := p < .05; ** := p < .01; *** := p < .001.

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Additionally, the total effect of P-DMP, P-NDMP, and PMP raises drivers' CO, WA, and IE. Whereas they decrease their DA and LO. While PIP hinders the drivers' CO and their PCA, raises their LO, as well as their DA to the platforms, and decreases their WA as well as their IE platforms;

(3) Anger, through its proxy (WCF), does not have a significant direct relationship with drivers' PCA. However, the relationship between anger and PCA is mediated by CO between drivers. Based on this finding; we confirm the crucial role of both PIP and PMP in redirecting the drivers' anger from being towards platforms to becoming towards themselves or among each other.

3.7.1 Theoretical Implications

From a theoretical perspective, the current research can be seen from different angles. It mainly extends the gig economy workers' voice domain by providing a comprehensive view of the interplay between platforms' power and gig workers' resistance.

At a high level of reflection, we were comfortable projecting the phenomenon on the overarching model of Hirschman (1970), where he states that dissatisfaction leads to voice, exit, and loyalty. We add to the knowledge base by evaluating workers' anger as a predictor of the drivers' overt and covert resisting strategies. Moreover, we consider workarounds and potential covert resting strategy drivers employ.

Afterward, we projected the power theory and the concept of anger on drivers' perception of the fairness of the main aspects of their relationship with platforms. Additionally, we extended the concept of anger by adding a new dimension capturing the

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psychological contract violation, and we also extended the power theory by adding a fourth dimension, platform manipulation power.

At this stage, we conceptually developed the mechanisms of anger while adopting the power lens, leveraging the four platform power facets: P-DMP, P-NDMP, PMP, and PIP.

After clarifying the interplay among the platforms' four facets of power and their role in shaping the drivers' anger, we evaluate their role in shaping the drivers' resisting strategies, whether overt or covert. In addition, we evaluate the anger proxy, represented by Work Conditions Fairness, as an antecedent to the drivers' overt and covert resisting strategies. Our primary focus was directed at the drivers' collective voice and its antecedents. The study brings the following significant theoretical implications:

First, we theoretically and empirically confirmed the role of P-DMP as a root cause that shapes anger through its significant relationships with (1) P-NDMP, (2) PCV, and (3) WCF. This power manifests through unfair contracts and pay.

Building on this finding, we were able to show evidence of the significant impact of fairness of contract and pay on the PCV. This thrilling finding shows how the dynamicity characterizing the unfair contract and pay, translated to the platforms' ability to perform unilateral changes, can be reflected in raising the dynamicity of the PC lifecycle. Further studies must focus on the fairness of contracts and pay and how they stimulate the entire PC lifecycle.

Second, while P-DMP, P-NDMP, and PMP work towards nurturing drivers' anger, we were able to statistically demonstrate the significant negative impact of PIP, leading to

decreasing PCV and enhancing drivers' perception of their work conditions fairness. Understanding the role of ideological power in slowing down PCVs opens the door to the potential extension of PC theory, which requires further conceptual and empirical investigations.

Third, with the growing interest in communication as a catalyzer that activates organizing toward workers' collective actions, our study gave evidence about the full mediating effect of communication by linking drivers' anger to their voice. In other words, we were able to prove that communication among drivers has a significant attenuating effect on platform manipulation power, as well as on platform ideological power, resulting in redirecting back the drivers' anger toward platforms. Future studies should focus on understanding the role of communication among workers in decreasing the effect of both Platform ideological and manipulation power.

Fourth, another crucial theoretical implication comes from delivering evidence on the moderating role of PIP in weakening the impact of drivers' CO on their PCA. This finding adds to the current literature a new understanding, founded on solid empirical evidence, of how the PIP concept fits well in the context of voice as an explanation of individuals' subjective norms influenced by multiple factors. This result calls for further investigation into the role of platforms' ideological power in moderating relationships between anger and the rest of the resisting strategies, such as direct appeal, loyalty, and intention to exit.

Fifth, we were able to explain why there was not a significant correlation between the drivers' perceptions of the fairness of their working conditions (representing anger's proxy

in this study) to their participation in collective action. By shedding light on the subtle role of platform manipulation and ideological power in redirecting anger away from platforms, we believe we gave a plausible answer to why angry drivers do not systematically raise their voices collectively, though the existence of extensive literature certifying that. Nevertheless, these platforms' subtle types of power deserve further exploration as belief systems have never readily succumbed to empirical investigation or measurement. They have frequently served as the primary evidence for the theory that what is essential to study is immeasurable, whereas what can be measured is not essential.

Sixth, our literature review revealed potential relationships among gig workers' resisting strategies. For instance, Loyal workers are willing to tolerate a higher level of disagreement with organizational activities and actively contribute to changing the situation by speaking out (Ruiner et al. 2020), which indicates a potential relationship between loyalty and voice. Further studies are essential to understand the gig workers' resisting strategies interplay fully.

Seventh, we adopted Hirschman (1970) voice, exit, and loyalty as the overarching model for the current study to understand better when and why drivers react to issues differently and, more precisely, what makes them withdraw their collective voice. We extended Hirschman's model by identifying CO as a principal mediator and PIP as the moderator hindering drivers' voices. We utilize gig workers' anger, which we conceptualize in a multidimensional way, and which we consider as a predictor instead of dissatisfaction, proposed by Hirschman (1970). We also added a new outcome, the "workarounds." We also

tested drivers' dependence on the platform as a controlling factor and their work experience. The workers' dependence on the platform covers their perception of the availability of other job opportunities in other sectors rather than ride-hailing ones. Different conceptualizations can lead to testing other factors that could replace anger or even extend moderators, as well as the resisting strategies employed by other categories of gig workers.

Finally, believing that predictive power examination is an integral part of any scientific investigation, and although the limitation linked to the Pls-Predict used algorithm, the performed predictive power process helped to show the strength of the proposed model while using several testing approaches. Additionally, the models' benchmark allowed us to show different perspectives of seeing the studied phenomenon while revealing simpler models with very high robustness in terms of potential generalizability that, from our point of view, deserve to see the light.

3.7.2 Practical Implications

The gig economy has brought about new work opportunities but also new challenges. One of the biggest challenges ride-hailing drivers face in the gig economy is the power platforms wield over them. Platforms have the power to manipulate drivers' perceptions and behaviors and to make unfair treatment appear fair. This challenge has made drivers feel angry and frustrated with themselves and towards each other.

By decreasing the PIP and PMP, policymakers may decrease the drivers' fake acceptance of platforms' unfairness, therefore permit to face the actual situation before it degenerates further. Additionally, it allows rebalancing the power between platforms and

drivers, which might directly impact enhancing the drivers' job quality, therefore contributing to avoiding market failures (Collins, 2001; Davidov & Langille, 2006).

In this subsection, we will provide recommendations and implications for policymakers. Accordingly, we structure the practical implications for two crucial subsections in line with our findings; (1) decreasing PIP and PMP in the gig economy, (2) decreasing the drivers' anger related to the unfairness of their work conditions.

3.7.2.1 Decreasing the Platform Ideological and Manipulation Power

Platforms' Ideological Power: Ideological power refers to the ability of a company to shape and influence its stakeholders' perceptions, attitudes, and behaviors. In the ride-hailing industry, ideological power translates to the ability of platforms to set prices, dictate working conditions, and shape public opinion about the industry. Platforms in the gig economy have significant ideological power over their drivers. This power is wielded through the platform's policies, messaging, and branding. For example, platforms often promote the idea that drivers are independent contractors, making it difficult for drivers to advocate for better working conditions. Policymakers need to address this issue by creating policies that define the employment status of gig workers more precisely to make it easier for gig workers to understand their rights and for policymakers to regulate these platforms more effectively.

Another aspect of ideological power is how platforms frame their policies and decisions. For example, platforms may use language that makes a particular policy seem fair or reasonable, even if not. Policymakers can address this by creating regulations that require

platforms to be transparent about their policies and decisions. Platforms should be required to explain their policies and decisions in clear, understandable language to enable drivers to make informed decisions about their work and hold platforms accountable.

Platforms' Manipulation Power: Platforms in the gig economy also have significant manipulation power over their drivers. This power is wielded through the use of gaming and nudging techniques. For example, platforms may use gamification techniques to incentivize drivers to work longer or take on more challenging jobs. Policymakers can address this issue by creating regulations limiting platforms' gaming and nudging techniques and raising their transparency. Consent and transparency can enhance worker autonomy and control. Nevertheless, obtaining drivers' consent before implementing gaming and nudging techniques by platforms must not be considered a justification for such practices.

Another aspect of manipulation power is how platforms can use their access to data to influence drivers' decisions. For example, platforms may use data on drivers' work patterns to nudge them into working longer hours. Policymakers can address this issue by creating regulations that limit the use of driver data by platforms. Platforms should be required to obtain drivers' explicit consent before using their data for any purpose other than providing the platform's services, which can protect drivers' privacy and data security, as well as their autonomy and control.

Recommendations and Implications:

- The government's role in monitoring the growth of ride-hailing applications

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Having ideological power over the drivers is beneficial to the platforms. However, it must be made clear whether or not the government is benefiting from this. Despite claims about platforms' positive impact on the economy, we see significant instability in the existing structure of Algeria's transportation ecosystem.

To understand the differences between the dominant worldviews held by elite actors and those held by the masses who seem to be counted inside these spheres of domination, one must have a firm grip on the fundamental divisions between them (Converse, 2006). Knowing the critical role of elite players in supporting and sustaining the authority of platforms helps pave the way toward comprehending and, by extension, controlling specific ideas.

In order to advance a more egalitarian and democratic economy, legislators and policymakers should seriously consider regulatory measures that combat platforms' ideological domination by limiting the interaction between government agencies and the platform economy. Indeed, legislators have to be mindful of the sway platform businesses may have over governmental bodies and their employees. To do so, we may need to impose stronger conflict-of-interest regulations on government officials who work with platform businesses and restrict their capacity to influence or donate to political campaigns.

- Increase Regulation

Increasing Regulation is another way policymakers might reduce the influence of platforms. For example, legislation might be enacted to prohibit the use of driver data for reasons other than the provision of the platform's services or to limit platforms' gaming and

nudging tactics. As part of this process, rules should be drafted to define the employment status of gig workers more precisely.

- Increase Worker Voice

Increasing worker voice is one strategy for mitigating the influence of platforms in the gig economy. Policymakers might enact legislation compelling platforms to expand workers' participation in platform governance. The platform may establish worker councils or committees with voting rights on significant platform decisions.

- Increase Transparency

Increasing platform transparency is another strategy for reducing platforms' ideological and manipulating powers. Governments may legislate to ensure sure platforms are open about their processes and choices. Creating transparency reports describing the platform's decision-making procedures might help with this.

- Loyal Concurrence

The ideological power of ride-hailing power is weakened by loyal concurrence because it limits their capacity to control prices and working conditions. Because of the increased competition across platforms, prices, services, and working conditions for clients and drivers may improve. Additionally, devoted collaboration may improve the industry's accountability and transparency.

Establishing regulatory frameworks that put the needs of workers, customers, and communities ahead of those of large firms is an essential first step in this direction. Minimum wage and overtime rights are two examples of how this may be accomplished,

together with establishing rules that guarantee competitive markets and prohibit monopolistic behavior by platform firms.

Another crucial tactic is promoting the development of worker cooperatives and workers' owned platforms as alternative ownership and governance models in the platform economy. These types of models may facilitate more significant democratic decision-making and accountability while also redistributing power from major firms to employees and communities.

The purpose of worker cooperatives is to provide an equitable and democratic alternative to existing ridesharing applications. If they own and operate the platform, drivers have a more significant say in their working conditions, including pay rates and revenue distribution. However, there are also considerable difficulties for worker cooperatives in the ridesharing sector. Large ride-hailing systems offer the advantage of economies of scale, but they may be costly to set up and run. Given the novelty and potential unpredictability of their concept, they may potentially encounter regulatory obstacles or legal challenges in some areas.

Several worker cooperatives in various locations across the globe have arisen as a possible alternative model of ride-hailing in recent years, despite these limitations. Cooperatives in the ride-hailing sector vary in size, focus, and structure, but they all have one thing in common: a dedication to democratic ownership and control, social responsibility, and technological innovation. Following some instances of effective driver cooperatives in the ride-hailing sector are shown below:

- ✓ The 2019-founded NYC-based cooperative is owned by its independent contractor driver-members.

- ✓ "Téo Taxi" is a driver-owned and -operated electric car service in Montreal, Quebec, Canada. Montreal's Green Taxi Cooperative was established in 2015 and has since expanded to become one of the city's major taxi firms.

- ✓ Denver's Green Taxi Cooperative was established in 2009 and manages over 800 hybrid cars fleet. The drivers and other employees who are members of the cooperative run it.

These examples show how driver cooperatives may function and succeed where ride-hailing platforms have failed. Driver cooperatives may be a more just and sustainable model for the ride-hailing sector since they emphasize democratic ownership and control, social responsibility, and innovation.

Finally, by enhancing competition, transparency, and accountability, loyal concurrence can lessen the ideological influence of ride-hailing platforms. However, its usefulness is contingent on conditions including ease of access, market concentration, and existing rules and regulations.

- Increase Enforcement

Finally, governments might reduce platforms' influence by strengthening Enforcement. In order to investigate and enforce platform restrictions, regulatory bodies may need more resources. Penalties, such as fines or suspension, might also be imposed on platforms that break the rules. Drivers would benefit from this since it would hammer powerfully the point

that "the force of law" is stronger than the platforms.

In a nutshell, legislators, platforms, drivers, and consumers must work together to encourage competition, transparency, and accountability in the ride-hailing market if it is fair and equitable.

3.7.2.2 Enhancing Job Quality by Decreasing the Driver's Anger

Ride-hailing platforms are at the vanguard of the transformation in the work that the gig economy has wrought. However, as the number of drivers for ride-hailing platforms has increased, so too have concerns about the conditions in which they operate. Drivers often complain about the opaqueness and injustice of algorithmic management and the terms of their contracts. They are frustrated because they do not think they are being paid adequately for their efforts. This section offers policymakers suggestions on enhancing drivers' job quality and reducing ride-hailing drivers' anger.

