

The Gig Economy and Automation. A Brief Presentation with Discussions

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ABSTRACT - In recent years the advancement in technologies has led to the creation of platforms, apps and websites, which became more and more popular after the financial crisis hit the world's economy and companies hired less. A new economy arose, the so-called Gig economy: people would no longer be hired directly from a company, but as free lancers working mainly on web-based platforms. Along with these two trends, the landscape became more and more complicated because of the progress being made towards automation.

Keywords: Gig economy, employment, workers, jobs, labor market, crisis management, flexibility, legal framework

I. INTRODUCTION

With the employment crisis and thanks to the opportunities offered by technological evolution such as websites and apps, new jobs have appeared, the so-called jobs on demand.

In a world tested by the economic crisis, the employment sector and employment contracts have suffered. Finding a job became a real struggle for many. Companies have stopped hiring many people under contract, because of the uncertainty of the market, this has given the opportunity to new ways of working to take over. In such a context, the Gig economy has developed. It is a special system that manages to dispense with the classic open-ended contracts or continuous employment.

In the Gig economy, people work on demand. Thanks to the use of apps and website developed appositely. That is, only when there is a need for our skills and abilities. Some couriers or Uber drivers are clear examples of Gig economy professionals. If we want to make it even simpler, it is the triumph of "odd jobs". Until recently, this type of work situation would not have been considered a good economic option, but given the jobs crisis, many people are now taking advantage of the employment opportunities offered by websites, apps and web platforms.

The real problem of the Gig economy is the protection of workers. Because there are no real contracts, it is difficult for people to obtain employee status with the associated retirement and health benefits. If the Gig economy were to develop further, and market analysts are very excited about this possibility, it will be crucial for people to demand and obtain new regulations from national governments. New laws that allow for greater protection of people working on demand.

For most workers, this is not a primary source of income. The most qualified appreciate the flexibility and remuneration offered by programming, consulting and research assignments. It is true, however, that low-skilled employees without alternative income are more critical: their unattractive tasks are almost impossible to turn into interesting jobs.

To preserve the potential of the Gig economy as a flexible employment opportunity, the political world should refrain from applying the same regulations to it as to the traditional one.

According to many market analysts, the future of the Gig economy will depend on the ability of politicians to adapt laws to these new forms of work. In a way that protects both employees and businesses. It is the creation of a specific category of workers, a kind of freelancer who would stand between companies and workers with fixed contracts. Despite this rather uncertain professional situation, the new category will have to be covered by the benefits enjoyed by people with a regular contract. Such as sickness, paid extras and, in some cases, paid vacations.

In fact, as we're going to see further in this paper work, in the Gig economy world we can identify 5 main categories of Gig workers: the architects and technologists of the platform (founders, highly skilled employees, independent contractors), secondly, the cloud based consultants or freelancers, subsequently we do have the most popular ones, food delivery workers, home repair and care work, micro-tasking

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jobs and last but not least social media, content producers and influencers.

This new economy has a global horizon. Even if many advances are still expected concerning the social protection of self-employed workers, this vision of employment has already been adopted by many entrepreneurs. The Gig economy would give way to a "transfer era". A market of globalized and standardized tasks based on the exchange of skills via huge intermediation platforms.

In recent years, governments have taken regulatory decisions in response to the scale and spread of the Gig economy. Indeed, the status of self-employed workers is questioned in a growing number of countries, provoking various court decisions.

The spark of this phenomenon is due to technological advancements. Automation, robotization, artificial intelligence, do digital advances herald a great wave of technological unemployment? Not so sure. First, because humans still have a comparative advantage over machines, so that not all jobs can be automated, far from it. Secondly, and most importantly, because the content of jobs is evolving with digital technology in a way that paradoxically makes them less automatable.

As we proceed further, we will see how many jobs are threatened by the expansion of automation, which creates many uncertainties among workers. We need also to underline that there are jobs keener to disappear than others.

