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RESEARCH ARTICLE

PLATFORM WORK: FROM DIGITAL PROMISES TO LABOUR CHALLENGES

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ABSTRACT: The pervasiveness of the digital ecosystem reconfigures the organization of work. The new industrial revolution is increasingly based on the platform as a new productive paradigm. Platforms are more than a technical device and they produce huge effects in the labour market: lowering access credentials and empowering casualization of work, dis/re-intermediation labour demand and supply, affecting motivations and rewarding systems, reconfiguring process of control and risks transfer, renewing regulative standards, or re-organize representativeness and welfare protection. Fragmentation, precariousness, flexibility and instability become permanent traits of the workforce fostering the emergence of the cybertariat. Moreover, connectivity, evaluation and surveillance determine new working conditions tested on workers outside any bargaining process or institutional work arrangement. Platform workers (both high skilled and low skilled) are still largely unorganized and isolated. Similarly to other non-standard workers, they are exposed to the risk of exploitation and free work in a fast evolving economy based on reputation. Despite platform workers are highly differentiated and heterogeneous and difficult to organize collectively, forms of collective action are emerging at local and cross-national level.

KEYWORDS: digital labour, platform capitalism, collective representation, crowdsourcing, gig economy

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1. Introduction: “Everywhere there can be a platform, there will be a platform”

With this sentence reported in the title, the *2018 MIT Platform Strategy Summit* celebrates the era of a new dominant paradigm (MIT 2018, 2) that is redefining the organisational and business strategies at global level. The pervasiveness of the platform model is spreading rapidly in post-industrial societies (Degryse 2016). A previous report from MIT (2017) states that 88% of the most profitable businesses surveyed by Fortune almost ten years ago have disappeared, in favour of the new platform companies, mostly concentrated in the USA (75%, and only 3% are European). Also in the Forbes Ranking on the *World's Most Valuable Brands* in 2018, the top five positions are held by the Big Fives of the platform economy's (the so called GAFAM system- Alphabet-Google, Facebook, Amazon, Apple, Microsoft), which replaced in less than ten years companies like Coca Cola, Toyota and General Electric.

But what is a platform?

The concept has existed for at least five hundred years and with a plurality of meanings: firstly, to define a physical structure for carrying out an activity or an operation (for example in a port), or, in a more abstract sense, to define a model or a pattern of ideas (for example a political-programmatic platform). Lastly, the concept in its current meaning refers more to the world of ICT as a set of software or hardware development, often used to build on systems and services for different application domains¹.

Therefore, the platform is considered a basic system for creating poly-functional and adaptive solutions. From this idea of platform would derive also the idea of platformisation as a *modular technological architecture* (Baldin and Woodard, 2009), a set of components with “low variety” (19) to which to graft “a set of peripheral components with high variety” (ibidem). This type concept has long been at the basis of the new product development. Therefore, a platform is intended as “the collection of assets that are shared by a set of products” (Robertson and Ulrich 1998, 20). This product design concept was established with the affirmation of the *modular factory* to guarantee market competitiveness, limiting the costs of customization and reducing the *time-to-market* (Arcidiacono, 2013). However, the *platform thinking* (Sawhney, 1998) was not only a *mantra* of product planning between the 80s and 90s, but a regime of power and the result of a real battle for hegemony based on the definition of a dominant

¹ <https://www.techopedia.com/definition/3411/platform>

standard in to which to link infinite possibilities of product and service development (Gawer and Cusumano, 2002).

Recently, the idea of platform is related more to the concept of *multisided markets* (Boudreau and Hagiu 2009; Rochet and Tirole 2006; Evans 2003). This idea is much more oriented and focused on efficiency and competitiveness of the business model, than related to product design. As argued by Simon (2011), platforms are “valuable and powerful ecosystem that quickly and easily scales, morphs, and incorporates new features, users, customers, vendors, and partners” (33). In this sense, the platform aggregates services and re-intermediate or disintermediate the relationship between supply and demand. Therefore, the platform “uses technology to connect people, organizations and resources in an interactive ecosystem where incredible amounts of value can be created and exchanged”. (Chouldry et al., 2016, 4). This business co-developed within the so-called lean start up model coherently with the *californian ideology* of the 90s (Barbrook and Cameron, 1996; Luise, 2019), that hybridizes participatory ideals, cyber-enthusiasm and economic liberalism. In the last thirty years, the Silicon Valley has shaped the discourse and imaginary on innovation by institutionalizing it around three fundamental actors (start-ups, venture capitals and incubators), around which platform as described mainly as a successful model related also to other mythologies, like the “garage entrepreneurs” or symbolic figure like Steve Jobs, Mark Zuckerberg and Elon Musk.