It is essential to recognize that there are likely compromises between enhancing working conditions and fostering economic growth and that different stakeholders may have varying interests. However, by collaborating and investigating various conceivable solutions, it may be possible to improve working conditions for platform drivers without compromising economic growth.

- Collaborate with Stakeholders

Platforms could collaborate with labor unions and other parties to find methods to enhance working conditions without jeopardizing their business models.

- Collective Bargaining

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Collective bargaining helps ride-hailing drivers bargain for improved benefits and working conditions with platforms. Drivers should be allowed to actively negotiate with platforms with legal safeguards from policymakers, which would empower drivers and enhance their work. Giving drivers the right to representation will uncover and reduce platforms' unethical manipulation practices performed by gaming drivers, which may reduce violations of drivers' psychological contracts, improve their work conditions, and minimize their anger.

- Fair Contracts

Ride-hailing platforms employ unfair agreements to control drivers. These agreements are generally given with little negotiating leverage. In addition, inequitable contracts offer ride-hailing platforms substantial authority to make decisions over drivers, frequently at the cost of drivers' ability to earn a fair income or work within fair conditions. Governments should restrict ride-hailing platforms' influence and treat drivers more fairly by enhancing contract fairness. Here are some government strategies:

In conclusion, governments may restrict the platform's decision and non-decision-making power and improve drivers' negotiation strength by making contracts fairer. This prevents PC breaches and improves drivers' job conditions:

- ✓ Straightforward Expectations: A reasonable contract will explicitly explain the driver and platform's expectations, eliminating misunderstandings and unfulfilled expectations.

- ✓ Fairer Remuneration: A fair contract guarantees drivers equitable benefits and

wages.

- ✓ Improved Work Conditions: An equitable contract gives drivers greater freedom in scheduling, platform assistance, and protection against unjust treatment.

- ✓ Improved Job Security: A just contract protects drivers against unjustified termination and other undesirable effects.

- • Fair Compensation

The fact that ride-hailing drivers believe they are not getting paid appropriately is one of the leading causes of their rage. Policymakers have to make sure that ride-hailing platforms pay their drivers' reasonable compensation that is appropriate for the amount of effort they put in. It is crucial to remember that there can be compromises between paying drivers a minimum salary and the platforms' business models' stability.

Providing drivers with a minimum salary might be challenging without disrupting platforms' economic model. However, there are several options to consider; for instance, platforms might change prices depending on local living costs or other driver earnings considerations.

- • Incentives

One strategy might be offering incentives to the platforms to enhance their drivers' working conditions. Governments may, for instance, provide tax rebates or other rewards to platforms that adhere to strict guidelines for driver pay, benefits, and working conditions.

- • Fair Management and Communication

Governments ought to foster communication among drivers and ride-hailing platforms

and reduce the opaqueness and oversight of algorithmic management. Here are some recommendations:

- ✓ Governments may force ride-hailing platforms to disclose their algorithms and how they manage drivers. It might include platforms explaining decision-making and the use of drivers' data.

- ✓ Governments may request that ride-hailing platforms be liable for the decisions made through their algorithms. It may include requiring platforms to justify algorithmic decisions affecting drivers and establishing legal accountability for discriminatory or unjust decisions.

- ✓ Endorse drivers' Organizations: Governments can endorse drivers' organizations, such as unions, to assist drivers in communicating more effectively with the platform.

- ✓ States can create a monitoring agency to oversee and regulate ride-hailing platforms' use of algorithms. It could entail establishing a specialized agency or division with the authority to investigate grievances, impose penalties, and enact laws.

Governments may assist in preventing drivers from facing discrimination or unjust treatment due to algorithmic decisions by enacting these regulations, which would reduce the opaqueness and oppressive character of algorithmic management exercised by ride-hailing platforms.

- • Protection and Insurance

In many cases, drivers for ride-hailing platforms are not regarded as employees but rather independent contractors, meaning they are not entitled to similar legal protections. Benefits like health insurance, sick leave, and retirement plans should be available to drivers, and policymakers should cooperate with platforms to make this possible. Following are some possible approaches to provide security and insurance for drivers without impacting platform economics are discussed below:

- ✓ Platforms could collaborate with insurance companies to provide drivers with cost-effective insurance alternatives.

- ✓ To not change the platforms' economic model: policymakers may innovate while thinking of realistic ways that provide drivers greater rights while protecting the platforms' interests. For instance, by forming an independent entity to collect and distribute funding for driver rights like insurance and social security.

- ✓ Governments might establish ride-hailing driver-specific insurance policies. These economical insurance packages might be customized for ride-hailing drivers.

- ✓ Governments might provide tax discounts or other incentives to platforms that fulfill driver security and insurance regulations.

- Drivers' Safety

On the job, ride-hailing drivers frequently encounter safety hazards, such as harassment and assault from clients. Policymakers must establish policies and protocols in collaboration with platforms to ensure drivers' safety. Platforms should be required to incorporate safety features and provide providers with training to deal with problematic

circumstances, enhancing the quality of drivers' jobs.

- Innovation

Government support for research and development of new technologies and business models encouraging job quality and worker protections can facilitate innovation in the platform economy.

In summary, policymakers must take steps to improve the working conditions of ride-hailing drivers in the platform economy. By ensuring equitable compensation, providing benefits and security measures, boosting transparency, enhancing safety, and permitting labor negotiations, policymakers can assist in reducing drivers' discontent towards platforms and each other and themselves. It will ultimately result in a more equitable and sustainable platforms economy, benefiting all parties.

3.8 Conclusion

3.8.1 Summary

Gig workers' collective action would be the first step towards enhancing job quality and avoiding market failure. Nevertheless, existing research has focused on instances when workers' collective action has taken place, which is controversial since prior research disregarded the much more frequent absence of collective protest under identical conditions by discussing cases of the successful realization of collective action. Additionally, prior research shows a lack of a comprehensive view of the interplay between platforms' power and gig workers' resistance, although it is difficult, if not impossible, to tease resistance and power apart.

In this empirical work, we investigate how the gig economy platforms' power shapes workers' anger, as well as resistance strategies, through adopting diverse covert or overt coping tactics. Our ultimate goal is to understand what inhibits angry drivers from raising their voices collectively. The study uses structural equation modeling applied to survey data from a sample of 339 Algerian ride-hailing drivers. The finding indicates that (1) platforms' decision and non-decision-making power, as well as manipulation power, raise drivers' anger, whereas the platforms' ideological power decreases it, through its indirect negative impact, on the perception of drivers of the fairness of their work conditions; (2) total effects of platforms' decision and non-decision-making power, as well as manipulation power is insignificant to drivers' participation in collective actions. Additionally, these total effects raise communication, workarounds, and intention to exit.

In contrast, it decreases direct appeal and loyalty. While platform ideological power hinders the drivers' communication and collective voice, raises their loyalty, as well as their direct appeal to the platform, and decreases their workarounds as well as their intention to exit platforms; (3) Anger through its proxy (work conditions fairness), does not have a significant direct relationship with drivers' participation to collective action. However, the relationship between anger and participation in collective action is fully mediated by communication. Based on this finding, we confirmed the crucial role of platforms' ideological and manipulation power in redirecting the drivers' anger from being towards platforms to becoming towards themselves and among each other. Upon these findings, policymakers can intervene to rebalance the relationships among the different stakeholders

in the ride-hailing ecosystem. The study further introduces significant theoretical and practical implications based on the findings.

3.8.2 Contribution

Although power theory helps investigate platforms' control, management, and manipulation of workers, it does not provide a thorough framework for understanding workers' reactions, particularly how they perceive the platforms' power and react to grievances, either loudly or silently. Power and resistance are closely knit together in complex and often contradictory ways. Moreover, the new capitalist culture has made these ambivalences ever more pronounced. Today, managers are routinely encouraged to break the rules, challenge existing thinking, and model themselves on free-thinking radicals. Conversely, workers increasingly manage themselves and others in their work groups, which makes it difficult, if not impossible, to tease resistance and power apart (Fleming & Spicer, 2008).

This work adds to the body of knowledge by combining Lukes (2004) power theory with resistance theoretical concept of Scott (1985). We use Hirschman (1970) exit, voice, and loyalty model as the overarching framework of the phenomena, where we extend the model by adding workarounds (Alter, 2014a) as one of the main adopted resisting strategies by the gig workers. Additionally, we contribute to theory by adding antecedents that mediate and lead to the workaround phenomena, which have not been examined in prior research.

In addition, we extend the PC theory presented by Rousseau et al. (2018) by proving

that PMP, P-DMP, as well as P-NDMP raise the dynamicity of the PC lifecycle by increasing the probability of more frequent PCVs, while the PIP decreases it.

This research uncovers mechanisms by which platforms present the unfair exchange between gig workers and platforms as fair. Indeed, platforms exchange workers' security and fair conditions for their autonomy and freedom, driving workers' resistance strategies towards unheard voices most of the time. Our research impacts platform labor and traditional employment interactions, which are getting more precarious and digitally mediated as more algorithm management elements are introduced (Petriglieri et al. 2019; Andonova, 2019).

3.8.3 Limitations and Directions for Future Research

Although the present research offers valuable insights, it has limitations. First, we gathered data from the drivers in Algeria's ride-hailing industry, a unique industry also situated in a particular region of the global south.

Furthermore, the results show restriction due to a lack of understanding of the perceptions of work over time. Consequently, priorities for subsequent studies involve longitudinal techniques, respondents from a broader range of sectors, and geographic diversity. Additionally, it is essential to mention that research conducted in the global south may raise ethical concerns related to power imbalances, exploitation, and cultural sensitivity.

Although our study succeeded to a certain extent in answering our main research question seeking to identify what hinders angry drivers from raising their voice collectively,

other exogenous factors might shape their voice and deserve to be identified in order to bring further ideas that might inspire policymakers to keep enhancing the ride-hailing sector.

Chapter 4.   Conclusion and Implications

4.1 Summary

Gig economy interest has turned wider beyond academic interests involving policymakers and society, as it has become a natural and inevitable vector that contributes actively to social and economic development worldwide. Despite gig workers embracing gig work, it reflects a further inclination toward precarious work and raises concerns that it may contribute to an erosion in job standards and exacerbate social inequalities. Gig work has been linked to low-quality jobs and discriminatory or unfair practices, prompting concerns about the sustainability of the gig economy and the fairness of its working conditions.

These concerns reflect a lack of knowledge about the mechanisms of job quality in the gig economy, expressed by the weak conceptualization of job quality in the gig economy, due to one major issue: its difference from conventional employment. This lack of knowledge keeps the debate on the definition of "job quality" open, hindering policy initiatives.

Additionally, scholars asserted that improving job quality revolves around strengthening workers' representation and voice. Indeed, workers' voices would be the first step towards enhancing job quality and avoiding market failure. Nevertheless, the gig economy voice research is still in its infancy, and the voice theory is underdeveloped. Researchers still did not develop and tested robust conceptual models that explain the

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mechanisms shaping the gig workers' resistance strategies. Moreover, workers' voices have been notably neglected in studies on new types of organizing.

We consider filling these gaps in knowledge a priority that drives our motivation to enthusiastically perform this work to empower policymakers with scientifically founded implications and provide academicians with engrossing novel horizons in theory construction.

The first study uses a systematic literature review to diagnose the problem deeply. Accordingly, we explore and analyze comprehensively how academic research addressed job quality in the gig economy. To guide our data extraction and analysis, we adopt a fair work lens through its eight principles, namely contract, communication, management, governance, use of data, pay, representation, and work conditions.

For the detailed systematic steps, this work mainly follows the standardized methodology proposed by Okoli (2015) to conduct a standalone systematic literature review which includes the following steps: identifying the purpose, creating the protocol and training the team, state-of-the-art, screening, quality appraisal, data extraction, synthesizing and analyzing, writing results and discussion.

We identified 45 relevant primary studies for the review. Data extraction from those studies is guided by the eight fair work principles: Contract, management, communication, governance, use of data, pay, representation, and work conditions.

Most examined primary studies show that the gig economy barely complies with fair work according to the tool we utilize, accentuating our concerns. However, it is not easy to

provide a conclusive statement due to the heterogeneity of the examined studies. Besides, this complex and emerging environment suggests the existence of exogenous variables that have a potential moderating or controlling effect on the determinants of job quality, including workers' dependence on the platform, market conditions, regulatory environment, and societal and cultural discrimination.

The inducted cause-effect relationships among the eight fair work principals are constant across studies with diversified contexts, a wide range of settings, and empirical methods. The primary studies gave consistent results, proving that the examined relationships are robust and transferable. Therefore, we were able to build a conceptual model that depicts the interrelations among the job quality determinants, where the work conditions fairness is a potential proxy for gig work quality, as it is the ultimate output of the proposed causal model. Contract fairness is a cornerstone root cause that shapes the rest of the job quality determinants.

The identified cause-effect relationships revealed exciting results that confirm, on the one hand, the dominating role of platforms in shaping the job quality in the gig economy through having control over the contract design, algorithmic management, communication, governance, use of data, pay, representation, and therefore, gig workers' work conditions as a result. On the other hand, we found evidence in the literature that workers' resistance, mainly their collective voice, contributes to shaping management, communication, pay, and work conditions. However, the gig economy is currently beyond the scope of traditional collective bargaining and unionization.

Additionally, some gig workers perform workarounds to attenuate the exerted platforms' controlling power through algorithmic management and enhance their pay and, therefore, their working conditions. Based on these findings, we confirmed that gig workers' resistance shapes their job quality. Nevertheless, the literature lacks a deep understanding of what shapes gig workers' voices and resistance in general. Most examined publications have provided descriptive studies, interpreting occurrences of the successful realization of group action while disregarding the far more frequent lack of collective protest in comparable circumstances.

