An Autonomy Paradox- Scale Development and Validation

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Abstract - As the expansion of digital technology has uprised, the ability for engagement in digital labor platforms has grown. This significant increase of gig economies, along with a rise in the number of individuals participating, leads to the potential of gig work. Although there are evident advantages, the drawbacks associated with Digital Labour Platforms have given rise to what is known as the autonomy paradox, particularly under the influence of algorithmic management regarding workers. This occurrence necessitates the creation and validation of a measurement instrument designed to assess the impacts of Digital Labour platform employment on workers' flexibility and transparency while handling through the intricacies of algorithmic management, which is defined by an automated and invisible managerial supervision. This instrument underwent validation with both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), demonstrating that workers are, in fact, influenced by these unseen managers throughout the four phases of the work cycle, which include matching control, work control, evaluation and ratings control, and invisible manager.

Keywords: Gig Workers, Autonomy Paradox, Algorithmic Management, Freelancer, Digital Labour Platform, Online Work, Scale Development, Plain Language Summary

I. INTRODUCTION

Online labour platforms are booming with a 24/7 work economy, and young workers are taking advantage of them because of their great flexibility within what is known as the "gig economy" (Howcroft & Bergvall-Kåreborn, 2019). As the digital revolution is in hike which in turn helps the establishment of many online labour platforms. This digital labour platform on the digital market provides a new opportunity for unemployed people who are converted into independent contractors or freelancers who fall under gig workers (Popescu et al., 2018). Uncertainty and precarity are the nature of these temporary work conditions. As online freelancing platforms or digital labour platforms as it is distinguished by many coined terms. According to previous research reflecting many coined terms, this platform enables workers to combine their work with other life responsibilities.

The internet-based work, which is totally different from traditional work, has higher positive and negative consequences on the autonomy of people who are working online Shibata, 2019. Though easier the way they do it, the time constraint of this type of work demands a higher work effect on individual lives that results in conflict with their subjective well-being (Epstein & Kalleberg, 2004). To avoid working in a formal structure, many online workers prefer this working method (Shevchuk et al., 2018) because it is easy for them to work in non-standard work hours. As they say, working in non-standard hours provides higher flexibility. Despite the assertions made that digital platforms are merely intermediaries between business owners and consumers, they actually have a great deal of control over their workforce (Al-Mansoori & Sulaiman, 2025). This is especially a true process known as algorithmic management that regulates how jobs and workers are matched, ranked, and sorted (Jarrahi et al., 2020; Lee et al., 2015; Mohlamnn & Zalmanson, 2017). The development of algorithmic management control mechanisms on online labour platforms has resulted in a higher autonomy paradox, which is a rising problem for freelancers and other online labour workers (Pedersen, 2023). There is an inherent "Autonomy Paradox" in digital platforms, since they promise worker autonomy yet never give up control, according to a growing corpus of research on worker experience with algorithmic management (Zhang et al., 2022; Parent-Rocheleau et al., 2024).

Self-employed workers who are referred to as freelancers or independent contractors belong to the broader category of gig workers (Tan et al., 2025). They work through an online labour platform and often experience challenges related to flexibility. However, due to their high degree of time sovereignty and temporal flexibility, these freelancers can determine how many hours they wish to work. The workflow of these freelancers does not go accordingly within the intended time they plan. To survive in the market or in the economy, freelancers or independent contractors work for non-standard hours, risking their occupational safety and health, resulting in unpaid work time (Mangan et al., 2023) under the predetermined algorithmic management system (Osnowitz & Henson, 2016). Previous studies acknowledge that non-standard working hours workers often face difficulties adjusting due to disruptions in their biological and social rhythms, of their social and psychological well-being (Khyade & Khyade, 2018; Grzywacz, 2016). This fluctuation between flexibility and control within platform-based work arrangements highlights the growing necessity for empirical

studies to examine this autonomy paradox more closely. So, this article aims to develop and validate a measurement scale and items for the autonomy paradox by drafting the key determinants of algorithmic management in Digital labour platforms, especially for freelancers or gig workers. The primary aim of this study is to devise and substantiate a measurement scale that effectively assesses the autonomy paradox encountered by freelancers and gig economy participants operating on digital labour platforms. In particular, the investigation seeks to delineate essential dimensions of the autonomy paradox that are associated with algorithmic management practices prevalent on these digital platforms (Möhlmann & Zalmanson, 2017; Sewell & Taskin, 2015). The study aims to generate and refine scale items intended to quantify these dimensions, drawing upon existing scholarly literature and insights from subject matter experts (Lotfy & Vatankhah, 2014).