II. GIG ECONOMY – MAIN LABOR PROBLEMS

A. *General considerations*

Scholars, workers' rights groups, and critical commentators are uneasy about the contribution of the Gig economy to a trend towards a casualized and on-demand labor market, with weak or non-existent income security. Work conducted within the framework of the Gig economy generally impedes the application of traditional labor regulations. Gig economy platforms and organizations have been criticized for the structure of work they provide, with work itself being 'time sensitive, algorithmically mediated, tightly controlled by platform owners, yet precarious.

However, most workers have been considered as independent contractors and not employees, and thus lose many of the rights held by employees. The main problems with the Gig economy – that is, pay, rights and conditions – are to do with a gap in our outdated employment laws that Gig companies exploit to gain a competitive advantage. By classing their workers as 'self-employed contractors', Gig employers can neatly sidestep any responsibilities towards the people who work for them. Class them as 'workers' or 'employees' and it's a whole different story: 'Self-employed' Gig work does not come with pensions, sick pay, holiday entitlement or parental leave. You must be a 'worker' or an 'employee' to get these basic rights.

Gig workers get paid per job, not by the hour (at least in part). This means many people are earning less than the hourly Minimum Wage, with no financial security and so many workers live increasingly "on-demand" at the beck and call of an online app– just to make ends meet. This in turn encroaches on essential family time or a healthy social life.

All in all, the lack of the most basic financial guarantees, job security, employment rights or structure around work are a growing source of stress, and physical and mental illness. Disempowered workers are carrying all the risk, while employers get rich on the profits. It's harder for people with insecure work and income to get mortgages and loans, and therefore to plan.

B. *Options for Extending Regulation*

Clarifying and where possible extending law protections and enforcing them more consistently on behalf of all vulnerable workers (including Gig workers), should be an important priority for policymakers. But given the disruptive nature of digital technologies and platform-based business models, extending the reach of instrumental state regulation should also be considered, to strengthen the level of protection for Gig workers. In this regard, at least five broad options might be considered.

1) Confirm and enforce existing laws. The first option is to incrementally expand the reach of the existing legal framework through the use or threat of test cases. This is already occurring, with litigation being launched by or on behalf of Gig workers in several countries. For example, Australia, Airtasker has agreed to recommend that payments for work performed through its platform meet minimum wage benchmarks, in the face of a threat by Unions NSW to take legal action over the issue. Other advocacy organizations are considering similar challenges to other platform businesses, while the Fair Work Ombudsman has announced that it is investigating the treatment of Uber's Australian drivers.

In almost all cases, the litigation that has been instituted or threatened involves endeavoring to establish that Gig workers are employees – but therein lies a problem. The degree of control exerted by either intermediaries or end-users over some workers, and the absence of any meaningful indicators that those workers have businesses of their own, may well make a finding of employment possible. But this is unlikely to be true of every type of crowd work or on-demand work performed in the Gig economy.

2) Clarify or expand definitions of employment - The creeping extension of regulatory protections to new forms of paid work that has been accomplished through recent case law may not be sufficient to provide acceptable levels of protection to crowd-work and on-demand workers. A faster and more direct extension of these provisions could be accomplished through the explicit expansion of the concept of employment. This could involve considering a broader set of activities as equivalent to employment, so that

the category more clearly covers work that is organized, supervised and facilitated by a digital intermediary.

At the very least, such workers should be given the same rights to engage in collective bargaining as employees, without falling foul of competition laws. Alternatively, or additionally, certain kinds of intermediation could be classified as ‘labor hire’ functions, in which case regulations governing the operation of labor hire agencies might come into play. This approach would be more effective still if it were allied with stronger regulation of labor hire providers. Another method to ensure that Gig workers benefit from protections for employees would be to further limit the ability of employers to artificially recategorize employees as contractors.

3) Create a new category of ‘independent worker’ Harris and Krueger (professors at Cornell and Princeton Universities) argue that the features of Gig work are so novel, and the practice so structurally different from traditional employment, that an entirely new regulatory approach is required. Independent, freelance or ‘platform’ workers would be defined, and basic standards of fair treatment described and enforced. These protections would presumably focus on the contractual arrangements between platform workers and their respective intermediaries but might also apply to their relationships with end-users.