Moreover, the examined studies lack comprehensive and holistic analyses that concentrate on the interrelations among platforms' power determinants and gig workers' resistance and do not simultaneously capture this interplay. This gap might be an essential reason for the origin of the weak theorization that characterizes job quality in general and in the gig economy more precisely.

Our systematic literature review stimulated and endorsed our empirical study, which aims to uncover the interplay between platforms' power and gig workers' resisting strategies, focusing on workers' voices.

The second study adopts a deductive approach and uses an empirical quantitative method. It addresses the lack of voice theorization due to the scarcity of comprehensive studies on the interplay between platforms' power and gig workers' resistance. Examining the job quality phenomenon through concurrently using both lenses, power, and resistance, may further strengthen the theorization and conceptualization of voice, therefore, of job

quality in the gig economy.

Existing studies have focused on cases where workers' collective action has occurred, which is problematic since by focusing on instances of the successful realization of collective action, previous research tends to explain cases of the successful realization of the phenomenon under consideration while ignoring the much more the typical absence of collective protest in similar circumstances. Nevertheless, the gig economy voice research is still in its infancy, and the voice theory is underdeveloped. Researchers still did not develop and tested robust conceptual models that explain the mechanisms shaping the gig workers' voice.

While adopting a robust theoretical approach, our study proposes an integrative research model confronting platforms' power to gig workers' resistance. Additionally, we utilize the concept of anger to manifest the drivers' feelings towards the unfairness of the job quality determinants resulting from the exerted power by platforms on them.

Through this study, we aim (1) to examine the platforms' power role in shaping gig workers' anger; (2) to explore the extent to which platforms' power, as well as gig workers' anger, play in stimulating covert and/or overt gig workers resistance strategies; (3) to reveal how platforms' power hinders angry gig workers' from raising their voice.

We utilize the original model of Hirschman (1970) exit, voice, and loyalty as an overarching model for this research. However, we propose a different conceptualization by using gig workers' anger as a predictor instead of dissatisfaction and adding a new outcome: workarounds. Based on our SLR, we predict the gig workers' workaround as one of the

expected behavioral outcomes. Additionally, we consider communication among gig workers to mediate the relationship between the proxy of gig workers' anger and gig workers' voice and workarounds. As moderators, we tested PIP.

We use the lens of Lukes' (2004) power theory to explain the control exerted by the platforms on the gig workers, shaping their anger. The power lens contains three types of powers: decision-making power, non-decision-making power, and ideological power. A new substantial type of power is identified in this study by observing its mechanisms and several effects on gig workers. This power is the platforms' manipulation power, exerted through using gaming and nudging as means in order (1) to push the gig workers to perform work even though it does not necessarily go with their interest, (2) to isolate gig workers, by creating some conflict of interest among them.

We adapt the anger concept proposed by Wood et al. (2021), where the anger of the gig workers is linked to unfair pay, management, and work conditions. We extended its components to include unfair contracts, as the multifaceted nature of platforms' control generates diversified sources of anger. Additionally, we integrated psychological contract violation, as it is considered a significant source of anger based on prior literature.

Afterward, we examine workers' anger components through the power lens, considering the unfairness of contract and pay as the P-DMP. Additionally, management unfairness mirrors P-NDMP exerted on the gig workers, as the prior literature asserts. Workers express their anger through their perceived unfairness resulting from platforms' power exercises. At this stage, we develop anger mechanisms based on the conceptual model developed in

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the SLR (Chapter 2), which provides an insightful conception of the interplay among the job quality determinants based on their fairness.

Although power theory is insightful for analyzing platforms' control, management, and manipulation of workers, it does not provide a comprehensive framework for analyzing workers' responses, especially how workers perceive the platforms' power and react to grievances, either loudly or silently. Additionally, power and resistance are intricately intertwined in a complicated and usually paradoxical way. Consequently, we integrate Lukes (2004) power lens with Scott (1985) resistance lens to reach our target, which is developing a model where we can concurrently test the action and reaction, and how this control triggers and even shape the resistance of gig workers, remaining faithful to our philosophical stance, which is critical realism. Figure 41 depicts the theories, lenses, and concepts used and how we integrated them to explain the phenomenon better.
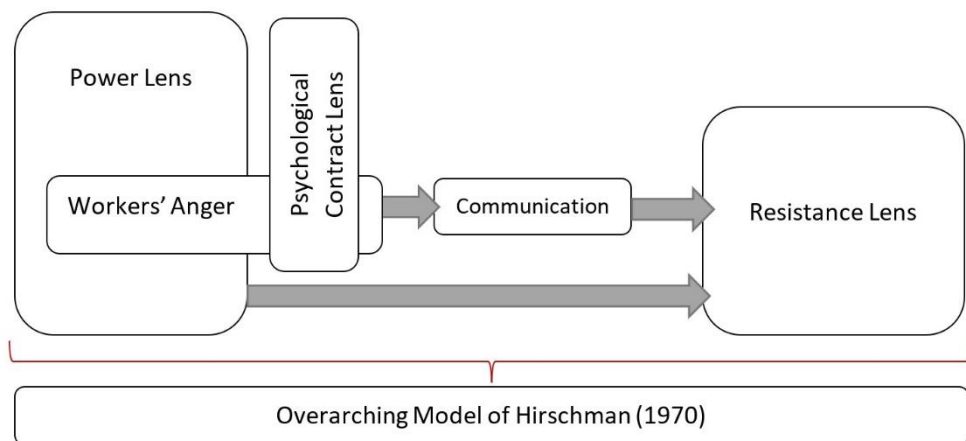

Figure 41. Integrating Theories and Concepts to Develop our Research Model

Using survey data collected from 339 Algerian ride-hailing drivers, the study applies

PLS-SEM for research model evaluation the hypotheses testing, and beyond.

The results reveal the following significant findings: (1) P-DMP, P-NDMP, as well as PMP, raise drivers' anger's proxy (WCF), whereas PIP decreases it, through its indirect negative impact (mediated by the drivers' PCV), on drivers' perception of the fairness of their work conditions; (2) the total effect of P-DMP, P-NDMP, as well as PMP is insignificant to drivers' PCA. Paradoxically, PIP significantly negatively impacts drivers' participation in collective actions. Additionally, the total effect of P-DMP, P-NDMP, and PMP raise CO between drivers, WA, and IE. Whereas decreasing drivers' DA and LO.

While PIP hinders the CO between drivers as well as their PCA, it raises their LO, as well as their DA to the platform, and decreases their WA as well as their IE platforms; (3) Anger through its proxy (work conditions fairness) does not have a significant direct relationship with drivers' participation to collective action. However, the relationship between anger and participation in collective action is mediated by communication. Based on this finding, we confirmed the crucial role of platforms' ideological and manipulation powers in redirecting the drivers' anger from being towards platforms to becoming towards themselves and among each other, destroying drivers' rationale behind raising their voices.

Platform platforms exert power by imposing unfair contracts generating unfair pay, unfair algorithmic management, potential violations of drivers' psychological contracts, and unfair work conditions. This unfairness stimulates drivers' anger; however, this anger is not systematically directed towards platforms (mostly, there is no relationship between anger's components and voice). This fact impacts the drivers' resisting strategies and

hinders their voice, rendering their suffering silent. We believe this empirical study helps academicians and practitioners hear the unheard voice of a specific category of gig workers. Figure 42 depicts the existing connections between the SLR and the empirical study. Two principal types of relationships connecting the SLR to the empirical study (SEM) can be observed: (1) triggering through addressing the identified gaps in the SLR; (2) endorsing through utilizing the developed theory in the SLR.
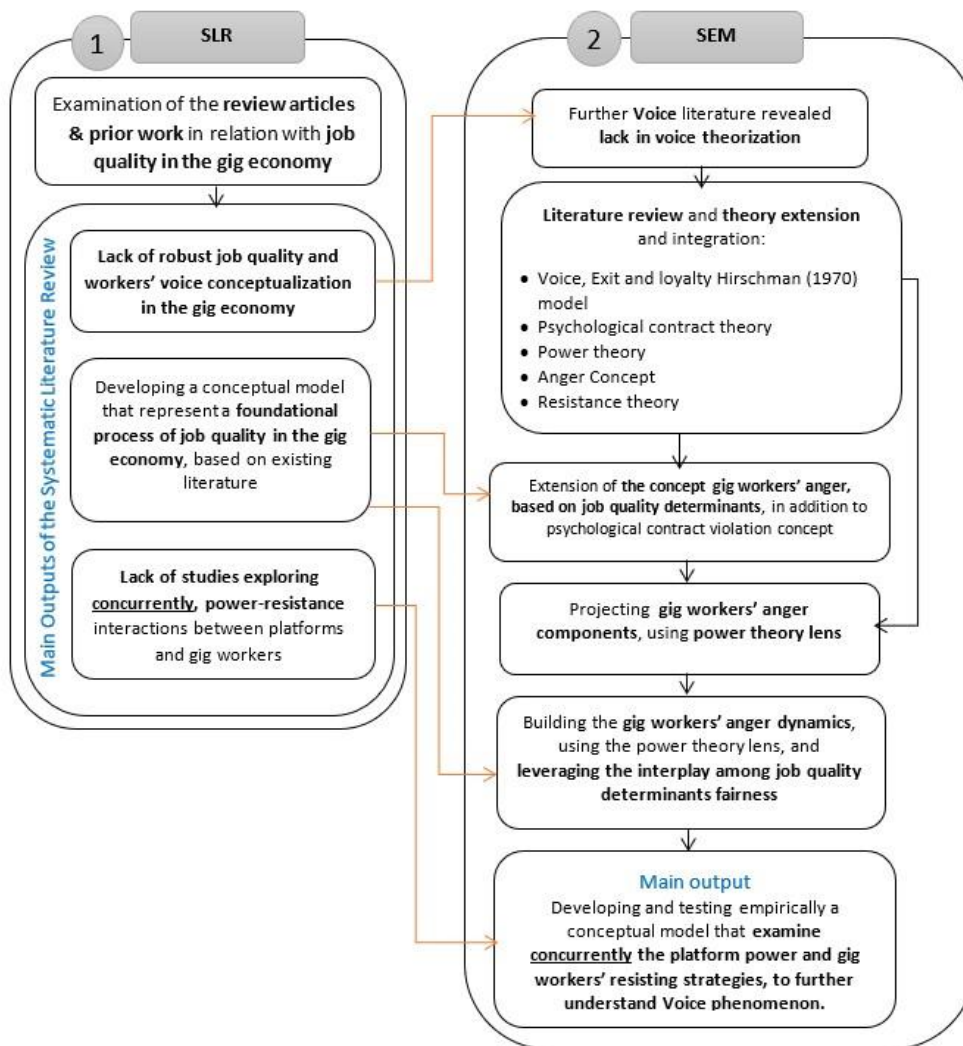
Figure 42. Summary and Connections Between the Two Studies

Upon the findings of the SLR as well as the empirical studies, several implications are derived and presented in this research to inspire academicians and policymakers when designing their initiatives to clarify further and rebalance the relationships among the different stakeholders in the ride-hailing ecosystem.

4.2 General Implications

As a result of factors like globalization and technological advances, union membership and the bargaining power of workers in advanced nations have declined. There is a mutual impact between technological shifts, economic dynamics, and power structures. The area is multifaceted and not sure, but it is crucial to understand the linkages between newly developed technologies and shifting power dynamics. Consequently, any deductions or recommendations for policy should be treated with sufficient caution.

Kaufman (2013) noticed that every country has a conception of what is fair in working relationships, and if these ideals are breached, political and social pressure will compel an adjustment in the norms. Adler (2016) agreed when he noticed that legislation over the use of technology, rather than the technology itself, would shape the future of employment. Nevertheless, in the gig economy, workers may be working for many different platforms at once, which increases the complexity of regulations and complicates the implementation of traditional employment laws (Goods et al. 2019).

Although platforms are usually more potent because they define the rules workers must follow to generate income, industry regulations may influence these power mechanisms and mutual dependencies (Casciaro & Piskorski, 2005). Indeed, regulations play a critical role in tempering power imbalances and fostering positive mutual dependencies between gig workers and platforms. Moreover, it was empirically demonstrated that where regulations are weak, workers express concerns about being deceived or mistreated by the platform owner (Karanović et al. 2021).

While taking into consideration all these expressed challenges surrounding the gig economy regulation, we suggest the starting point be gradually changing the "laissez-faire" governance by proposing a policy that creates some balance in power distribution between the platforms and the drivers while preserving the rapid growth of online platforms, by avoiding radical and costly decisions. Putting all the results of the first and second studies together, we derive the following implications:

4.2.1 Theoretical Implications

From a theoretical perspective, the current research can be seen from different angles. It mainly extends the gig economy job quality and gig workers' voice domain by providing a comprehensive view of the interplay between platforms' power and gig workers' resistance. The study brings the following significant theoretical implications:

First, the proposed conceptual model of job quality in the gig economy helped us develop our empirical model by clarifying the nature of causal relationships that interconnect job quality determinants. Furthermore, it showed the importance of voice as the main impactful factor that workers can use to shape the quality of their work. Our reasoning may inspire diverse usages of the proposed conceptual model of job quality in the gig economy.
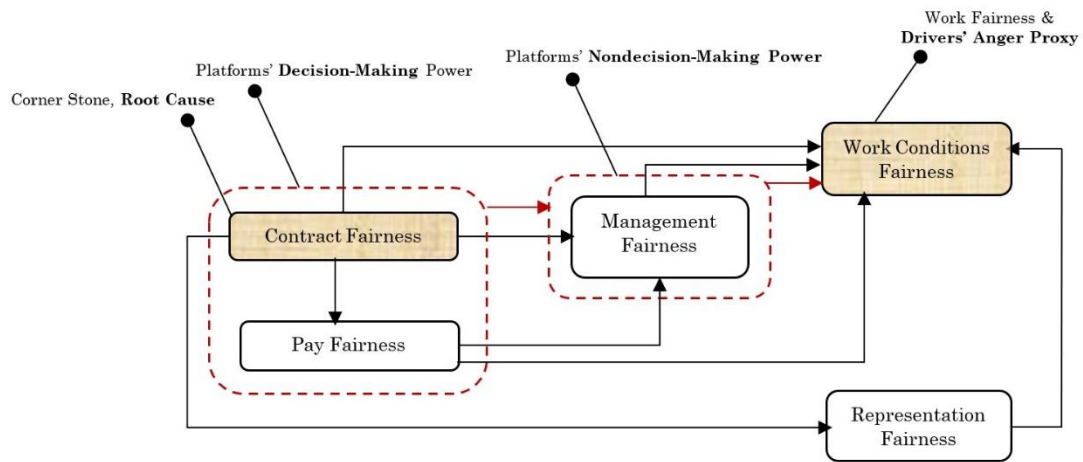
Figure 43. Combining SLR & SEM Perspectives of Seeing "Fair Work" & "Drivers'

Anger" Root-Cause and Proxy

Additionally, we were able to confirm conceptually, through our SLR and empirically prove through our SEM study, that (1) unfair contract is the cornerstone root cause that gives way to several issues or effects impacting the quality of work in the gig economy; (2) Work conditions fairness is a potential proxy of the gig work fairness, job quality, as well as anger. Scholars should consider these findings for further conceptual development and empirical testing of job quality. Figure 43 combines the SLR and SEM perspectives' root cause, the proxy of job quality, and drivers' anger.