However, platform models can also be varied. Srnicek (2017) identifies five types: *advertising platforms* (Google, Facebook) that extract information about users, analyze them and then use the product of this process to sell advertising space; *cloud platforms* (AWS, Salesforce), that have the hardware and software for the functioning of digital companies available on request; *industrial platforms* (GE's Predix, Siemens MindSphere) that build the hardware and software necessary to transform traditional manufacturing companies into digital processes based on the Internet of things; *product platforms* (Spotify, Zipcar) that use other platforms to transform goods into services (good-as-a service model); *lean platforms* (Uber, Airbnb, BlaBlaCar) that minimize the direct ownership of assets, starting from the workforce, generating new models of service intermediation.

Gawer (2014), trying to combine managerial perspective and product design perspective, talks about platforms as “evolving organizations or meta-organizations” (1240) that federate and coordinate constitutive agents, create value by generating economies of scope entailing them within a modular technological architecture composed of a core and a periphery. Gawer's proposal highlights the need to look at the platform also as a new productive paradigm (Arcidiacono 2019, -see table 1). In the

Taylorist-Fordist production model the company was vertically integrated into a pyramid structure characterized by the "internalization" of all the intermediate processes that led to the construction of the final product. In the flexible model the ability to respond to markets was privileged, increasing job qualification and process specialization which actually encourages the outsourcing of some production phases to a network of suppliers and sub-suppliers. This last model does not operate in a mass market but in a mass of markets, based on the primacy of knowledge/information for the definition of adaptive/responsive strategies to market fluctuations. Marketing passes from mass marketing to relational marketing. The consumer becomes a customer and begins to play an increasingly active role in the production process. In the era of platforms, the mass of markets has been further fragmented and pulverized into a fluid heterogeneity of niches and tribes of interconnected consumers. The market is conditioned by the increasingly consistent importance of information and relational flows, more than of goods (in this sense we could talk about *conversational markets*). In the platform model, the strategic value passes to consumers, who become the co-authors or prosumers and the capacity of innovate for the company, and also its efficiency, are measured precisely with the possibility of creating a greater expressive and creative possibility for users within the platform that could be transformed into value. Platform companies openly reject the role of producers as well as that of intermediaries, preferring the term of *enablers*. This distinction allow them to argue against regulation, even if they actually produce, distribute and intermediate work, goods and services. They act as *heterarchies* or *möbius organisation* (Stark and Watkins 2018), based on the co-optation (sometimes even aggressive) of assets and resources trying to avoid any permanent alliance or fully formalised constraints. If the dominant production paradigms in the previous industrial revolutions were mainly borrowed by manufacturing (and in particular by the automotive one), in the post-industrial era the outsourcing processes and the growth of relevance of the ICT sector push for a new model extremely lean, reticular and diffusive production, coherent with the idea of the "platform". Platforms act as boundaryless organizations based on a product-as-a-service logic. They are based on a core central system (not exclusively digital) that engages and coordinates diversified production systems and networks of human and non-human co-operators and complementors, professional or amateurial. For this reason, Haydn Shaughnessy (2015) affirms that these *plat-firms* are coordinators of interactions that therefore require new forms of work, engagement, leadership and integration that cannot be borrowed from previous models. This model transcends the digital economy environment innervating the "old" offline economy, which looks at this as a new benchmark: the automotive sector in this sense is the perfect example, to the point that they do not want

to present themselves anymore as simply product producers but as a hub for mobility services². At the same time platforms “as organizations, they can also take on a powerful institutional role, solidifying economies and cultures in their image over time” (Bratton 2015, 41).