4) Create rights for workers, not employees. Most radical option would be to abandon employment status entirely as the trigger for regulating work and apply appropriate protections to anyone performing ‘work’. This more far-reaching vision for regulatory reform would follow the example set in the Australian WHS (work health and safety) legislation. Those laws endeavor to override distinctions in the specific form of the working relationship, to ensure that anyone who ‘works’ is afforded basic health and safety protections.

A similar approach could be used to reconfigure other labor regulations, so that it becomes largely irrelevant whether a worker is an employee in the traditional sense. There is certainly no lack of academic support for the idea of recognizing a ‘law of work’, or a legal framework for the regulation of ‘personal work contracts’ in some broader sense. But while some rights (such as protection from discrimination) lend themselves naturally to a broad application, others would require significant adaptation or redesign to apply to every type of worker. This is especially true of those which carry a financial burden, such as paying a minimum wage, or contributing to a superannuation scheme, or providing paid leave.

5) Reconsider the concept of an employer A further suggestion has been to focus not so much on the status of a worker, but what it means to be an ‘employer’. Prassl and Risak (Law Professors at Oxford and Vienna Universities) explore the different functions that an employer may be said to have. Some platforms, such as Uber, arguably exercise all those functions. But in other cases, they may be split between different entities – most obviously, the intermediary and the end-user.

Where this is the case, the authors suggest that a Gig worker should be regarded as having different employers for different legal purposes – or for some purposes, none.

III. EMPIRICAL ANALYSIS ON GIG ECONOMY AND AUTOMATION

The empirical analysis drafted on the topic focuses on the relationship between Gig economy and automation and how the latter is getting increasingly involved and is shaping the Gig economy and the jobs related to it. Automation is in constant growth and spread: its market was worth 7.34 billion dollars in 2020 and it is expected to reach 19.65 billion by 2026. This boom was generated by the rapid development in social networking, analytics, cloud computing and mobile computing and their need for automation in data center.

The Gig economy is growing even more: in 2021, it was estimated to be worth 347 billion dollars; in the US, 44% of workers get their primary resource of income through freelancing, while 60% of people were engaging with these activities at least weekly.

Considering a five-group classification of different workers using online platforms, it is possible to make a general idea about their relationship with technology and automation. The first type are architects and technologists: workers who develop and maintain platforms’ digital infrastructures.

In this category, founders, highly skilled freelancers, and independent contractors are considered. According to the Bureau of Labor Statistics, the level of the employment rate of highly skilled workers is increasing. At the same time, the percentage of automation risk, which refers to the risk that AI could replace humans in this kind of activity, is low.

The second category refers to cloud-based consultants, who are workers who offer professional services via platforms. Graphic designers, computer programmers and journalists are part of this category. The level of growth of these occupations stays low. The automation risk, on the other hand, is variable: analysts, reporters and journalists have a risk of 9% of substitution; on the contrary, computer programmers have a higher risk of substitution (41%).

While the latter type of job is strictly related to technology and can be affected by development in AI, the first group strongly depends on abilities that can hardly be performed by robots. Some companies, though, started to invest more on software and tools able to write articles by themselves: The Washington Post, an U.S. daily newspaper, developed an automated storytelling agent called Heliograf, which can write down thousands of words in few seconds. It was specifically used during the Rio Olympics in 2016, and it was able to write 300 stories describing sport matches through few hints or keywords. The Washington Post

widely uses the software to write articles about election news, and it sells its license to external users as well.

However, the premise of its developers is clear: Heliograf main intention is to support journalists to write more high value works, not to take their jobs. Predictions about this job are, then, reliable.

The third type is about ride-hail, food delivery, home repair, and care workers. These jobs consist of offering services via platforms and performing them online. For this group, the level of employment is expected to slightly increase. Taken as an example, personal care aides register a 32.6% of employment's growth, while drivers (here considered as a wide category) are expected to grow at a 17.9% rate.

Those jobs have the highest level of automation risk: couriers' risk of automation reaches 88% of risk level, and drivers' risk is 83%. Personal care aides, meanwhile, register a 65% automation risk. Being taken care of by a robot is very hard to imagine. Despite the skepticism about this hypothesis, many robots care takers have been developed in recent years.