II. LITERATURE REVIEW

Autonomy Paradox

An escalating engagement phenomenon, leading to a cycle of constant availability and responsiveness (Mazmanian et al., 2013), resulting in so so-called "Autonomy Paradox" was coined by Leslie Perlow, a professor of leadership at Harvard Business School, in her book "Sleeping with your smartphone: How to break the 24/7 habit and change the way you work". As algorithmic management is seizing up the position of HR managers, these automatic systems have a high majority exercising control over self-employed and freelancers or independent contractors (Shen, 2022). This particular platform system has a high involvement in workers through digital platforms, as they act as a catalyst between freelancers and customers or clients. This algorithmic management method specifically adjusts how jobs are matched, ranked, sorted, and reviewed with workers. (Jarrahi et al., 2020; Lee et al., 2015; Möhlmann & Zalmanson, 2017). A growing compilation of research on gig workers' experiences on digital labour platforms with algorithmic management (Li et al., 2025) has unfolded an "Autonomy Paradox "among them, where workers are promised autonomy yet never given up control (Sigroha & Kapoor, 2024; Mohammadi, 2016). As these freelancers or self-employed group those who work in digital platforms mostly cover project work under contracts, where the working time of those is prolonged when compared with traditional employment groups (Cauffman, 2022; Dunn, 2020). With an irregular work load, unorganized crunch time, unsettled bargaining power (Graham et al., 2017), and also with shorter deadlines, these employment groups have no time for flexibility, although the nature of work has promised that to them. Therefore, a double autonomy paradox occurs when these workers undertake their tasks on digital platforms while being tracked by an algorithmic management system. As these freelancers find themselves in a pressing and often overwhelming necessity to balance and fine-tune two distinct yet interrelated forms of control, one of which is characterized by human interaction that, rather than exerting

direct authority, anticipates a specific work outcome imposed as part of a contractual agreement, while the other is governed by algorithmic management systems that enforce a degree of managerial oversight and control, where in decision-making authority is shifted from human managers to algorithms (Duggan et al., 2020; Jarrahi et al., 2020; Lee et al., 2015). Furthermore, when these modern technological tools which are supported by complex and highly logical algorithmic management principles are incorporated into work processes, they eventually leave people working on digital platforms as freelancers or in quasi-employment situations (Lee et al., 2015; Rosenblat & Stark, 2016) puzzled and disorganized. Past literature has offered theoretical explanations suggesting that digital platforms, which often provide limited protocols and information to their workers, have unintentionally unavoidable obstacles to worker autonomy across various stages of the workforce (Shapiro, 2018; Veen et al., 2019). This issue is prevailing in both platform environment such as ride-hailing platforms (Lee et al., 2015; Mohlmann & Zalmanson, 2017; Rosenblat & Stark, 2016) and other digital labour platforms (Uysal & Boyraz, 2024; López-Martínez et al., 2023; Jarrahi et al., 2020; Wood et al., 2018).

It has therefore been observed that the autonomy paradox manifests throughout all stages of a worker's engagement with such platforms. To gain a deeper understanding of how and when workers experience this paradox in their interactions with digital platforms, the authors identified four distinct phases based on insights from existing literature. These phases served as the foundation for developing the proposed questionnaire and corresponding scale items. Each of the four stages in a digital platform's workflow represents a point where worker autonomy and control are significantly influenced by algorithmic management.

A) Matching Control

From connecting clients to looking at service performance or activity with workers prepared to complete it, digital platforms act as an intermediary. The majority of platforms restrict the matching process to some extent, for example, by not showing all tasks to workers or ranking workers according to various criteria (Wood et al., 2018). As a result, these digital labour platforms do not function as free markets when they impose restrictions on the jobs that are available to workers and their chances of being hired. Thus, the platform takes charge of the procedure prior to the workers obtaining a task. Some workers have mentioned that prioritization of algorithm ranking has the highest control on workers' autonomy and uncertainty about whether they would be chosen for work (Choudhary & Deshmukh, 2023). The workers' control over long-term planning of work-life balance arrangements and sustaining an income through this may be limited by the unpredictable nature of task assignments.