Moreover, according to Van Dijck and colleagues (2018) , platforms cannot be studied in isolation, apart from social and political structures, because they are all (inter)dependent and they draw their strength from the hegemonic role of the Big Fives, that define a social, and not only technological, infrastructure crucial for any socio-economic activity and social interaction. Platforms represent the most recent example of the *neo-liberist governamentalità* in Foucaultian terms, because it acts as a *socio-technical construction* that aims to realize a reasonable approximation to "perfect market", functioning with relatively homogeneous commodities, low barriers to entry, and the “apparently” open competitive encounter of the buyers and sellers, empowering at the same time knowledge availability (for example, through the algorithmic coding of trust or feedback between transactors) and personalization of price making process (i.e. through *dynamic pricing mechanisms*). This plural and complex ecosystem is often not easy to assess in terms of implications and impacts, or at least within a single research design project. In this sense, the present issue takes the challenge of this complexity through ten articles focused on how platform model impact on organization, work and labour rights.

2. Disrupting labour?

The platform companies are concretized in such a plurality of practices and organizational sub-designs that can configure differentiated sets of opportunities and risks for

² The choice of Volvo to not exhibit any cars on its stands during the 2018 International Motor Show in Los Angeles is emblematic of this strategical shift. As a Volvo manager, Michele Crisci, commented “We want the public to look at us not as simple vendors of cars but as a partner offering mobility services”. Similarly, after buying scooter sharing company *Spin* for \$40 million, Ford declared that it would aim to diversify its holdings in transportation and mobility businesses not related directly to car sales business. Daimler and BMW group announced in April 2018 that they had formed a joint mobility company that combines their Car2Go and DriveNow car sharing services. The two brands will collaborate in different business areas related to the innovation of mobility services. They intend to focus on multimodal and on-demand mobility apps like Moovel and ReachNow, combine the services of Mytaxi, Chauffeur Prive, Clever Taxi and Beat, and combine the parking services Park Now and Parkmobile Group / Parkmobile with ChargeNow and Digital Charging Solutions.

workers: degree of autonomy, risks of marginalization and precarisation, career paths and types of reward.

Table 1 –Comparing platform as a productive paradigm

	Fordism	Toyotism	Platformism
Theoretical framework	Taylor’s Scientific Labor Organization	Sabel & Priore Flexible Specialization	Vargo e Lasch’s Service Dominant Logic
Reference Market	Mass Market	Mass of Markets	Conversational Markets
Technology	Specialized	Polivalent	Accessible
Structure	Piramidal	Networked	Eterarchical
Production	Standardized	Differentiated	Customized
Phase of Production	Integrated	Limited outsourcing	Wide outsourcing (crowdsourcing)
Labour	Formal and low qualified	Formal e high specialized	Formal and informal with different degree of specialization and professionalization
Information	Scarce and Fragmented	Shared and reserved to people involved in production	Share and redundant, inside/outside
Marketing	Mass Marketing	Relational Marketing	Societing
Type of consumer	Buyer	Client	Prosumer
Consumer involvement in production	None	At the beginning (market analysis) and at the end (post-selling services)	In whole the phases of production

Source: new elaboration based on Arcidiacono (2019).

Being an intrinsically hybrid model, with infinite combinations of different characteristics and solutions, represents the main difficulty in assessing the social and work impact of platforms. This would firstly determine a problem of estimation of how many platform workers are. As Pais (2019) explains, the various attempts of estimation put in place still represent a methodological challenge for various reasons: many platform workers do not always perceive themselves as such, and in any case often the work of platform is not the only work done, and it has no continuity (not by chance we talk about *workers on tap*, *slash-workers* or *patch-workers* or *gig workers*). It is therefore an invisible, fragmented, domesticated, and casualised work. In some cases, Pais continues, the workers confuse the work on the platform with the work sought online, because the two activities are not mutually exclusive and are continuously complemen-

tary. Even an estimate through institutional data is not possible, due to the poor social security and fiscal traceability of the platforms activities. Consequently, the only ones who have such data are the platforms themselves, which however consider these as confidential information and they are not always willing to share them for statistical purposes. It follows that the statistics available on the platform work are not sufficiently reliable and show often inconsistent results: some statistics elaborated through surveys in the USA (Current Population Survey Staff 2018; Katz and Krueger 2016; Farrell and Greig 2016) estimate that platform workers share is between 0,5 and 1%; a European research (Huws et al. 2017) that compares the incidence of platform workers in 7 countries, including Italy, highlights that 22% of the Italians interviewed say they have done at least some form of platform work among those envisaged by the survey, against 12% of the Germans or 9% of the Dutch.