Second, we theoretically and empirically confirmed the role of P-DMP in shaping drivers' anger through its significant relationships with (1) P-NDMP, (2) PCV, and (3) WCF. This power manifests through unfair contracts and pay.

Building on this finding, we were able to show evidence of the significant impact of fairness of contract and pay on the psychological contract violation. This thrilling finding

shows how the dynamicity characterizing the unfair contract and pay, translated to the platforms' ability for a unilateral change, can be reflected in raising the dynamicity of the psychological contract lifecycle. Further studies need to focus on the fairness of contract and pay and how they stimulate the entire psychological contract lifecycle.

Third, while platform decision-making, non-decision-making powers, as well as manipulation power, raise the frequency of psychological contract violations frequency and work towards nurturing drivers' anger, we were able to statistically demonstrate the significant negative impact of platforms' ideological power, leading to decreasing psychological contract violation, as well as enhancing drivers' perception to their work conditions fairness. Understanding the role of ideological power in slowing down psychological contract violation opens the door to potential extensions of psychological contract theory, which requires further conceptual and empirical investigations.

Fourth, with the growing interest in communication as a catalyzer that activates organizing toward workers' collective actions, our study gave evidence about the full mediating effect of CO by linking drivers' anger to their voice. In other words, we were able to prove that communication among drivers has a significant attenuating effect on platform manipulation power, as well as on platform ideological power, resulting in redirecting back the drivers' anger toward platforms, therefore boosting their collective voice. Future studies should focus on understanding the role of communication among workers in decreasing the effect of both Platforms' ideological and manipulation powers.

Fifth, another crucial theoretical implication comes from delivering evidence on PIP's

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moderating role in weakening drivers' CO's impact on their PCA, which adds to the current literature and understanding, founded on solid empirical evidence on how platforms' ideological power concept fits well in the context of voice as an explanation of individuals subjective norms influenced by a multitude of factors. This result calls for further investigation into the role of platforms' ideological power in moderating relationships between anger and the rest of the resistance strategies, such as direct appeal, loyalty, and intention to exit.

Sixth, we were able to clarify why there was not a significant correlation between the drivers' perceptions of the fairness of their working conditions (representing anger's proxy in this study), to their participation in collective action. By shedding light on the subtle role of platforms' manipulation and ideological powers in redirecting anger away from platforms, we believe we gave a plausible answer to why angry drivers do not systematically raise their voices collectively, though the existence of extensive literature certifying that.

Nevertheless, these platforms' subtle types of power deserve further exploration as belief systems have never readily succumbed to empirical investigation or measurement. They have frequently served as the primary evidence for the theory that what is essential to study is immeasurable, whereas what can be measured is not essential.

Seventh, we adopted Hirschman (1970), voice, exit, and loyalty as the overarching model for our empirical study to better understand when and why drivers react to issues differently and, more precisely, what makes them withdraw their collective voice. We

extended Hirschman's model by identifying communication as a central mediator and the platforms' ideological power as a moderator hindering drivers' voices. We utilize gig workers' anger, which we conceptualize in a multidimensional way, and consider as a predictor instead of dissatisfaction, proposed by Hirschman (1970). We also added a new outcome, the "workarounds." We also tested drivers' dependence on the platform as a controlling factor and their work experience. The workers' dependence on the platform covers their perception of the availability of other job opportunities in other sectors rather than ride-hailing ones. Different conceptualizations can lead to testing other factors that could replace anger or even extend moderators, as well as the resisting strategies employed by other categories of gig workers.

Eighth, the SLR confirmed the significant impact of gig workers' voices on shaping and enhancing their job quality through influencing algorithmic management, communication, pay, and work conditions. Nevertheless, further longitudinal empirical studies are needed to quantify and compare this impact to platforms' power.

Finally, believing that predictive power examination is an integral part of any scientific investigation, and although the limitation linked to the Pls-Predict used algorithm, the performed predictive power process helped to show the robustness of the proposed model in our second study while using several testing approaches. Additionally, the models' benchmark allowed us to show different perspectives of the studied phenomenon while revealing simpler models with very high robustness in terms of potential generalizability that deserve to see the light.

4.2.2 Practical Implications

The gig economy has brought about new work opportunities but also new challenges. One of the biggest challenges ride-hailing drivers face in the gig economy is the power platforms wield over them. According to our findings, platforms can impact drivers' perceptions and behaviors and make unfair treatment appear fair. Therefore, it redirects drivers' anger and frustration toward themselves and towards each other, losing motivation and willingness to raise their voices against platforms.

By decreasing the platforms' ideological and manipulation powers, policymakers can decrease the drivers' fake acceptance of platforms' unfairness, allowing them to face the actual situation before it degenerates further. Additionally, it allows rebalancing the power between platforms and drivers, which will directly impact enhancing the drivers' job quality, therefore, contributing to avoiding market failures (Collins, 2001; Davidov & Langille, 2006).

Decreasing the platforms' ideological power would not have a significant economic direct consequence and will not affect the business models of online platforms. Instead, it will release drivers' muffled voices directly by strengthening their participation in collective action (PCA) and indirectly through strengthening the communication among drivers (CO). Indeed, results revealed the crucial mediating role of CO among drivers leading to their PCA and how PIP hinders this communication.

This finding may help the governments to see reality clearly without distortion or exaggeration, giving them great control over the situation.

Then another segment of intervention derived from our findings could be possible for policymakers to enhance drivers' job quality by decreasing the decision and non-decision-making power of platforms, therefore controlling drivers' anger. Nevertheless, it is essential here to be cautious while drawing implications since enhancing contract, pay, and work conditions may have a cost that needs to be considered. Online platforms' sustainability needs to stay a priority while proposing solutions to enhance the determinants of job quality, which requires advanced economic studies that ensure the tradeoff between enhancing job quality and keeping the gig industry sustainable.

The proposed practical implications are not exclusive to the Algerian context. They may apply to many other contexts where regulation is not empowered or even does not consider the effect of these subtle powers of manipulation and ideology.

In this subsection, we provide recommendations and implications for policymakers. Accordingly, we structure the practical implications in two crucial subsections, in line with our findings: decreasing PIP and PMP in the gig economy and enhancing job quality by raising gig work fairness (decreasing driver's anger).

4.2.2.1 Decreasing the Platforms' Ideological and Manipulation Powers

Platforms' Ideological Power: Ideological power refers to the ability of a company to shape and influence its stakeholders' perceptions, attitudes, and behaviors. In the ride-hailing industry, ideological power translates to the ability of platforms to set prices, dictate working conditions, and shape public opinion about the industry. Platforms in the gig economy have significant ideological power over their drivers. This power is wielded

through the platform's policies, messaging, and branding. For example, platforms often promote the idea that drivers are independent contractors, making it difficult for drivers to advocate for better working conditions. Policymakers need to address this issue by creating policies that define the employment status of gig workers more clearly. It will make it easier for gig workers to understand their rights and for policymakers to regulate these platforms more effectively.

Another aspect of ideological power is how platforms frame their policies and decisions. For example, platforms may use language that makes a particular policy seem fair or reasonable, even if not. Policymakers can address this by creating regulations that require platforms to be transparent about their policies and decisions. Platforms should be required to explain their policies and decisions in clear, understandable language so drivers can make informed decisions about their work and hold platforms accountable.

Platforms' Manipulation Power: Platforms in the gig economy also have significant manipulation power over their drivers. This power is wielded through the use of gaming and nudging techniques. For example, platforms may use gamification techniques to incentivize drivers to work longer or take on more challenging assignments. Policymakers can address this issue by creating regulations limiting platforms' gaming and nudging techniques and raising their transparency. Consent and transparency can enhance worker autonomy and control. Nevertheless, obtaining drivers' consent before implementing gaming and nudging techniques by platforms must not be considered a justification for such practices.

Another aspect of manipulation power is how platforms can use their access to data to influence drivers' decisions. For example, platforms may use data on drivers' work patterns to nudge them into working longer hours. Policymakers can address this issue by creating regulations that limit the use of driver data by platforms. Platforms should be required to obtain drivers' explicit consent before using their data for any purpose other than providing the platform's services.

4.2.2.2 Enhancing Job Quality by Raising Gig Work Fairness (Decreasing Driver's Anger)

Ride-hailing platforms are at the vanguard of the transformation in the work that the gig economy has wrought. However, as the number of drivers for ride-hailing platforms has increased, so too have concerns about the conditions in which they operate. Drivers often complain about the opaqueness and injustice of algorithmic management and the terms of their contracts. They are frustrated because they do not think they are being paid adequately for their efforts. This section offers policymakers suggestions on enhancing drivers' job quality and reducing ride-hailing drivers' anger.

It is essential to recognize that there are likely compromises between enhancing working conditions and fostering economic growth and that different stakeholders may have varying interests. However, by collaborating and investigating various conceivable solutions, it may be possible to improve working conditions for platform drivers without compromising economic growth.

- Collaborate with Stakeholders

Platforms could collaborate with labor unions and other parties to find methods to enhance working conditions without jeopardizing their business models.

- Collective Bargaining

Collective bargaining helps ride-hailing drivers bargain for improved benefits and working conditions with platforms. Drivers should be allowed to negotiate with platforms to empower them and enhance their work conditions. Giving drivers the right to representation will uncover and reduce platforms' unethical manipulation practices performed by gaming drivers, which may reduce violations of drivers' psychological contracts, improve their work conditions, and minimize their anger.

- Fair Contracts

Ride-hailing platforms employ unfair agreements to control drivers. These agreements are generally given with little negotiating leverage. In addition, inequitable contracts offer ride-hailing platforms substantial authority to make decisions over drivers, frequently at the cost of drivers' ability to earn a fair income or work within fair conditions. Governments should restrict ride-hailing platforms' influence and treat drivers more fairly by enhancing contract fairness. Here are some government strategies:

In conclusion, governments may restrict the platform's decision and non-decision-making power and improve drivers' negotiation strength by making contracts fairer.

- Fair Compensation

The fact that ride-hailing drivers believe they are not getting paid appropriately is one of the principal causes of their rage. Policymakers have to ensure that ride-hailing platforms

give their drivers reasonable compensation that is appropriate for the amount of effort they put in. It is crucial to remember that there can be compromises between paying drivers a minimum salary and maintaining the platform's business models' stability.

Providing drivers with a minimum salary might be challenging without disrupting the platform's economic model. However, there are several options to consider; for instance, platforms might change prices depending on local living costs or other driver earnings considerations.

- Offer Incentives

One strategy might be offering incentives to the platforms to enhance their drivers' working conditions. Governments may, for instance, provide tax rebates or other rewards to platforms that adhere to strict guidelines for driver pay, benefits, and working conditions.

- Fair Management and Communication

Governments ought to foster communication among drivers and ride-hailing platforms and reduce the opaqueness and oversight of algorithmic management by forcing ride-hailing platforms to disclose their algorithms and how they manage drivers by revealing their decision-making and drivers' data utilization processes.

- Protection and Insurance

In many cases, drivers for ride-hailing platforms are not regarded as employees; instead, they are considered independent contractors, meaning they are not entitled to similar legal protections. Benefits like health insurance, sick leave, and retirement plans should be available to drivers, and policymakers should cooperate with platforms to make this

possible.

- Drivers' Safety

On the job, ride-hailing drivers frequently encounter safety hazards, such as harassment and assault from clients. Policymakers must establish policies and protocols in collaboration with platforms to enhance the drivers' safety. Additionally, platforms should be required to incorporate safety features and train workers to deal with problematic circumstances, enhancing their job quality.

- Innovation

Government support for research and development of new technologies and business models encouraging job quality and worker protections can facilitate innovation in the platform economy.

In summary, policymakers must take steps to improve the working conditions of ride-hailing drivers in the platform economy. By ensuring equitable compensation, providing benefits and security measures, boosting transparency, enhancing safety, and permitting labor negotiations, policymakers can assist in reducing drivers' discontent towards platforms, each other, and themselves. Applying such measures will ultimately create a more equitable and sustainable platforms economy, benefiting all parties.

4.3 Contribution

Through our first study (SLR), we were able to build a causal model that describes the foundational process of job quality in the gig economy. This step allowed us to diagnose the current body of research on job quality in the gig economy regarding philosophical

stance, meaningful gaps, issues, and reasons behind these issues. Additionally, we built a conceptual model representing the foundational process of job quality in the gig economy, where the primary studies gave consistent results, which provide evidence that the examined relationships are robust and transferable. The study provides a theoretical contribution to this emerging field by proposing a new conceptual model that addresses the complexity and heterogeneity of fair work in the gig economy.