B) Work Control

In the second phase of working in platforms during the execution of the task control is exerted on workers, the

algorithm totally controls the digital platforms like Upwork workers have the freedom in choosing the task (Shapiro, 2018; Veen et al., 2019) whereas in some algorithm provides basic details and only exposes information in the minimal way which results in two of the work which meticulously exerts control step by step on the time of execution exemplifying non-transparency in algorithmic management (Rosenblat & Stark, 2016; Shapiro, 2018). The higher degree of control from the execution phase to tracking of behaviors potentially develops a constant feel of surveillance and lowers autonomy during the work (Murray & Rostis, 2007).

C) Evaluation and Ratings Control

Many algorithmic management systems incorporate customer ratings into their system once tasks are completed. Reviews written by customers are often subjective, peculiar, and susceptible to gaming and revenge-seeking behaviors. Platforms assign customers the managerial duty of assessing employees by using ratings and frequent reviews of employees. (Sutherland et al., 2020; Wood et al., 2019). As a worker, capacity to complete tasks may be significantly impacted by these evaluations. On these sites, workers' rankings are determined algorithmically, with ratings frequently serving as a control parameter. Because ranking and rating systems incentivize workers (Wood et al., 2018) to behave in a way that the platform wants them to, it can be difficult for workers to reclaim autonomy. It is unclear, though, if this delay in success in landing gigs is caused by algorithmic ranking or client preferences for already rated workers (Wood et al., 2019). Due to the workers' decentralized authority over algorithms and customer ratings, power is transferred away from them if a rating is regarded as unjust because there is no manager available to them to address the impact on their employment prospects (Duggan et al., 2020).

D) Invisible Manager

Monitoring workers' actions through digital labour platforms could potentially limit their independence. (Mazmanian et al., 2013; Murray & Rostis, 2007; Sewell & Taskin, 2015) which in turn leads to a sense of control and surveillance (Lee et al., 2015; Rosenblat & Stark, 2016). Because algorithms now have administrative duties, workers seldom ever interact with real managers. While self-employment and freelancing increase workers' freedom, we observe that algorithmic management - the unseen managerial practices - can produce an entirely contrary effect, reinforcing power imbalances that favor the platform and causing workers to feel closely monitored and controlled (Möhlmann & Zalmanson, 2017). This culminates in an unfavorable relationship between the platform and the worker.

III. RESEARCH METHODOLOGY

A range of online platforms where the freelancer is working was examined using a structured questionnaire. The respondents for the study are chosen according to distinct criteria or attributes pertinent to the objectives of the research. The freelancers from the IT sectors were the primary stakeholders of this study, since this study was curated in order to analyze the paradoxical situation they encounter while working through online platforms. So, the data collection was carried out among freelancers who are working, and also with entrepreneurs turned freelancers who had experience in their careers with online platforms. Freelancers were contacted personally through phone and email. Some were directly communicated in person, and through social media, data was collected from Facebook, Telegram, and WhatsApp.

The study used a mixed methods approach combining exploratory and conclusive elements (Abdullah et al., 2018) to develop and validate a measurement scale for assessing the autonomy paradox experienced by freelancers on digital labour platforms. It is essential for a measurement tool to support the standards of reliability and validity (Bannigan & Watson, 2009), while Confirmatory Factor Analysis (CFA) was deployed to unfold the interrelationships among scale items were explored to evaluate the importance of the model. The reliability of each construct was determined using the Cronbach alpha coefficient (α > 0.70), and the scale was examined for both convergent and discriminant validity.

Item Generation

The present study's aim focuses on developing the measurement scale for the autonomy paradox, highlighting different methods for generating the items for the construct. As we have distinguished four phases for the study with the help of previous existing literature, which was the primary source and support (Rocheleau et al., 2024). In order to check the real-time scenario, we had discussions with freelancers who was and were working with online platforms. After analyzing with them, we next went to the back-end employees who work in online platforms to have a confirmation whether this kind of procedural work is involved. And at last, these items were examined and discussed with freelancers turned entrepreneurs who are well experienced in using platform technology in order to check whether there was a valid relationship between the construct and the items. The final discussion review was compared with the literature extraction, where several items were filtered, refined, and extracted according to the experts' opinion. Upon completion of all processes, the final result involved generating 4 constructs with 36 items as follows: matching control (8), work control (10), Evaluation and Rating Control (10), and Invisible Manager (8). The instrument comprises thirty-six items utilizing a 5-point Likert scale. The maximum score (5) indicates the maximal level of concordance regarding the imposed item, whereas the minimal score (1) signifies the maximal level of concordance about the rated item. This system has been rebranded as the Customer Centric Management system. With these 36 items demographic part of the survey items was also attached; the respondents were requested to rate their degree of agreement on the autonomy paradox on a five-point scale.