Japanese tech companies have largely invested in automated care takers, which perform a wide set of activities, like lifting, transfer and carrying patients, serve as companions, and providing physical assistance and rehabilitation to the elderly. The level of appreciation of the patients toward these robots is, against all the expectation, very high: 80% of Japanese people would prefer being taken care of by robots.

Studies have reported that robots, especially those with puppy appearances, can positively affect the symptoms of dementia in some patients, and keep company to the elderly in care houses. Data accounts that Japan's chronic shortage of workers is a serious threat to the country, and the care takers' sector is affected too. The Health Labor and Welfare Ministry of Japan is expecting an increase in the available spots for care workers, but a shortfall in employment's application. For this reason, is safe to say that these robots are designed to help the already few workers perform their tasks, not trying to steal their jobs.

An interesting study case related to Gig workers involved with Uber and Amazon's companies shows some interesting yet contradictory data: starting from 2014, Amazon was investing both in new contract labor networks and drone patents; Uber followed the same steps: the CEO has expressed his intention to move toward automated vehicles.

At the same time, the Gig-workers are still central for the company: even though the aim of the two companies is to slowly substitute the Gig workers with machines, by developing self-driving vehicles and drone-based delivery's technology, Amazon has shared its commitment in keeping high levels of occupation while using machines and is keeping its promise.

The possibility that drones or automated vehicles will substitute humans in their task, yet to be fully possible, is still afar to be fulfilled. The two companies analyzed are still experiencing a "pre-automation" phase: "[Pre-automation] is the coincident, strategic effort to scale a workforce and monopolize a

distribution network via platform while simultaneously investing in its automated replacement".

It is an interesting theory that states that the fear of societies to be substituted in most of their jobs by AI, is still to be considered distant. The current phase is the intermediate one, in which the slow replacement of workers with robots has recently started and is still far from being completed.

The fourth category of Gig workers is represented by the so-called Micro-workers. They can be defined as all those workers who spend their spare time performing small tasks through platforms in any place in the world.

Analyzing what is stated above in a deeper way, it is important to know that the tasks performed are part of a bigger, unified project carried on by a company. In this context, the company in need of these workers posts the various tasks on a selected platform and eventually performed by these workers. The platform, which is totally automated, essentially connects the companies with the workers, taking away the direct interaction between the parts.

Many important companies make use of these platforms (such as Google, Amazon, Facebook, Microsoft and Uber) to find workers who will help collect and process data to consequently train the companies' artificial intelligence technology.

A wide range of tasks is performed, and some examples could be tasks which help train chatbot to recognize people's regional accents or emotions conveyed by their voices' tone, or tasks where images of different places are to be annotated to help guide automated drones, or simpler tasks such as ticking web's survey boxes. Any people wishing to have a side income can perform these tasks once registered on the platform, and in very few cases specific qualifications or high-level skills are required.

However, in 2017 the ILO – the International Labor Organization – conducted a survey on 3,500 workers in 75 countries highlighted that most of them are more educated than expected: 37% and 20% of them have respectively a bachelor's degree and a Post-graduate Degree, and a mere 18% only have a high school diploma or less. The report in which this survey is included also highlights that there is no correlation between the level of education and the different tasks performed (ILO Survey of crowd workers, 2017).

To give a better idea of what has been stated above, it is possible to give a real-life example of these kinds of platforms. In 2005 Amazon established an online crowdsourcing marketplace, called Amazon Mechanical Turk (AMT), to overcome a malfunctioning of algorithms which could not recognize product listings of Amazon website.

In the case of Amazon, once a worker logs onto the platform, it does not have access to all the available tasks. In fact, the worker must meet certain criteria which have been defined by the company, posting the task itself. According to a 2019 estimate, more than 250.000 people have performed at least one task on AMT. So, it can be easily understood how these

platforms, while gathering human workforce, have been developed to collect data to improve current technologies and in the future eliminating part of the job done by these workers.