The second study (SEM), which is an empirical study, investigates how the gig economy platforms' power shapes workers' resistance strategies through adopting diverse covert or overt coping tactics. Recent scholarship suggests that work relations under platform economies can be analyzed through the lens of power theory (Shanahan & Smith, 2021). Although power theory is insightful for analyzing platforms' control, management, and manipulation of workers, it does not provide a comprehensive framework for analyzing workers' responses, especially how workers perceive the platforms' power and react to grievances, either loudly or silently.

This dissertation provides the following contributions to the literature concerning Jaccard & Jacoby (2020) theoretical contributions map (table 43):

First: (Table 43, column 2), we clarify and refine the anger concept. Initially, we adapt the anger concept proposed by Wood et al. (2021), where the gig workers' anger is linked to unfair pay, management, and work conditions. We extended its components to include unfair contracts, as the multifaceted nature of platforms' control generates diversified sources of anger. Additionally, we integrated psychological contract violation, as it is

considered a significant source of anger based on prior literature.

Second: (Table 43, column 3), we introduced new variables, namely the platforms' manipulation power (PMP). We utilized inductive and deductive approaches to link power to manipulation, manipulation to gaming, and nudging to platforms' practices.

A few prior studies qualitatively navigated the platforms' decisions, non-decision-making powers, and ideological power without analyzing the interplay among these facets. Additionally, workers' loyalty was not quantitatively investigated in prior research. Therefore, we adapted this concept to fit this research needs. We also developed the drivers' workarounds based on prior theory, mainly Alter (2014).

Third: (Table 43, column 4), we added an explanatory variable to our overarching model, which explains the gig workers' behavior as part of their covert resisting strategies' outcome, namely, drivers' workarounds, as it represents a critical behavior adopted by gig workers in certain conditions. Hence, it procures further comprehension of the studied phenomenon, illustrated by the interplay between platforms' power and drivers' resisting strategies.

Fourth: (Table 43, column 5), we initially identified the intervening processes responsible for the effect of job quality determinants on each other. This interplay among the job quality determinants is built based on the gig economy fair work principles. It allowed us to identify the root cause responsible for shaping the job quality in the gig economy, as well as the ultimate output representing its proxy. Our empirical study also identified the mechanisms of the platforms intervening processes (platforms' power)

responsible for shaping gig workers' covert and overt resistance.

Fifth: (Table 43, column 7), we confirmed the moderating effect of platforms' ideological power on weakening the significant positive relationship between drivers' work conditions' fairness and their collective voice. This finding adds to the theory and further clarifies the reasons behind the absence of gig workers' voices facing deteriorated work conditions.

Sixth: (Table 43, column 8), we extend Hirschman's (1970) model to a new context, which is the ride hailing sector, which belongs to local gig economy. We extend Hirschmans' (1970) model by proving that communication among drivers is a central mediator between drivers' anger and their collective voice and workarounds. We also confirmed the moderating role of platforms' ideological power that hinders drivers' collective voice. We utilize gig workers' anger as the primary antecedent, instead of dissatisfaction, initially set by Hirschman (1970), and we conceptualize it in a multidimensional way. We also added a new outcome, the workarounds (Alter, 2014a). We also tested drivers' dependence on the platform as a controlling factor, in addition to their work experience.

We also extend Lukes' (2004) power theory by adding a fourth facet, which is the manipulation power, and we apply the power theory, through its four dimensions, namely, decision-making power, non-decision-making power, ideological power, and manipulation power in the gig economy, to (1) understand the gig workers' anger mechanisms; (2) reveal the role of platforms into shaping the gig workers' resisting strategies. Afterward, we used

this application to help us understand the mechanisms of anger.

Moreover, we extend the dynamic model of the psychological contract theory by Rousseau et al. (2018), by demonstrating that platforms' manipulation power, platforms' decision, and non-decision making power, through the unfair contracts, as well as the unfair algorithmic management and asymmetrical communication, raise PC lifecycle's dynamicity, through increasing the probability of more frequent psychological contract violation. On the other hand, we proved theoretically and statistically that platforms' ideological power decreases psychological contract violation frequency. This contribution answers Rousseau et al. (2018) call for further research to extend the PC model by exploring "hybrid disruptions."

Seventh: (table 43, column 13) In order to explain the studied phenomena, i.e., job quality and gig workers' voice in the gig economy, we leverage several theories, which have been applied on a panoply of disciplines, mainly: Hirschman's (1970) overarching Exit, voice, and loyalty model, which was mainly used in the traditional employment, in addition to several other disciplines, mainly: (a) individual relationships, (b) governmental and social settings, and (c) organizational settings, where it has been used to examine conventional employees' attitudes and opinions; (2) Lukes's 2004 power theory, (3) Scott's (1985) resistance theory, (4) Rousseau et al. (2018) psychological contract theory.

Height: (table 43, column 14) Our work might appear at first sight complex; however, it offers a synthesis of multiple theories into a unified and harmonized framework, where each component is legitimately utilized to explain a portion of the studied phenomenon:

job quality, drivers' anger, the interplay between platforms' power, drivers' anger and their resistance strategies. Initially, (a) it is essential to study power and resistance concurrently, as many scholars stressed on that; (b) to diversify the sources that could shape the drivers' anger by exploring the violation of drivers' psychological contracts, as it differs from the other sources of anger such as drivers' perception of the unfairness of their deal with the platforms; (c) to try also to touch the subtility of platforms exerted power, through examining platforms' manipulation and ideological power, and render them measurable to evaluate their role into shaping the drivers' intriguing silence. It is also important to reiterate that the work displayed empirical feasibility and proved high robustness and solid predictive power.

Ninth: (table 43, column 16) we followed a rigorous process to develop a new measurement combining two rivaling sub-theories of the same concept: ideological power. The sub-theories were the thin and the thick theories of false consciousness, elaborated by (Scott, 1990). The challenge was reconciling these two sub-theories, seen as partial rivals, and merging them within the same variable. We focused on the typical characteristics of the two sub-theories and developed a panoply of hypotheses and rival hypotheses to cover their differences (H19 to H24 and R-H21 to R-H23).

Table 43. Different Contributions of the Current Dissertation

Research	Ways of Theoretical Contributions (Jaccard & Jacoby, 2020)															
	1. Clarify, refine, or challenge the conceptualization of a variable /concept.	2. Create a new variable or a constellation of variables that are of theoretical interest.	3. Add one or more explanatory variables for an outcome that have not been considered in prior work	4. Identify the mechanisms or intervening processes responsible for an effect or one variable on another.	5. Identify the boundary conditions of an effect half an effect of one variable on another.	6. Identify variables that moderate the effect of one variable on another.	7. Extend an existing theory or idea to a new context.	8. Identify nuanced functional forms of relationships.	9. Identify unanticipated consequences of an event	10. Enrich and deepen understanding of established quantitative associations.	11. Develop typologies/ taxonomy.	12. Import or apply grand theories and frameworks from other disciplines	13. Synthesise multiple theories into a unified framework.	14. Develop a theory of measurement.	15. Pit opposing theoretical explanations against one another (Strong Inference (Platt, 1964))	16. Propose alternative explanations to established phenomena.
SLR				▨												
SEM	▨	▨	▨	▨		▨						▨	▨		▨	
Dissertation	▨	▨	▨	▨		▨						▨	▨		▨	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

4.4 Originality

Originality is the characteristic of being unique or uncommon. Reviewers frequently interpret this characteristic as the perceived value-added contributions of research regarding knowledge expansion. The degree of originality or value additiveness ranges from low to high. According to Conlon (2002), contributory theory critically reorientates existing perspectives.

In our empirical study, the theoretical development predicted that the platforms' ideological power hinders drivers' participation in collective action in several ways, directly, indirectly, and through moderation. Nevertheless, the surprising finding which goes against our reasoning, as well as against prior voice research, is that there is no statistical direct and total indirect effect of drivers' anger determinants on their participation in collective action (see Table 41, which depicts the relationships shaping drivers' Participation in Collective Action (PCA) based on the direct and the total indirect effects findings). Accordingly, the study was able to explain this unexpected phenomenon leveraging the ideological power concept by Lukes (2004), in addition to Burawoy (1982) seminal work on "manufacturing consent ," where they explain that (1) drivers under the effect of platform ideological power see the unfair fair, and give excuses to platforms. Therefore they redirect their anger coming from the deteriorated work situation they live in, away from platforms; (2) once drivers accept playing the game, they no longer question its rules, although the game does not reflect an underlying harmony of interests between workers and their employers. Burawoy (1982) argues that just as playing a game generates consent

to its rules and disengages the boss (platforms) from responsibility for workers' misery, if any.

A solid theoretical contribution, according to (Mintzberg, 2005, p.361), *"allows us to see profoundly, imaginatively, unconventionally into phenomena we thought we understood."* However, there has been debate in the social sciences about how originality has morphed into surprise value and unpredictability. It has been argued that we risk losing sight of science's essential, fundamental nature in favour of its flashier, more unexpected aspects.

For instance*,* Cacioppo (2004) is troubled by the proliferation of social psychological theories and research that emphasize cute, amusing, witty, or counterintuitive demonstrations more than the more challenging work of developing thoroughgoing behaviour theories. Our work offers a solid and comprehensive conceptual and empirical work uncovering the mechanisms of the unheard voice by:

Firstly: leveraging the foundational concepts uniquely related to gig work.

Secondly: leveraging the most critical insight related to voice theory in general (from the eighteenth century until nowadays) to justify our logic in designing our overarching voice conceptual model.

Thirdly: Shed light on the fact that angry drivers, under the effect of Platforms' Ideological Power (PIP) and Manipulation Power (PMP), do not necessarily participate in collective action.

Fourthly: Justifying unpredictable results, showing that drivers' dependence on

platforms does not control their participation in collective action. In addition to that, drivers' anger does not necessarily lead to a collective voice. These findings make us clearly see the hidden and subtle effects of other factors, namely platform ideological and manipulation powers, hindering drivers' collective voice in several ways.

Fifthly: Our work helped to reveal the disguise of an alarming situation of this growing category of gig workers that suffer in silence.

Finally: We believe this work contributes to clarifying the priorities for drawing an efficient policy addressing job quality and voice for gig work.

Reviewers place a high value on novelty and originality when determining whether research makes a theoretical contribution, but they should be cautious of confounding these traits with amazement and counterintuition.

4.5 Limitations And Future Directions

The systematic literature review shows several limitations regarding the number of consulted databases and utilized language. Additionally, although we propose a holistic approach to analyze fair work in the gig economy, the heterogeneity of the studied empirical articles used in building the proposed model might be considered a limitation in our SLR due to the variety of results that can be found in different contexts while testing the model as a whole. Therefore, further research can adopt and adapt this model according to different contexts to strengthen or extend our theoretical contributions.

Additionally, although our empirical research offers valuable insights, it has limitations:

- Data was gathered from the drivers in Algeria's ride-hailing industry, a unique

industry that is also situated in a particular region belonging to the global south.

- The results are restricted due to a lack of understanding of the perceptions of work over time. Consequently, priorities for subsequent studies involve longitudinal techniques, respondents from a broader range of sectors, and geographic diversity.

- We believe it is essential to mention that research conducted in the global south may raise ethical concerns about power imbalances, exploitation, and cultural sensitivity.

Although our study succeeded to a certain extent in answering our main research questions seeking to identify what hinders angry drivers from raising their voice collectively, other exogenous factors might also shape their voice and, therefore, deserve to be identified in order to bring further thrilling results that might inspire policymakers to keep enhancing the ride-hailing sector.

This Ph.D. dissertation seeks to improve comprehension of job quality in the gig economy by revealing the interplay between platforms' power and workers' resistance while focusing on gig workers' voices, thereby enhancing it. At the same time, it contributes to strengthening the gig economy by protecting it from itself. The absence of adequate regulations in the gig economy has resulted in a failure to provide workers with a sufficient safety net, thereby jeopardizing the viability of the gig economy in its entirety. Consequently, a robust gig economy might culminate in a stronger economy by harmonizing incentives for platforms and workers. In this vein, we call scholars to explore further cases, using robust methodologies and developing recommendations for policy and

regulations.

The absence of entities is seen as causally efficacious from a critical realist perspective. Indeed, drivers' absence of voice does not always indicate a pleasant working environment, and it might be simply calm before the hurricane.

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Appendix A. Summary of Decent Work Themes for Gig Work (Heeks et al. 2021)

Table 1. Summary of decent work themes for gig work.

Gig work theme	ETI	SA8000	Frankfurt declaration	Fair Crowd Work review	Crowdsourcing code of conduct	Heeks	Sub-elements
Pay	Living wage	Living wage	Minimum wage	Pay and nonpayment	Fair payment	Adequate earnings	Minimum wage; Living wage; Pay terms; Regulation of nonpayment
Conditions	Employment freely chosen; Working hours are not excessive; Working conditions are safe and hygienic; Regular employment is provided	No child, forced, or compulsory labor; Limits on working hours/days; Safe and healthy working environment		Experiences with technology; Quality and availability of tasks	Motivating and good work; Clear tasks and reasonable timing; Freedom and flexibility	Employment opportunities; Career development; Work processes; Working hours; Health and safety	Information about work process; Health and safety; Regularity of employment
Contracts			Comply with laws; Clarify employment status; Social protection	Changes to terms and conditions; Warranty of work	Tasks in conformance with the law; Clarification on legal status	Social protections; Other legislation and rights; Stability of work; Employment status	Employment status; Compliance with law; Contract terms; Liability and insurance; Social protection
Communication				Contact with employers; Contact with workers	Constructive feedback and open communication		Lines and quality of communication
Management	No discrimination is practised; No harsh or inhuman treatment is allowed	No discrimination; No abusive disciplinary practices	Dispute resolution	Reviews, ratings, and evaluations	Respectful interaction; Regulated approval process and rework	Discrimination; Respect, privacy, and dispute resolution	Discrimination and equality; Management guidelines; Ratings and reviews; Dispute resolution; Account deactivation
Governance	Code through supply chain; Reporting	SA8000 management system	Transparency, e.g., of algorithms			Platform governance; Accountability	Transparency; Accountability
Use of Data					Data protection and privacy		Data collection, use, access, protection and privacy
Representation	Freedom of association and right to collective bargaining	Freedom of association and right to collective bargaining	Collective bargaining			Freedom of association; Social dialogue/collective bargaining	Worker voice; Freedom of association; Collective representation and bargaining

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Appendix B. Criteria utilized for Quality Appraisal

1. Is the paper based on research (or is it a discussion paper based on expert opinion)? Yes/No.

2. What research type is it (empirical studies, narrative, others)? Note This is to be based on our reading of the paper not the method claimed by the author of the paper.