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IV. DATA ANALYSIS

Sample Characteristics

This research highlights the demographic variables, job orientations and work methods prevalent among freelancers, gathering data from 240 contributors. The primary age group of freelancers is 26–35 years, constituting over 64% of participants, implying a robust tendency towards freelancing among young adults seeking flexibility in their professions. A significant 83% hold less than 5 years of freelance work experience, suggesting it is becoming a common path, with 70.4% highlighting financial advancement as their chief incentive to pursue this avenue. Freelancing or gig work may appear appealing, as 57% assert financial contentment, but a notable 43% still grapple with monetary challenges, underscoring the necessity of enhanced income alternatives and support systems while engaging through Digital Labour Platform.

Exploratory Factor Analysis

The control mechanism inherited by algorithm management in Digital Labour Platforms exerts high pressure and control on both freelancers and gig workers, resulting in the autonomy paradox (Wood & Lehdonvirta, 2021). Theoretically, four constituents of the autonomy paradox, namely matching control, work control, Evaluation and ratings control, and invisible manager, were posited in the current research for scale development and validation. Through the process of variable factor extraction, the examination of four variables comprising 36 items from the Autonomy Paradox instrument indicated that 11 items should be eliminated. As those items exhibited communalities below 0.2, a lack of factor loadings exceeding 0.5, and finally discarded any items with cross-loadings exceeding 75%, commencing with the items that possess the lowest absolute maximum loading across all factors. Only those items exhibiting a point of loading greater than .50 in relation to the factor question were utilized to define the factor solution. Nevertheless, following the application of exploratory factor analysis (EFA), four fundamental factors were identified with 25 items.

The rotated solution's Kaiser-Meyer-Olkin statistic was computed to be 0.857 (with Bartlett's test of sphericity suggesting $p < 0.05$). The rotation process achieved convergence after certain iterations. The Eigenvalues associated with the emergent factors, namely control in matching control, control during work, control in review and ratings, and control as invisible managers, were computed as 8.3, 6.3, 1.5, and 1.3, respectively. Collectively, these four components of Autonomy Paradox overall variance were accounted for 70.66 % within the model. Fig. 1 illustrates the scree plot.

TABLE I EFA RESULTS FOR AUTONOMY PARADOX

Kaiser-Meyer-Olkin (KMO) = 0.857 (p<0.05)	AUTONOMY PARADOX COMPONENTS			
	IM	ERC	WC	MC
MC1				0.505
MC2				0.783
MC3				0.781
MC5				0.516
MC6				0.687
MC8				0.693
WC1			0.655	
WC3			0.653	
WC4			0.826	
WC5			0.829	
WC6			0.792	
ERC1		0.68		
ERC4		0.752		
ERC6		0.52		
ERC7		0.816		
ERC9		0.752		
ERC10		0.883		
IM1	0.88			
IM2	0.85			
IM3	0.758			
IM4	0.827			
IM5	0.828			
IM6	0.896			
IM7	0.886			
IM8	0.858			
Eigen Values	8.3	6.3	1.5	1.3

Note: Results of Exploratory factor analysis results: The extraction method used is principal component analysis (PCA).

MC-Matching Control, WC- Working Control, ERC-Evaluation and Rating Control, IM- Invisible Manager.

TABLE II SUMMARY RESULT ON EFA

Construct		MC	WC	ERC	IM
Factor Suitability	Bartlett test (p<0.05)	.000	.000	.000	.000
	Kaiser Mayer Olkin (KMO>0.6)	0.759	0.852	0.857	0.909
Factor Extraction		Factor 1	Factor 2	Factor 3	Factor 4
	Eigen Value	3.455	3.439	3.962	5.495
	Variance Explained (%)	57.587	68.782	66.038	74.318
Rotation	Scree Plot	One Factor	One Factor	One Factor	One Factor
	Varimax	2 Exclusion	4 Exclusion	4 Exclusion	No Exclusion

Note: MC-Matching Control, WC- Working Control, ERC- Evaluation and Rating Control, IM- Invisible Manager.