Some scholars have ventured also into the enterprise of classifying the plurality of platform work, but even this seems to have turned out to be anything but a simple operation. Codagnone et al. (2016), for example, propose to distinguish between cognitive, electronically transmissible work (eg: E-Lence), and tasks that require manual work or physical interaction (eg: Foodora), while Eurofound (2018) enlist even 27 possible criteria that could diversify the contents of work within a platform.

Given the difficulty of estimating the overall impact of the platform work, many scholars concentrated on case studies focused on single platform, especially in food delivery and in ride-sharing) (Tassinari e Maccarrone 2019; Rosenblat et al., 2016), even if there are not lacking of contributions in the field of freelance professionals (Gandini et al. 2016).

The available research shows ambivalent results of the *platformisation* of work: on the one hand, it increases the empowerment of the subjects, lowering the barriers to market entry, allowing the emergence of "hidden" forms of exchange and labour practices, increasing opportunities for visibility. This is particularly evident in the work of **Armano, Briziarelli and Risi** on the young free-lancers designers who work through crowdsourcing platforms. In this case, the platform work becomes an opportunity for visibility and development of a personal branding strategy, in a professional market already heavily segmented between insiders and outsiders; the young designers use the platform to "crowd out" the most experienced professionals on the market; on the other hand, they have to invest more and more in "free work" in the hope that this capital of visibility could be economically convertible both inside and outside the platform. According to Risi, Briziarelli and Armano, the power of many platforms lies in the fusion of life and work sphere, with a growing interdependence between paid and unpaid work. In their article the authors identified this intrinsic feature as the most seduc-

tive and ambivalent aspects of crowdsourcing platforms: with their capability to promote opaque free work and, at the same time, offering opportunities for expression, identity building and cultivation of social and professional relations.

This implication is also related to another important effect of the *platformisation* of work: platforms acts as a working extending technology redefining the boundaries between private /public space, or between work/family place, which had been a salient transformation of the industrial era. The two contributions on Airbnb, written by **Bruni and Esposito**, and by **Saturnino and Sousa**, explore this issue. These articles confirm how platforms are not merely intermediaries constituting a “set of relations that constantly needs to be performed” (Van Dijck 2013, 26). Through notifications and indications to the hosts, the platform regulates and organizes their work in an almost rigid manner, turning them into *micro-entrepreneurs of their everyday life*. As Marx already argued, technology affects the relationship between capital and work redefining even the boundaries between productive and socially reproductive work. However, technology acts more as a tool for dispossession rather than a tool of alienation: first of all, dispossessing worker identity in itself trying to eliminate the word “work” or “worker” in the platform vocabulary, using instead terms like *riding, hosting, sharing*, , etc.; secondly, dispossessing the “sacredness” of our private space because in the platform economy our home, our cars or bikes, even our thoughts and feelings are “on sale”; thirdly, according to Morozov (2011), dispossessing our data, that are transformed into tradable assets or as a tool of mass surveillance. It is the “Onlife” paradigm (Floridi, 2014), as an hyperconnected and fluid reality without any distinction between online and offline, that exposes our everyday experience and even our personal asset to financialization or value extractive strategies.

In the scenario, a fundamental role is played by the algorithm. It establishes hidden metrics for performance but also atomizes work pushing competitiveness among individuals. As **Polkowska** observes on her article in this issue about Uber drivers in Poland, the algorithmic logic is somehow internalized to the point that the condition of hyper-exploitation and precariousness is legitimized or even justified by the workers. This last trait is clear evidence of what Arvidsson (2019) recently called the transition from *industrial capitalism* to *industrious capitalism*: technology becomes a tool for an economy “more labour intensive but capital poor” (ibid., 10). Despite the rhetoric that emphasizes the disruptiveness of technological change, the new scenarios indicated by Arvidsson seem more like a regressive society oriented towards a sort of “re-feudalization” where, as Casilli (2019) also observes, the future of work increasingly takes on the features of pre-industrial work.