3. Is there a clear statement of the aims of the study? Yes/ Partly/No. Score as 1, 0.5, 0. Interpolation is permitted.

4. Is there an adequate description of the context in which the research or observation was carried out? Yes/Partly/No. Score as 1, 0.5, 0. Interpolation is permitted.

5. Was the research method appropriate to address the aims of the research? Yes/Partly/No/Not applicable (i.e. Expert Opinion). Score as 1, 0.5, 0 or mark NA. Interpolation is permitted for numerical values.

6. For empirical studies (do they define relevant samples according to their aim)? Yes/Partly/No/Not applicable Score as 1, 0.5, 0 or mark NA. Interpolation is permitted for numerical values.

7. For empirical studies (apart from Lessons Learnt), was the data collected in a way (research instrument) that addressed the research issue? Yes/Partly/No/Not applicable (i.e., Lessons learnt or Expert opinion). Score as 1, 0.5, 0 or mark NA. Interpolation is permitted for numerical values.

8. For empirical studies (apart from Lessons Learnt), was the data analysis sufficiently rigorous? Yes/Partly/No/Not applicable (i.e., Lessons Learnt or Expert opinion). Score as 1, 0.5, 0 or mark NA. Interpolation is permitted for numerical values.

9. Is there a clear statement of findings? Yes/Partly/No. Score as 1, 0.5, 0. Interpolation is permitted.

10. Is there a clear statement of limitations? Yes/Partly/No. Score as 1, 0.5, 0. Interpolation is permitted.

11. Is study of value for research or practice? Yes/Partly/No. Score as 1, 0.5, 0. Interpolation is permitted.

Appendix C: Measurement Instrument

C-1 Demographics

- Age: (18-29) (30-39) (40-49) (50-59)(>=60)

- Gender: Male or Female

- Marital status: Married or Divorced or single

- Education:(I did not study) (Primary) (Secondary) (High school) (University)

- District (there is 58 districts)

- The ride-hailing applications you work with: Yassir, Temtem, Coursa, Karim, Yango, Heetch, Amir, Harbeen, InDrive, Other applications

- Experience with ride-hailing platforms (3 to 6 months) (6 months to a year) (More than a year)

C-2 Questionnaire (In English Language)

		Factor	Questions (Items)	Reference
Gig Workers' Anger	1.1.	Platforms' Decision-Making Power (P-DMP)	**Likert scale (1-5)** - Your contract with ride-haling platforms is balanced and fair in terms of distribution of responsibilities and rights between drivers and ride-hailing platforms. **(Very balanced - - - Totally unbalanced)** - The contract with the ride-hailing platforms guarantee stability of work to the driver. **(Very stable --- very instable)** - Ride-hailing platforms make individual decisions (without consulting you), which negatively affect your income and working conditions. **(Always consult me--- Never consult me)** - Your revenues from ride-hailing platforms are less than what you deserve **(More than what I deserve---less than what I deserve)** - Your incomes from ride-hailing platforms are low after deducting charges (e.g., ride-hailing app commission, car fuel and maintenance) **(Very high---Very low)**	- Heeks et al. (2021) - Stewart & Stanford (2017) - Wood et al. (2021) - Shanahan & Smith (2021)

		Factor	Questions (Items)	Reference
	1.2.	Platforms' Non-Decision-Making Power (P-NDMP)	**Likert scale (1-5)** ▪ Decision-making process by ride-hailing platforms (e.g., evaluation of your work, or suspending you from work) is transparent and fair (**Very transparent and fair---Very blurry and unfair).** ▪ Ride-hailing platforms know a lot about the driver, while the driver knows little about them (**They know me very well, while I know little about them --- I know them well, while they know little about me)** ▪ Ride-hailing platforms consult you before any use of your private data (**Apps always consult me--- Apps never consult me).**	▪ Heeks et al. (2021) ▪ Wood et al. (2021) ▪ Rousseau (2008)
	1.3.	Work Conditions Fairness (WCF)	**Likert scale (1-5)** ▪ Ride-hailing platforms ensure you a regular job (i.e., rides' demands are available regularly) (**There are rides regularly--- Sometimes there is, sometimes not)** ▪ Ride-hailing platforms, protect your health and safety from risks arising on the job (**Apps totally protect my health and safety--- Apps do not protect my health and safety at all)**	▪ Heeks et al. (2021) ▪ Wood et al. (2021) ▪ Shanahan & Smith2021)

		Factor	Questions (Items)	Reference
			▪ Ride-hailing platforms offer you freedom and <u>flexibility</u> in the work (e.g., <u>freedom</u> to refuse rides) (**Apps offer me total freedom--- Apps exert a total control**)	
	1.4.	Psychological Contract Violation (PCV)	**Likert scale (1-5)** ▪ Ride-hailing applications keep the commitments and promises they owe you (**Apps deliver on all their promises--- Apps never deliver on their promises**) ▪ Ride-hailing applications have <u>repeatedly</u> breached their obligations to you (**Apps always deliver on all their promises--- Apps fail to deliver on their promises repeatedly**) ▪ You are angry because ride-hailing platforms break their promises to you (**It doesn't make me angry at all--- It makes me very angry**)	▪ Robinson & Rousseau (1994) ▪ Shanahan & Smith2021)

		Factor	**Questions (Items)**	**Reference**
2.1. Overt Drivers' Resisting Strategies (Voice)	2.1.1.	Direct Appeal (DA)	**Likert scale (1-5)** ▪ Your direct call to ride-hailing platforms improves your working conditions (**Contacting platforms improves my work conditions a lot-- Contacting platforms do not improve my work conditions at all**) ▪ Ride-hailing platforms provide you with efficient channels to contact them, which helps you to resolve your problems (**Apps provide me with the necessary communication channels to resolve my problems--- The apps never provide me with the necessary communication channels to resolve my problems**) ▪ You constantly contact ride-hailing platforms, even if they are not very cooperative (**I always call even if they don't cooperate with me--- I never call, because they don't cooperate with me**)	▪ (Shanahan & Smith, 2021)
	2.1.2.	Participation in Collective Action (PCA)	**Likert scale (1-5)** ▪ You and your fellow drivers participate in large-scale strikes, that help to raise your voice to the highest levels (**I always participate--- I never participate**) ▪ You participate in large-scale protests, against ride-hailing	▪ Wood et al. (2021)

		Factor	Questions (Items)	Reference
			platforms **(I always participate--- I never participate)**	
			■ You participate in large-scale protests, calling on the state to put in place more comprehensive laws and regulations to control ride-hailing platforms **(I always participate--- I never participate)**	
2.2. Covert Workers' Resisting Strategies	2.2.1.	Workarounds (WA)	**Likert scale (1-5)** ■ You are trying to understand the algorithm of ride-hailing applications, with the aim of circumventing its limitations **(I always try to understand the algorithm--- I never try to understand the algorithm)** ■ You exploit the vulnerabilities of ride-hailing applications to obtain better income (because you believe it's your right) **(I always exploit the algorithm's vulnerabilities--- I never exploit the algorithm's vulnerabilities)** ■ You successfully bypass the ride-hailing platforms' algorithm **(I always succeed to bypass algorithms----I never succeed in bypassing the algorithms)**	■ Shanahan & Smith (2021) ■ Alter (2014)

		Factor	Questions (Items)	Reference
	2.2.2.	Intention to Exit (IE)	**Likert scale (1-5)** ▪ You have the intention to quit your job as a driver with ride-hailing platforms **(I intend to permanently stop working with applications--- I will never quit working with the applications)** ▪ You are looking for another job far from ride-hailing platforms **(I am always looking for another job--- I never look for another job)** ▪ You will remain working with the ride-hailing platforms, in the near future **(I will permanently stop working with all apps--- I will continue to work with applications)**	▪ Rusbult et al. (1988)
	2.2.3.	Loyalty (LO)	**Likert scale (1-5)** ▪ You defend ride-hailing platforms against all negative opinions **(I fiercely defend the apps--- I never defend apps)** ▪ You help polish the reputation of ride-hailing platforms by spreading a good image about them **(I am always trying to polish the apps reputation --- I never try to polish the apps reputation)** ▪ You are willing to wait and support ride-hailing platforms until the conditions of work improves **(I wait**	Rousseau (2008) Shanahan & Smith (2021) Rusbult et al. (1988)

		Factor	Questions (Items)	Reference
			and strongly support apps--- I will not wait and never support apps)	
3		Communication (CO)	**Likert scale (1-5)** - You communicate with other ride-hailing drivers via Internet forums (I always communicate--- I never communicate) - You always communicate with other ride-hailing drivers via social networks (e.g., Facebook, Telegram, WhatsApp, Messenger) (I always communicate--- I never communicate) - You communicate face to face with your ride-hailing driver colleagues (I always communicate--- I never communicate)	▪ Wood et al. (2021)
4		Platforms' Ideological Power (PIP)	**Likert scale (1-5)** - The ride-haling platforms' power, is a natural and inevitable fact **(This reality can be radically changed--- This reality will never change)** - You work and cope with the policy of ride-hailing platforms, whether it is good or bad **(I can continue working and dealing with reality easily--- I cannot continue working and coping with the reality at all)** - Giving up certain rights in exchange for flexibility and freedom at work is	▪ Lukes (2004)

	Factor	Questions (Items)	Reference
		a good decision **(Very good decision-- Very bad decision)**	
5	Platforms' Manipulation Power (PMP)	**Likert scale (1-5)** ▪ Ride-hailing platforms push you to do certain work that you did not intend to do (e.g., if you <u>accept a certain number of rides</u>, the ride hailing platform offers you a reward, or if your <u>rate of accepting rides</u> is high, you will be entitled to see the prices and other relevant information) **(Apps always push me-- Apps never push me)** ▪ Working with ride-hailing platforms makes you feel like a competitor in an endless game **(I feel that I am part of an infinite game--I don't feel like I'm part of a game at all)** ▪ Working with ride-hailing platforms, makes you feel under pressure of competition **(There is a very big pressure--- There is no pressure at all)**	▪ Noggle (2021) ▪ Pastuh & Geppert (2020) ▪ Attoh et al. (2019) ▪ Burawoy (1982)
6	Dependance on the Platform (DP)	**Likert scale (1-5)** ▪ You are sure that you will find another job if you decide to quit ride-hailing platforms **(I am sure that I will easily find a job--- I am sure that I will not easily find a job)**	▪ Wood et al. (2021) ▪ Myhill et al. (2021)

Factor	Questions (Items)	Reference
	▪ You are financially dependent on your activity with ride-hailing platforms, and you cannot find another job easily **(My incomes 100% come from apps--- I am fully independent financially from apps)** ▪ The increase of expenses related to your work with ride-hailing platforms, makes you worry, due to its negative impact on your incomes **(It bothers me a lot--- I don't care at all)**	

C-3 Questionnaire in Arabic and French

<table>
<tr>
<td rowspan="2" style="writing-mode: vertical-rl;">Platforms' Decision-Making Power (P-DMP)</td>
<td dir="rtl">

ـ عقدك مع تطبيقات الفي تي سي متوازن وحقاني من حيث تقاسم الواجبات والحقوق بين الشوافرة وتطبيقات الفي تي سي

ـ يضمن العقد مع تطبيقات في تي سي استقرارا في العمل للسائق

ـ تطبيقات في تي سي تتخذ قرارات فردية (بلا ماتشاورك) مما يأثر سلبا على مدخولك وظروف عملك

ـ مدخولك من تطبيقات في تي سي أقل مما تستحق

ـ مدخولك من تطبيقات في تي سي ضعيف بعد خصم تكاليف العمل(عمولة التطبيق، وقود و صيانة السيارة...الخ)

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- Votre contrat avec les applications VTC est équilibré et juste en termes de répartition des responsabilités et des droits entre les chauffeurs et les application VTC.
- Le contrat avec les applications VTC garantit la stabilité du travail au chauffeur.
- Les applications VTC prennent des décisions individuelles (sans vous consulter), ce qui affecte négativement vos revenus et vos conditions de travail.
- Vos revenus provenant des applications VTC sont inférieurs à ce que vous méritez
- Vos revenus issus des applications VTC sont faibles après déduction des charges (ex., commission de l'application VTC, carburant et entretien de la voiture).

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Platforms' Non-Decision-Making Power (P-NDMP)	ـ إتخاذ القرارات التي تعنيك من قبل تطبيقات في تي سي (مثال: تقييم عملك أو توقيفك عن العمل)، تتسم بالشفافية و العدالة ـ تطبيقات في تي سي تعرف الكثير عن السائق، في حين السائق يعرف القليل عن تطبيقات في تي سي ـ تطبيقات في تي سي تستشيرك (تشاورك) قبل أي إستعمال لبياناتك الخاصة • Le processus de prise de décision par les applications VTC (par exemple, l'évaluation de votre travail ou votre suspension du travail) est transparent et juste. • Les applications VTC en savent beaucoup sur le chauffeur, alors que le chauffeur en sait peu sur les applications. • Les applications VTC vous consultent avant toute utilisation de vos données privées.
Work Conditions Fairness (WCF)	ـ توفر لك تطبيقات في تي سي عملاً منتظمًا (يعني الكورسات الشابة متوفرة بشكل منتظم) ـ تطبيقات في تي سي تحمي صحتك وسلامتك من المخاطر الناشئة عن العمل ـ تطبيقات في تي سي تعطيك الحرية والمرونة في العمل (مثال حرية رفض االكورسات) • Les applications VTC vous assurent un travail régulier (i.e., des demandes de courses sont disponibles régulièrement). • Les applications VTC, a mis en place des politiques pour protéger votre santé et votre sécurité contre les risques liés au travail. • Les applications VTC vous offrent une liberté et une flexibilité dans le travail (ex : liberté de refuser des courses).