Results from each factor for factor extraction are presented in Table I. Table II explains All four constructs (MC, WC, ERC, IM) successfully passed Bartlett's Test (p <0.05) and surpassed the KMO threshold of 0.6, confirming the appropriateness for factor analysis, with all constructs displaying robust one-dimensionality; IM exhibits the highest construct validity, characterized by the superior KMO value, maximum explained variance, and absence of item exclusions.
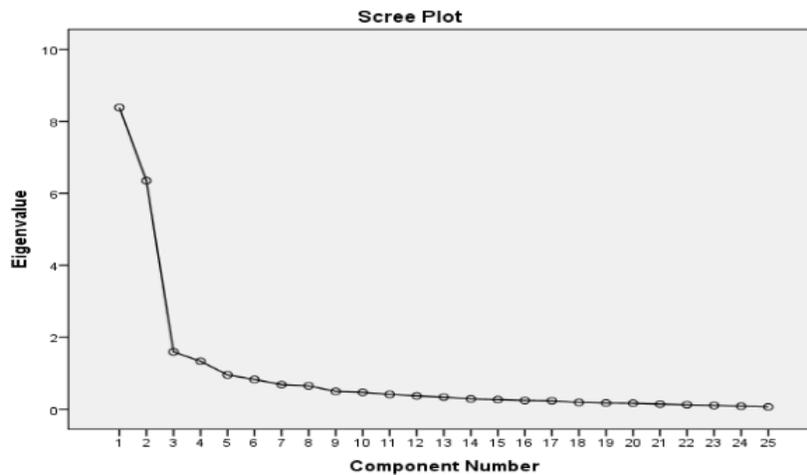

Fig. 1 Scree Plot For Autonomy Paradox

Fig. 1 represents the scree plot, suggesting a four-factor (or four-component) solution as the most appropriate for representing the underlying structure of the data. The insights gained from the Exploratory Factor Analysis (EFA) convincingly illustrated that the construct of Autonomy Paradox is most suitably represented by a factor model, in which there exist solely four components exhibiting an eigenvalue exceeding 1. The Kaiser-Meyer-Olkin (KMO) statistic with Bartlett's test for sphericity validates the perfection of the data model. Additionally, each dimension's average factor loadings are greater than.70, confirming that there are no issues with convergent validity. Items displaying cross-loadings were eliminated, and discriminant validity was subsequently established.

Confirmatory Factor Analysis

As explained in the fundamental work of past literature, a Confirmatory Factor Analysis (CFA) was carried out using the advanced capabilities of IBM AMOS graphic software in order to fully assess and then confirm the items. This specific model, which ultimately results in the fascinating phenomena known as the autonomy paradox, was carefully developed to evaluate the subjective experiences that gig workers have when interacting with various online labour platforms, leading to the gripping phenomenon known as the autonomy paradox.

TABLE III CFA FIT INDICES

CMIN/DF	1.28
GFI	0.890
AGFI	0.820
NFI	0.900
TLI	0.970
CFI	0.975
RMSEA	0.48

Fig. 2 Confirmatory Factor Analysis (CFA) model shows a four-factor structure that fits the data well. The observed indicators are powerful representations of their respective latent constructs, as evidenced by the high and statistically significant factor loadings, which range roughly from 0.71 to 0.94. The measurement items confirm the reliability and internal consistency, which are further supported by their low to moderate error variations.