The last type of workers which can be identified in the landscape of Gig economy are the so-called “Gigfluencers” and the content producers.

First, it is necessary to define what an influencer is to later define the “Gigfluencers”. An influencer is a person who works mainly on social media platforms and, initially unpaid, tries to earn an income thanks to the contents shared and eventual sponsorships with companies. Consequently, “Gigfluencers” similarly to influencers try to make a profit out of published contents, but do not want this activity to be their full-time job, but merely a side-job allowing them to earn some money.

Concerning content producers, in this context are taken into consideration those who create written material such as advertisements or products’ descriptions. It has been possible to find data regarding the expected employment growth for this type of worker, which is approximately 8.5%.

A similar percentage can be seen also for the automation risk these workers face, which is 8%. As low as it may seem, the risk of automation could grow in the future. In fact, in 2018 the marketing department of Alibaba developed an Artificial Intelligence-powered copywriting tool with the aim of producing descriptions for products on Alibaba Website.

The development of this tool has been possible thanks to the natural language acquired from already existing samples. This tool is incredibly fast and it can produce 20,000 lines of descriptions in less than 2 seconds. Any company can have access to this tool and in the future, it could easily represent a threat to all of those people earning part of their income from these jobs.

As far as concerning the world of influencers, the advancement in technology and automation has made the creation of an avatar influencer possible, thus posing the question of whether human being Gigfluencers could be replaced.

First, we would like to draw attention to a survey that has been conducted by MediaKix, a Santa Monica-based influencer marketing agency, which found out what is the general feeling about avatar influencers and the automation of influencer marketing. Mediakix has conducted a survey interviewing marketing professionals and wondered whether the influencer marketing can be automated. More than 70% percent of them think that it can be automated, however there will always be a human component. Only 4% of the respondents think that it can be fully automated.

But as already said avatar influences have already been created, thus a path towards automation.

In 2016 Lil Miquela entered the world of social media posting her first picture on her Instagram profile. This avatar has been created by a Los Angeles-based start-up, called Brud, and created a stir among social media users. She resembles a human being, act and talk

as one, however she is not. Lil Miquela is not simply an avatar with pictures of herself on social media, she is an influencer all-round, as she has also released singles on Spotify and created a clothing line.

IV. CONCLUSIONS

To conclude this paper, an important question to pose is “what does the future hold?”. It has to be acknowledged the fact that we are not yet living in a completely automated world, but we can say in an pre-automated world. As it was possible to notice when analyzing Amazon and Uber cases, these kinds of companies are investing towards a future of automation while trying to monopolize distribution networks via platforms.

Focusing on the Gig economy we can say that many jobs will be lost while others will be created thanks to automation, as it was highlighted by a study conducted by SAP Fieldglass and Oxford Economics. In this study has emerged that by 2023 many sectors of the economy will see a rise in demand for Gigworkers.

For example, concerning support services there will be a 17% growth in demand compared to 2020. In Manufacturing the growth is expected to reach 25%. Another report, conducted by Forrester and named “The Future of Work” which considered both the Gig economy and automation states “Automation will accelerate the need for and rise of the Gig economy. Automation will also enable the Gig economy to exist by connecting buyers and sellers.” The same report estimates that by 2030 job losses of 29% will be witnessed, against a job creation rate of 13%.

The human workforce will be important for many years to come, and many companies try to retain workers to grow. Along with many others, Amazon is an important supporter of the human workforce and has in fact a high level of employment and tries to offer many jobs to different categories of workers, from warehouse workers to engineers.

Very interesting is also the point of view of Amazon’s CEO Jeff Bezos concerning the future of workers and automation: he believes that technological development will not represent a real threat for workers. However, another important personality, Elon Musk, Tesla and Space X CEO, has a different point of view: in his opinion what the future hold is frightening: in most of the cases people will be only required to write and develop AI software until this software won’t be able to write themselves, leaving essentially workers without an employment.

In conclusion, the future is still uncertain and the era of pre-automation we are living in now still leaves space for the Gig economy to grow, despite the steps which have been made towards the development of automation. The future, however, represents a question mark.

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