3. Disrupting welfare?

Some authors interpreted these changes as a means to boost efficiency, productivity and improve cooperation among geographically dispersed workers (Brabham, 2013; Hienerth et al., 2014). However, it also contributes to reducing the labour costs, without any significant obligation regarding labour regulation, income welfare rights and intellectual property (Chandler and Kapelner, 2013; Djelassi and Decoopman, 2013; Hirth et al. 2013; Satzger et al. 2013; Bergvall-Kåreborn and Howcroft, 2014; Irani 2015; De Stefano, 2015). At the same time, crowdsourcing enables companies to maintain a high control over the nature and contents of the work and to rate performances and payments without any human contact (Sachs, 2015; Irani 2015). This raises further concerns about the nature of some types of crowd work, seen also as a new form of technological Taylorism (Kittur et al. 2013) which, however, escapes the rules and guarantees of subordinate work. In other words, if on the one hand this type of work is mainly carried out as an independent activity, on the other hand it appears as an anonymous and repetitive but highly regulated and controlled work. Gray and Suri (2019) analysed the deep dismantling of employment relations because of the spread of platforms. They call *ghost works* those invisible and low-paid human activities that powers digital platforms. According to **Heiland** the picture is more complex. Crowdsourcing brings new challenges in terms of coordination and control of work. However, while simple crowd work shows high degrees of technological control, as the level of qualification rises, the amount of technological control decreases. Whether it is high or weak labour control, such a kind of employment relations are expected to have significant impact not only on the labour market but also on business strategies.

Digital Platforms are redefining working processes, working spaces and working times (Kaine and Josserand 2019) playing a relevant role in exacerbating trends toward the projectification of work (Murdock 2003), exploitation (Armano, Murgia, Teli 2017), hyper control of workers (Schörpf et al., 2017). **Busacca** outlines how the concept of community is inappropriate to describe platforms, which on the contrary appears mainly as coalitions or networks which employ Hybrid workers.

As stated by **Pulignano**, traditional companies paying the minimum wage and providing social security benefits cannot compete with companies that source a growing part of their services from independent contractors. Against this background, also the traditional organizational model of industrial relations appears to be doomed to disappear. The same is for the working conditions and social protection as they evolved in the last decades. Gaps in social protection coverage for crowd workers risk to further

exacerbate inequalities and jeopardizes the labour market, especially where these workers are classified as self-employed and independent contractors.

Universal tax financed welfare schemes can provide basic safety net for these workers, as they are not directly linked to employment status, particularly for those workers excluded from social insurances schemes. Minimum wage and minimum income, as a dedicated welfare safety net, can contribute to counterbalance inequalities and low wages. But the state can also act to clarify the employment rights of these hybrid workers, often categorized as self-employed, but at the same time subjected to control and hetero-direction by platforms (see always Pulignano on this point). Hybrid workers who remain trapped in this grey zone need to be better identified and targeted, not only by new social protection tolls but also local and community based initiatives aimed at providing dedicated welfare new service, training and opportunities for local development. In her conclusions Pulignano highlights the importance of this strategy, resorting to local platforms and a stable consultation among local stakeholders, including local governments and trade unions.

4. Platform workers' representation: an open issue

Digital labour platforms (DLPs) are the most recent challenge for the organisations representing workers because they exacerbate long term-trends of non-standard work diffusion (Brewster et al., 1997; Schmid, 2011; Eurofound, 2017; Vermeylen et al., 2017; Garben, 2019) and labour market insecurity (Hyman & Gumbrell-McCormick, 2017). DLPs have been created long after the end of the so-called Fordist class compromise when corporate ownership and production strategies were mainly national (Hyman 2015). As the mature product of the globalisation, DLPs have been conceived to operate in several countries with the same digital infrastructure and their profitability relies on cross-national scale economies. Territories and markets are the targets of aggressive strategies and they can be abandoned just as quickly. This raises the question of what kind of representation is possible when the workforce becomes a mere on demand commodity in fast-moving markets. Several scholars underline that DLPs operate in a grey area that overcome both the traditional concept of employment and self-employment (De Stefano, 2015; Prassl & Risak, 2015); other scholars theorise that they are configuring a new economic relationship termed 'platform labour' (Wood & Lehdonvirta, 2019). DLPs started to operate in several European countries before a proper regulative framework was defined; they tend to be free riders strongly reluctant to open a dialogue with trade unions and new representative organisations (Kilhoffer et