For clarity and ease of comprehension, Table III carefully lays out and elaborates on the overall results from the CFA together with the related fit indices. In particular, the CMIN/DF ratio, which should ideally range from 1 to 5, was calculated to be 1.28 based on the results of, and the Comparative Fit Index (CFI) was found to be 0.975 based on the standards. These results strongly represents that the model fits the data well.
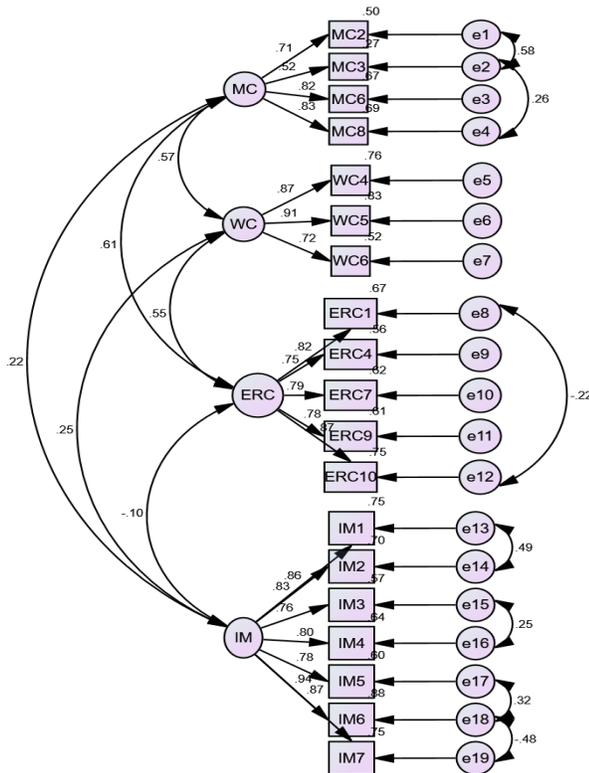

Fig. 2 Measurement Model

Reliability, convergent validity, and discriminant validity

TABLE IV CRONBACH'S ALPHA, AVE, AND CR

	α	CR	AVE
ERC	0.895	0.900	0.643
MC	0.849	0.815	0.532
WC	0.870	0.880	0.711
IM	0.943	0.942	0.698

Note: MC-Matching Control, WC- Working Control, ERC-Evaluation and Rating Control, IM- Invisible Manager.

Each construct's reliability needs to be assessed to ensure consistency. The trustworthiness measures of the construct yield stable outcomes. The assessment of internal consistency utilized Cronbach's alpha coefficient, with a benchmark of over 0.6 deemed as the ideal threshold for affirming the internal consistency of the variables (Cronbach & Shavelson, 2004). The reliability evaluations for the four scales are presented in Table IV, with corresponding values indicating substantial reliability. The scale's validity evaluation is established by both convergence and discriminant validity. To assess the convergent validity, the Average Variance Extracted (AVE) was computed for each individual factor, as

shown in Table IV, meets the recommended threshold of 0.5 or higher, and composite reliability exceeds 0.8, thereby fulfilling the requirements (Hair et al., 2010). Discriminant validity evaluation involved assessing the correlations among different factors, indicating that every construct is unique from others. The squared correlation values were found to be less than the square root of the AVE of their respective factors, as illustrated in Table V. Consequently, confirmed discriminant validity for the scale. The findings affirm the scale's validity. Results from the CFA indicate that the proposed four-factor framework is statistically reliable, theoretically meaningful, and apt for continued investigation, including structural modeling or hypothesis assessment.

TABLE V DESCRIPTIVE STATISTICS, CORRELATIONS, AND THE SQUARE ROOT OF AVES

	ERC	MC	WC	IM
ERC	**0.802**			
MC	0.611	**0.729**		
WC	0.545	0.567	**0.843**	
IM	-0.101	0.223	0.259	**0.836**

Note: MC-Matching Control, WC- Working Control, ERC-Evaluation and Rating Control, IM- Invisible Manager.

V. DISCUSSION

The findings of the study align closely with prior research works that highlight the autonomy paradox, which impacts platform-based work environment. Earlier qualitative investigations (Rosenblat & Stark, 2016; Kellogg et al., 2020) describe how digital platforms are publicly perceived as highly flexible and self-reliant, but simultaneously impose hidden forms of algorithmic control on workers with precarious work conditions. From the previous observations in line, the current results revealed that freelancers and gig workers enjoy a certain level of freedom regarding their work schedules; they also simultaneously face anxiety and a sense of control due to evaluations of their performance and unclear algorithmic methods.

The study results arrived with four distinct factors—matching control, work control, evaluation and ratings control, and an invisible manager that provides concepts with quantitative support that have been recognized in prior literature works. Matching control acts as a subtle but powerful form of managerial direction, as the notion of matching control parallels the identification of algorithmic matching. The work control factor also aligns with the findings b (Dunn, 2020; Jarrahi et al., 2020), that gamified incentives and scheduling algorithms restrict workers' real autonomy; in spite of the flexibility it provides, they really limit workers' true autonomy. According to Rosenblat & Stark, 2016, evaluation and rating control with reputation systems have a crucial role in determining future work prospects and forcing workers to perform unpaid emotional labour and non-standard working hours. concluding, the invisible manager factor supports the idea that algorithmic oversight when monitoring workers conceals responsibility and restricts transparency, acts as a new,

mostly invisible kind of managerial control (Kellogg et al., 2020).