Psychological Contract Violation (**PCV**)	ـ تطبيقات في تي سي تفي بالالتزامات و الوعود التي تدين بها لك ـ تطبيقات في تي سي فشلت في الوفاء بإلتزاماتها تجاهك مرات عديدة ـ أنت غاضب لأن تطبيقات في تي سي تنتهك (تخالف) وعودها لك • Les applications VTC tiennent les engagements et les promesses qu'elles vous doivent. • Les applications VTC ont manqué à plusieurs reprises à leurs obligations envers vous. • Vous êtes en colère, car les applications VTC brisent les promesses qu'ils vous ont faite.
Direct Appeal (**DA**)	ـ إتصالك المباشر بتطبيقات في تي سي يقوم بتحسين ظروف عملك ـ توفر لك تطبيقات الفي تي سي قنوات فعالة للتواصل معهم، مما يساعدك على حل مشاكلك ـ أنت تتصل بإستمرار بتطبيقات في تي سي، حتى لو لم تتعاون معك بفعالية • Votre appel direct aux applications VTC améliore vos conditions de travail. • Les applications VTC vous fournissent les canaux efficaces pour les contacter, et ainsi résoudre vos problèmes. • Vous êtes constamment en contact avec les applications VTC, même si elles ne sont pas très coopératives.

Participation in collective Action (PCA)	ـ أنت و زملائك السائقين تشاركون فعليا بإضرابات جماعية واسعة النطاق توصل صوتكم إلى أعلى المستويات ـ أنت تشارك فعليا زملائك السائقين في الإحتجاجات الجماعية واسعة النطاق ضد تطبيقات في تي سي ـ أنت و زملائك السائقين تشاركون فعليا في إحتجاجات واسعة النطاق، حيث تطالبون الدولة بتطبيق أشمل للوائح و القوانين الرامية للتحكم في تطبيقات في تي سي • Vous et vos collègues chauffeurs participez à des grèves de masse, qui élèvent votre voix au plus haut niveau. • Vous participez aux manifestations à grande échelle contre les applications VTC. • Vous participez aux manifestations à grande échelle, demandant à l'État de mettre en place des lois et réglementations plus complètes visant à contrôler les applications VTC.
Workarounds (WA)	ـ أنت تحاول فهم خوارزمية تطبيقات في تي سي، بهدف تجاوز قيودها ـ أنت تستغل الثغرات الموجودة في تطبيقات في تي سي للحصول على دخل أفضل (لأنك ترى ذلك من حقك) ـ أنت تنجح بذكاء في مراوغة و تجاوز خوارزمية تطبيقات في تي سي • Vous essayez de comprendre l'algorithme des applications VTC, dans le but de contourner ses limitations. • Vous exploitez les vulnérabilités des applications VTC pour obtenir de meilleurs revenus (car vous pensez que c'est votre droit). • Vous contournez avec succès l'algorithme des applications VTC.

Intention to Exit (IE)	ـ أنت تنوي ترك عملك كسائق مع تطبيقات في تي سي ـ أنت تبحث عن عمل آخر بعيدا عن تطبيقات في تي سي ـ أنت ستستمر في العمل في قطاع تطبيقات في تي سي، في المستقبل القريب • Vous avez l'intention de quitter votre travail de chauffeur avec les applications VTC. • Vous êtes à la recherche d'un autre emploi loin des applications VTC. • Vous allez continuer à travailler dans le secteur des applications VTC dans un futur proche.
Loyalty (LO)	ـ أنت تدافع عن تطبيقات في تي سي ضد جميع الآراء السلبية ـ أنت تساهم بتلميع سمعة تطبيقات في تي سي من خلال نشر صورة جيدة عنها للآخرين ـ أنت على استعداد للانتظار ودعم تطبيقات في تي سي حتى تتحسن ظروف العمل • Vous défendez les applications VTC contre tous les avis négatifs. • Vous contribuez à polir la réputation des applications VTC en en diffusant une bonne image sur eux. • Vous êtes prêt à attendre et à soutenir les applications VTC jusqu'à ce que les conditions du travail s'améliorent.
Communication (CO)	ـ أنت تتواصل مع سائقي في تي سي الآخرين عبر منتديات (فوروم الفيسبوك و غيرها) الإنترنت ـ أنت تتواصل مع سائقي في تي سي الآخرين عبر وسائل التواصل الإجتماعي (تيليغرام، واتسآب، مسنجر...إلخ) ـ أنت تتواصل مع زملائك سائقي في تي سي وجهاً لوجه (مينداك فالقهاوي) • Vous communiquez avec d'autres chauffeurs VTC via des forums Internet. • Vous communiquez avec les autres chauffeurs VTC via les réseaux sociaux (Telegram, WhatsApp, Messenger...etc.) • Vous communiquez en face à face avec vos collègues chauffeurs VTC.

Platform Ideological Power (**PIP**)	ـ سلطة و قوة تطبيقات في تي سي، أمر واقع، طبيعي و لا مفر منه ـ أنت تعمل و تتأقلم مع السياسة العامة لتطبيقات في تي سي، بغض النظر عما إذا كانت صحيحة أم خاطئة (راني صابر) ـ التخلي عن بعض المزايا مقابل التمتع بالمرونة والحرية في العمل، قرار صائب وجيد • Le pouvoir des applications VTC est un fait naturel et inévitable. • Vous continuez à travailler et faire avec la politique générale des applications VTC, qu'elle soit bonne ou mauvaise. • Renoncer à certains avantages en échange de flexibilité et de liberté dans le travail est une bonne décision.
Platform Manipulation Power (**PMP**)	ـ تطبيقات في تي سي تشجعك لأداء بعض الأعمال التي لم تكن تنوي القيام بها (مثال.، إذا خدمت عدد معين من الكورسات التطبيق يعطيلك مكافئة، أو إذا معدل موافقاتك على الكورسات طالع نخليوك تشوف السومة و معلومات مفصلة عن الكورسات) ـ العمل مع تطبيقات في تي سي يجعلك تشعر وكأنك منافس في لعبة لا تنتهي ـ خلال عملك مع تطبيقات في تي سي، تشعر بأنك تحت ضغط المنافس • Les applications VTC vous encouragent à effectuer certains travaux que vous n'aviez pas l'intention de faire (ex., Si vous acceptez un certain nombre de courses, l'application VTC vous offre une récompense, ou si votre taux d'acceptante des courses est élevé, vous aurai droit à voir les prix et autre information pertinente). • Travailler avec les applications VTC vous donne l'impression d'être un concurrent dans un jeu sans fin. • En travaillant avec des applications VTC, vous vous sentez sous la pression de la concurrence.

Dependance on the Platform (**DP**)	ـ أنت واثق من أنك ستجد عملا بديلًا إذا قررت ترك العمل مع تطبيقات في تي سي ـ أنت تعتمد مالياً على عملك مع تطبيقات في تي سي ـ يزعجك أن تزيد المصاريف المرتبطة بعملك مع تطبيقات في تي سي، فيكون لها تأثير سلبي على مدخولك • Vous êtes certain que vous trouverez un autre travail si vous décidez d'arrêter avec les applications VTC. • Vous êtes financièrement dépendant de votre activité avec les applications VTC. • L'augmentation des dépenses liées à votre travail avec les applications VTC, vous dérangent, car ça aura un impact négatif sur vos revenus.

Appendix D: Additional Descriptive Analysis

Following are additional descriptive analysis, about respondent distribution who (1) perceive platforms' work as unfair, (2) perform communication among each other, (3) participate to covert and overt resistance, and (4) who are under the effect of platforms' ideological and manipulation powers, with regard to different categories of age, education, experience, marital status. In addition to that, ANOVA test was performed using SPSS (v21), to compare the means of those categories.

| | | Angry drivers | | | | Drivers' Communicating | | Drivers showing overt resistance | | | | Drivers' showing covert resistance | | | | | | Drivers under the effect of Platforms' subtle power | | | |
| | | WCF | | PCV | | CO | | PCA | | DA | | WA | | IE | | LO | | PIP | | PMP | |
		%	ANOVA	%	ANOVA	%	ANOVA	%	ANOVA	%	ANOVA	%	ANOVA	%	ANOVA	%	ANOVA	%	ANOVA	%	ANOVA
Age	18-29	20.94%		20.65%		17.40%		6.78%		10.32%		18.87%		19.76%		6.19%		21.83%		21.83%	
	30-39	32.15%		32.45%		26.84%		12.68%		13.86%		24.48%		30.97%		11.21%		28.91%		31.86%	
	40-49	14.74%	.193	14.75%	.010	11.80%	.005	6.49%	.433	4.42%	.173	10.62%	.000	10.62%	.000	5.01%	.005	11.80%	.297	13.86%	.003
	50-59	6.49%		5.60%		3.83%		2.36%		4.42%		3.54%		4.13%		4.42%		7.67%		5.90%	
	>60	2.65%		2.36%		1.18%		0.88%		59%		0.88%		0.88%		1.47%		2.94%		1.76%	
Education	Did not study	0.29%		0.59%		0.29%		0.29%		0%		0%		0.29%		0%		0.59%		0.59%	
	Primary	0.29%		0.59%		0.29%		0%		1.47%		0.29%		0.29%		1.18%		1.77%		1.18%	
	Middle	11.50%	.000	11.80%	.012	9.14%	.179	2.95%	.037	5.60%	.102	7.37%	.003	8.55%	.018	5.01%	.081	12.68%	.000	12.09%	.004
	Secondary	36.58%		36.28%		27.14%		12.09%		13.86%		28.91%		30.09%		12.39%		35.69%		37.46%	
	University	28.32%		26.55%		24.19%		13.86%		12.68%		21.83%		27.14%		9.73%		22.42%		23.89%	
Work Experience	Three-six months	11.50%		9.44%		7.08%		4.13%		7.67%		6.49%		7.67%		8.55%		12.68%		10.62%	
	Six months-year	12.09%	.053	12.68%	.000	10.32%	.015	4.72%	.487	5.01%	.018	9.73%	.003	11.21%	.000	4.13%	.000	12.68%	.205	11.80%	.001
	Above-year	53.39%		53.68%		43.66%		20.35%		20.94%		42.18%		47.49%		15.63%		47.79%		52.80%	
Marital Status	Married	44.24%	.358	43.06%	.356	34.22%	.269	17.11%	.748	17.40%	.132	30.38%	.003	35.1%	.047	20.06%	.002	42.48%	.548	42.18%	.070
	Not married	32.74%		32.74%		26.84%		12.09%		16.22%		28.02%		31.27%		8.26%		30.68%		33.04%	
Total		76.99%		75.81%		61.06%		29.20%		33.63%		58.41%		66.37%		28.32%		73.16%		75.22%	

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개요

긱 이코노미는 비관례적인 형태의 노동 진화에서 가장 뒤늦은 단계에 있는 것으로 보여질 수 있다. 2019년에 긱 이노코미는 전세계를 통틀어 2040억 달러의 총액을 생산하였으며 이 중 58%는 교통 기반 서비스에서 생성되었다. 긱 이코노미는 또한 규제당국, 연구자, 노동자, 그리고 다른 핵심 이해관계자에 의해 효과가 심각하게 다뤄져야 할 자본주의 생산에서의 새로운 접점을 대표한다. 결과적으로 작업 환경에 영향을 끼치는 직무의 질 악화와 관련하여 사회적, 경제적, 그리고 정치적인 결과에 대해서 전세계적으로 우려가 커지고 있다. 직무의 질 악화는 주로 노동 시장이 전세계적으로 변형되는 것과 주로 관련이 있다. 긱 이코노미는 전통적인 노동자들이 향유하고 있던 것보다 적은 권리를 제공하는 한편, 상당하고 빠른 확장으로 인해, 이러한 변형을 일으키는 필수적인 요소로 여겨진다.

이 연구는 직무 기준(job standard)의 하락, 그리고 긱 노동에 의해 가속화된 사회적 불평등의 악화와 관련하여 높아지는 우려(이러한 우려는 플랫폼과 긱 노동자 사이에 있는 불평등한 권력 분배로 인해 노동 시장의 실패를 불러일으킬 수 있다) 에 의해서 동기를 부여 받았다. 더군다나, 노동 환경이 불평등하지만 노동자들이 그들의 항의를 하지 않을 때, 우리는 그러한 이유를 물어야 한다. 추가적으로, 이 연구는 또한 긱 이코노미에서 평등한 일자리를 보장하기 위한 충분한 정책들을 설계할 때에 정책입안자들이 직면하고 있는 도전들에 의해 동기부여 받기도 했다. 한 가지 중대한 문제는 바로 긱 노동은 전통적인 고용

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형태와는 꽤나 다르다는 것이고, 긱 노동 질의 메커니즘은 완전히 알려지지 않았으며, 직무의 질과 긱 이코노미에서의 노동자의 항의를 조사하는 연구는 아직 초기에 머물러 있다는 것이다. 이 차이는 주로 직무의 질을 모델링하는 간단한 접근법(이러한 접근법은 긱 이코노미에서 직무 질을 결정짓는 메커니즘을 설계하는 한편, 플랫폼의 권력뿐만 아니라 긱 노동자의 저항을 통합하는 동시적이고 포괄적인 시각이 부족하다)의 도입으로부터 나타난다. 이 연구는 체계적인 학문 검토, 경험적인 연구, 두 가지 연구로 구성되어 있다.

첫번째 연구에서 우리는 체계적인 학문 검토를 수행함으로써 학문적인 연구가 어떻게 긱 이코노미에서의 직무의 질을 밝혔는지 포괄적으로 탐구하고 분석한다.