al., 2017). At present, there are only a few examples where the DLPs have opened a dialogue with trade unions or have signed agreements. One of them is represented by the German Company Delivery Hero, recently converted into a “European Company” (Societas Europaea SE). The shift has implied some positive constraints on employees’ participation at board level. The agreement signed with the European Federation of Trade Unions in the Food, Agriculture and Tourism - EFFAT foresees at least one employee representative within the SE-Works Council (SE-WC) and the participation of employees in the Supervisory Board of the group, in the same number and with the same voting rights of shareholders. Another exception is represented by the Danish cleaning services platform Hilfr that signed a one-year trial agreement (in 2018) with the trade union 3F, according to which its workers have right to pension, holiday pay, collective-agreement wages. In a general context where platform workers are isolated and commodified (Wood, A. J. et al., 2019) signs of resistance and collective action are rising. Vandaele (2018) underlines that a variety of actors such as grass-roots unions, traditional unions and union-affiliated guilds along with worker-led platform cooperatives are developing multiple initiatives to support platform workers following in some cases a ‘logic of membership’ in other cases a ‘logic of influence’ (Offe and Wiesenthal 1980). The former ideal type implies that the organisation is mainly focused members’ immediate needs and interests; the latter instead implies a prevalent focus on lobbying.

Within this special issue, through a focus on creative work in The Netherlands and Italy, **Bellini and Lucciarini** explore how new collective actors such as mutual-aid cooperatives and professional associations are building new collective narratives and forms of collective organisation. Evoking a comparison with 19th century social and working context, the authors underline how the mutual-aid cooperatives are reacting to a lack of social protection and the professional associations are engaged in regulating specific professions according with the occurring changes. In doing so also the role of old actors such as trade unions is considered, showing an emergent paradox: they are well structured and they have relevant resources but they are still struggling to overcome structural and cultural constraints that limit their capacity to represent creative workers. New actors instead, are more effective in interpreting the contemporary working scene but their action is limited by a lack of resources and a weak organisational structures.

The collective dimension is scrutinised also by **Chesta, Zamponi and Caciagli** who analyse why and how, despite the increasing precarisation and atomisation fostered by the platform economy, workers of food delivery are engaged in relevant collective actions, fuelling public debate and triggering institutional reactions. Focusing on collective actions in four Italian cities, the authors claim that the combination of three key

factors (visibility, the mix of old and new repertoires of action and mutualistic practices) foster riders' mobilisation.

Marrone and Finotto instead, analyse the specific case of Rider Union Bologna as a relevant example of informal unionism among riders. The authors' analysis sheds lights on how power asymmetries, which define the relations between riders and platforms, could be passed by a strategy that combine the involvement both of public opinion and the public institutions. Also in this case, the rise of new collective actors (Hyman and Gumbrell-McCormick, 2017) appears as a relevant topic in the contemporary working scene dominated by the capitalistic model of platform economy. Platform workers' representation proves to be a testing ground for different actors; local initiatives are planned taking into account also transnational solidarity networks. Moreover experimental projects such as Tukopticon (Irani and Silberman 2013, Silberman 2015) and Fair Crowd Work³, are trying to implement a transparent system where DLPs and clients are reviewed and evaluated by platform workers. The battleground of platform workers' representation is therefore both on-line and off-line, both at local and transnational level and it involves new and old actors. The initiatives emerged in recent years testify the vitality and the growing interest on platform workers; despite this, a full and satisfactory offer of representation remains an open issue.

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³ Fair Crowd Work is promoted by IG Metall, the Austrian Chamber of Labour, and the Austrian Trade Union Confederation –ÖGB: <http://faircrowd.work/>

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