While the past literature has established these claims through qualitative and case-study methodologies, only a limited number of studies have made the effort to conduct quantitative analysis. The responds to this methodological deficiency of present research by creating and validating a measurement instrument that captures the unnoticeable essence of control and autonomy in digital work settings through the autonomy paradox. Moreover, whereas prior studies often focus on rideshare or delivery sectors (Wood et al., 2018), the present study broadens the scope to include freelancers, thereby enhancing the generalizability of findings across diverse platform-mediated occupations.

Overall, this study gives support to the earlier arguments that algorithmic management reconfigures traditional employment relations by embedding control within digital systems while preserving the illusion of independence. By empirically validating these dynamics, the present research contributes to the growing body of evidence that the autonomy paradox in digital labour is both enabled and constrained by the digital labour platform that promises freedom.

Limitations and Future Research

However, there is a paucity of diverse research on the autonomy paradox, as this study focuses solely on online or digital platforms. When we do more diverse studies on digital platforms, the architecture and components of this specific measurement instrument may be expanded even further. The impact of algorithm management on demographic variables may also be a limitation for this work, as this study focuses solely on autonomy, control, and transparency of online platforms; a more in-depth future study may introduce additional constructs to measure the autonomy paradox of freelancers and other self-employment groups. This study's limitations in quantifying the influence of algorithm management on freelancers' digital platforms result in an autonomy paradox, as there is a large area to cover in other self-employment groups.

This research regarding the development of the autonomy paradox questionnaire was primarily prepared for freelancers who operate on online platforms and face unfair exposure as a result of algorithmic management. Future studies on other self-employment groups whose work cultures differ from those of online platforms but are likewise significantly influenced by autonomy and control might provide a foundation for future researchers' research. As scholarly discourse develops regarding racial and cultural dimensions of the autonomy Paradox phenomenon (Rani & Furrer, 2021), it is imperative to validate the scale across diverse national contexts. As they say, the unique characteristics of this position include freedom, invention, creativity, flexibility, and adaptability. Future research on the autonomy paradox may concentrate on freelancers or other self-employment groups that work offline or in other sectors and industries (Goods et al., 2019). Future studies may also examine how the autonomy paradox affects worker's financial and subjective well-being.

VI. Conclusion

Analyzing the demands that digital platforms make on workers was the aim of the autonomy paradox study. An extensive evaluation revealed that workers using digital labor platforms experience a sense of freedom and control over how they fulfill their responsibilities. However, this style of employment is often considered acceptable. Although individuals may seem to appreciate flexibility at first glance, platform-based work is typically challenging in practice. To quantify and emphasize this issue, a four-dimensional scale was created to produce standardized values for various model fit indicators. Consequently, reliability assessments were implemented to validate precision and robustness. The scale's validity was examined, concentrating particularly on the elements of convergent and discriminant validity and to assess its capability to represent the constructs it sought to measure. Four unique components that closely corresponded with the domains of autonomy and power matching control, work control, evaluation and ratings control, and invisible manager were distinctly illustrated in the findings of the Exploratory Factor Analysis (EFA). This comprehensive approach enriched our comprehension of the fundamental dynamics involved by illuminating the in-depth aspects of autonomy and control in varied contexts by establishing a solid foundation for the scale's utilization.

This study highlights the essential issue of how algorithmic management may result in reduced transparency, hidden surveillance, and limited authority over work processes. It represents the first of its kind to provide a measurement instrument for the autonomy paradox. The study also emphasizes how improving the clarity of algorithmic systems may empower platform workers by furnishing them with more precise insights regarding assigned duties and performance evaluations. Increased trust in the platform and a reduction in feelings of unfairness might arise from this transparency. (Laursen et al., 2021) To assist workers in utilizing the system more efficiently, platforms must establish and convey the standards for task allocation and performance assessment (Pulignano et al., 2024). In essence, improving autonomy in digital labour platform calls for a well-rounded strategy that encompasses building clear frameworks, supporting openness, and advancing the competencies of workers. Platforms can cultivate a more equitable and empowering environment by focusing on these vital aspects, which will benefit both workers and the platforms to identify and refine best practices, future research should continue to investigate the dynamic interplay between autonomy and control in various platform works.

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