공평한 노동 렌즈의 여덟 가지 원칙(계약, 소통, 관리, 통치, 데이터 사용, 지불, 대표, 그리고 노동 환경)을 통해서, 데이터 추출을 이끌기 위해 공평한 노동 렌즈가 도입되었다. 서사적인 통합(narrative synthesis)은 서로 다른 개념들이 착수되고 귀납적으로 연관되며 이러한 개념들의 개념화가 제공된 분석을 위해 활용되었다. 도입된 방식은 이 연구를 수행하기 위한 가이드라인과 도구의 갑옷을 활용함으로써 운영화되었다. 귀납과 배제 기준, 그리고 질 감정 절차에 기반하여, 45개의 연구들이 보유되었다. 대다수의 검사된 주요 연구들은 우리가 활용하는 도구에 의하면 긱 이코노미가 공평한 작업을 거의 따르지 않는다는 것을 보여주는데, 이는 우리의 우려를 강조하는 셈이다. 추가적으로, 여덟 가지의 노동 원칙 중에서 유도된 인과 관계는 다양화된 문맥 상황에서의 연구 간에도 변하지 않음으로써 다양한 범위의 설정과 경험적인 방법을 보여준다. 주

요 연구들은 제안된 관계들이 굳건하며 이전이 가능하다는 증거를 제공하는 일관적인 결과를 가져다 주었다. 따라서, 우리는 직무 질 행렬식 사이에 상호 연관성을 묘사하는 개념적인 모델을 만들 수 있었다. 이 직무의 질 행렬식에서는 노동 환경 공정성이 제안된 원인 모델에서 궁극적인 산출물이고, 계약 공정성은 나머지 직무 질 행렬식의 형태를 만드는 근본 원인 토대로 밝혀졌기 때문에 노동 환경 공정성이 긱 노동의 질을 위한 잠재적인 대리인이다.

식별된 인과관계는 한편으로는 계약 설계, 알고리즘적인 관리, 소통, 통치, 데이터 사용, 대표의 권한, 그리고 그로 인해, 결과적으로 긱 노동자의 노동 환경에 대한 통제를 통해 긱 이코노미 내에서 직무 질을 형성해내는 플랫폼의 지배적인 역할 흥미로운 결과를 밝혀냈다. 다른 한편으로는, 우리는 긱 이코노미가 현재 전통적인 집단적인 교섭과 조합의 범위를 벗어나긴 했지만 주로 노동자들의 집단적인 항의인 노동자의 저항력이 관리와 소통, 그리고 지불과 작업 환경을 형성하는 데 기여한다는 것을 학문에서 증거를 찾았다.

추가적으로 몇몇 긱 노동자들은 알고리즘 관리를 통해 플랫폼의 행사된 통제력을 약하게 하기 위한 해결책들을 수행하는데, 이는 그들의 지불을 향상시키고, 그러함으로써 노동자들의 작업 환경을 향상시키기 위한 것이다. 이러한 발견에 근거하여, 우리는 긱 노동자들의 저항은 그들의 직무 질을 형성하는 데 기여한다는 것을 확인하였다. 그럼에도 불구하고, 이 학문은 무엇이 긱 노동자의 항의와 일반적인 저항을 형성하는지에 대한 깊은 이해가 부족하다. 사실, 대다수의 검증된 간행물들은 비교 가능한 상황에서의 포괄적인 항의의 훨씬 빈번한 부재를 무시하는 한편, 대부분 단체 행동의 성공적인 실현의 발생을

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해석하는 기술적인 연구를 제공하였다. 더 나아가, 이 학문은 플랫폼의 권력과 긱 노동자의 저항에 대한 상호 연관성에 집중하는 포괄적이고 전체적인 분석이 부족하고 이 상호작용을 동시다발적으로 포착하지 못한다. 우리의 체계적인 학문 검토는 항의 메커니즘에 집중하면서 플랫폼의 권력과 긱 노동자의 저항 전략 간의 상호작용을 밝혀내는 것을 목표로 하는 우리의 경험적인 연구를 자극하고 지지한다.

두번째 연구는 연역적인 접근법을 채택하고 경험적이고 양적인 방법을 사용한다. 이 방법은 플랫폼의 권력과 긱 노동자의 저항 간 상호작용에 대한 포괄적인 연구의 부족함으로 인해 항의가설화의 부재를 밝혀낸다. 권력과 저항이라는 양쪽 렌즈를 동시에 사용함으로써 직무 질 현상을 검사하는 것은 항의의 이론화와 개념화를 더욱 강화하는 것에 기여할 수 있으며 이를 통해 긱 이코노미에서의 직무 질에 대한 이론화와 개념화에도 기여할 수 있다. 기존에 존재하는 연구들은 노동자들의 집단적인 행동이 발생한 곳에 집중하였는데, 이는 집단적인 행동의 성공적인 현실화의 예시에 집중함으로써 문제가 있다. 이전 연구는 비슷한 상황에서의 집단적인 시위의 훨씬 더 흔한 부재를 무시하는 한편, 고려되고 있는 현상의 성공적인 실현화의 사례를 설명하려고 하는 경향이 있었다. 하지만 긱 이코노미 항의 연구는 아직도 초기 단계에 머물러 있으며 항의 이론은 아직 발전이 덜 되었다. 사실, 연구자들은 여전히 긱 노동자의 항의를 형성하는 메커니즘을 설명하는 강직한 개념화 모델을 개발하고 시험하지 않았다. 강직한 이론적인 접근법을 채택하는 한편, 우리 연구는 플랫폼의 권력과 긱 노동자들의 저항을 마주보게 함으로써 통합적인 연구 모델을 제안

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한다. 추가적으로, 우리는 플랫폼에 의해 드라이버들에게 행사되는 권력으로부터 발생하는 직무 질 행렬식의 불공정성으로부터, 이를 향한 드라이버의 감정을 명백히 하기 위해 분노라는 개념을 활용한다.

이 연구를 통해서, 우리는 (1) 긱 노동자들의 분노를 형상하는 플랫폼의 권력의 역할을 검증하고 (2) 긱 노동자들의 불명확하고/불명확하거나 명확한 저항 전략을 자극하는 데 플랫폼의 권력과 긱 노동자들의 분노가 어느정도 영향을 미치는지 탐구하고 (3) 분노한 긱 노동자들이 항의를 하는 데 방해하는 플랫폼의 권력 역할을 밝혀내고자 한다.

우리는 허쉬만 (1970) 이탈, 항의, 그리고 충성의 본래 모델을 이 연구를 위해 가장 중요한 모델로서 활용한다. 하지만 긱 노동자들의 분노를 불만족으로서 보다는 예언자로서 사용함으로써, 그리고 해결방법인 새로운 산출물을 추가함으로써 우리는 다른 개념화를 제안한다. 우리는 긱 노동자의 해결방법이 우리 SLR에 기반한 예견된 행동적 결과일 것을 예상한다. 추가적으로, 우리는 긱 노동자 간 의사소통을 긱 노동자들의 분노 프록시와 긱 노동자들의 항의, 그리고 해결방법들 간 관계의 중재자로 여기고 있다. 우리는 중재자로서, 플랫폼의 이념적인 권력을 시험해봤다.

우리는 긱 노동자들에게 플랫폼에 의해 가해진 통제를 설명하기 위해 권력 이론의 렌즈를 사용함으로써 긱 노동자들의 분노를 형성한다. 추가적으로, 우리는 긱 노동자들의 분노가 불공정한 지불, 불공정한 관리, 그리고 불공정한 작업 환경과 연관된 것으로 소개하는 이전 학문에 기반한 분노 개념을 채택한다. 다면적인 종류의 플랫폼 통제가 분노의 여러 원천들을 생성하면서 우리는 불

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공정한 계약들을 포함시키고자 불공정한 요소를 확장한다. 또한, 심리적인 계약 위반이 이전 학문에 기반한 상당한 분노의 원천으로 고려되기 때문에 우리는 심리적인 계약 위반을 통합한다.

이후에는 이전 학문에 의해 주장된 바와 같이, 관리와 의사소통 불공정성이 긱 노동자들에게 가해지는 플랫폼의 비의사결정적인 권력을 미러링하는 한편, 우리는 노동자들의 분노 요소를 계약과 지불의 불공정성을 플랫폼의 의사결정 권력으로 고려하는 권력 렌즈를 통해 보고자 한다. 사실, 인식된 불공정성을 통한, 인식된 불공정성으로부터 발생하는, 플랫폼의 가해진 권력에 대한 노동자들의 인식은 긱 노동자들의 분노를 밝혀낸다. 이 단계에서 우리는 SLR에서 개발된 개념화 모델에 기반한 분노 상호작용을 개발한다. 이 분노 상호작용은 공정성에 기반하여 직무 질 행렬식 간 상호작용의 통찰력 있는 개념을 제공한다.

권력과 저항이 복잡하고 그리고 주로 역설적인 방법으로 얽혀 있다는 것을 알면서. 우리는 우리의 목표, 즉 행동과 반응을 동시에 시험할 수 있는 모델을 개발하는 것, 그리고 플랫폼의 통제가 어떻게 긱 노동자의 저항을 촉발하고 심지어는 어떻게 형성하는지를 알기 위해 권력 렌즈를 저항 렌즈와 통합하는 것으로 나아간다.

339명의 알제리 출신의 라이드 헤일링 드라이버들로부터 수집된 설문 데이터를 사용함으로써, 연구는 제안된 연구 모델을 평가하고 가설들과 그 너머를 시험하기 위해 최소자승추정법 (PLS-SEM)를 적용한다.

결과들은 다음의 주요 발견을 전달한다. (1)플랫폼의 의사결정, 그리고 비의사

결정 권력, 그리고 통제는 드라이버의 분노 프록시(작업 환경 공정성)를 높이는 반면, 플랫폼의 이념적인 권력은 드라이버들의 작업 환경의 공정성에 대한 드라이버의 인식에 대한 간접적인 부정적 영향(드라이버의 심리적인 계약 위반에 의해 조정됨)을 통해 이를 감소시킨다. (2) 플랫폼의 의사결정과 비의사결정적인 권력, 그리고 통제 권력의 총 효과는 집단적인 행동에서의 드라이버들의 참여에 크게 영향을 미지치 않았다. 역설적으로, 플랫폼 이념 권력은 집단적인 행동에서의 드라이버들의 참여에 상당히 부정적인 영향을 가지고 있다. 추가적으로, 한 편에서는, 플랫폼의 의사결정과 비의사결정적인 권력, 그리고 통제 권력의 총 효과는 소통, 해결방법, 그리고 이탈할 의향을 높인다. 반면에, 이는 직접적인 호소와 충성심을 감소시킨다. 다른 한편에서는 플랫폼의 이념적인 권력은 드라이버의 소통과 집단적인 항의를 방해하고 드라이버의 충성심과 플랫폼으로의 직접적인 호소를 높이고 드라이버들의 해결방법과 플랫폼을 이탈할 의향을 낮춘다. (3) 프록시를 통한 분노 (작업 환경 공정성)는 집단적인 행위에 드라이버의 참여와 상당한 직접적인 연관성이 없다. 하지만, 분노와 집단 행위로의 참여 간의 관계는 소통에 의해 중재된다. 이 발견을 통해서, 우리는 이 둘의 중대한 역할 즉, 드라이버의 분노를 플랫폼에 반하는 것에서부터 드라이버들끼리 반하는 것으로 리다이렉트함으로써 항의를 하는 것과 관련된 드라이버의 원리를 파괴하는 플랫폼의 이념적이고 통제 권력을 찾을 수 있었다. 추가적으로, 우리는 드라이버의 분노를 플랫폼으로 다시 향하도록 리다이렉트하는, 그럼으로써 집단 행동을 자극하는 소통의 중요한 역할을 알아낼 수 있었다. 그러나, 결과는 소통의 역할은 플랫폼의 이념적인 권력 역할보다 덜

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중요하다는 것을 통계적으로 입증하였다.

간단히 말해서, 플랫폼은 불공정한 지불, 불공정한 알고리즘 관리, 드라이버의 심리적인 계약의 잠재적인 위반, 그리고 불공정한 작업 환경을 생성하는 불공정한 계약을 부과함으로써 권력을 행사한다는 것이다. 이 불공정성은 드라이버들의 분노를 자극한다. 하지만 이 분노는 꼭 플랫폼(대부분의 경우에서는, 분노의 요소와 항의 간에 직접적인 연관성이 없다)을 향한 것이 아니다. 이 사실은 드라이버의 저항 전략에 영향을 끼치고 그들의 항의를 방해함으로써 드라이버들의 고통을 조용하게 한다. 우리는 이 경험적인 연구가 학술자들, 그리고 실무자들이 늦기 전에 특정 분야의 긱 노동자들의 듣지 못한 항의를 들을 수 있게 도와줄 것이라고 믿는다.

SLR과 경험적인 연구의 발견을 통해서, 학술자들, 그리고 라이드 헤일링 생태계에 속해 있는 서로 다른 이해관계자들 간의 관계를 재조정하고 더 명백히 하기 위해 정책입안자들이 계획을 설계할 때에 정책입안자들을 고무하기 위한 목적을 위해서, 이 연구에서는 여러 함의가 도출되고 제시되었다.

이 연구는 권력 이론을 저항 이론적인 개념과 통합함으로써 학문에 기여한다. 우리는 허쉬만(1970) 이탈, 항의, 충성심을 긱 노동자들에 의해 주로 채택된 저항 전략으로, 해결방법을 추가함으로써 모델을 확장하는 현상의 가장 중요한 뼈대로 사용한다. 추가적으로, 우리는 이전 연구에 의해 검사되지 않았던, 해결방법 현상으로 이끄는 전례를 추가함으로써 이론에 기여한다. 더 나아가, 우리는 플랫폼 통제 권력, 플랫폼 "의사결정, 그리고 비의사결정적인 권력"을 입증함으로써, 불공정한 계약, 그리고 불공정한 알고리즘적인 관리를 통해서, 이념

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적인 권력이 PC 위반 빈도를 낮추는 한편 더 빈번한 PC 위반의 가능성을 높임으로써 역동성을 높이고 심리적인 계약 이론의 역동적인 모델을 확장한다.

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