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**Gig Economy: A Literature  
review of critical approaches**

*Bachelor's thesis*

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## **Abstract**

This work is dedicated to the topic of the Gig economy, its definition, scope and influence in modern society. In the theoretical part, it defines links with more extensive terms from the field of digital economy. The narrative literature review method used in this work was transparently designed to obtain a comprehensive and reliable sample. Based on the analysis, this thesis systematizes and outlines critics of gig economy platforms, alongside with the key features of gig economy, as outlined by scholars in the area. A broader impact of the gig economy is also derived from the papers from the sample. A check for possible inconsistencies in the use of the definition of gig economy resulted in the separation of core features, that are present in the majority of articles in the sample, and auxiliary features, that are unique or contradictory to core features. The significance of gig economy and possible futures of gig work are also discussed.

## **Abstrakt**

Tato práce je věnována tématu Gig economy, jejímu vymezení, rozsahu a vlivu v moderní společnosti. V teoretické části vymezuje vazby na rozsáhlejší pojmy z oblasti digitální ekonomiky. Metoda přezkumu narrative literature review použitá v této práci byla transparentně navržena tak, aby získala komplexní a spolehlivý vzorek. Na základě analýzy, tato práce systematizuje a nastiňuje kritiky platform gig economy, spolu s klíčovými rysy gig economy, jak nastínili vědci v této oblasti. Širší dopad gig ekonomiky je také odvozen z článků ze vzorku. Kontrola možných nesrovnalostí při používání definice gig economy vedla k oddělení základních prvků, které jsou přítomny ve většině článků ve vzorku, a pomocných prvků, které jsou jedinečné nebo jsou v rozporu s hlavními rysy. Diskutuje se také o významu ekonomiky koncertů a možné budoucnosti koncertní práce.

## **Keywords**

Gig economy, digital economy, gig work, digital labor, gig employment, narrative review, systematic review.

## **Klíčová slova**

Gig ekonomika , Digitální ekonomika, gig zaměstnání, digitální práce, gig práce, narativní analýza, systematická analýza.

**Extent of thesis:** 161149

## **Declaration of Authorship**

1. The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.
2. The author hereby declares that all the sources and literature used have been properly cited.
3. The author hereby declares that the thesis has not been used to obtain a different or the same degree.

In Prague, on 02.05.2022

Ekaterina Zhidkova

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## **Institute of Sociological Studies**

### **Bachelor's thesis proposal**

*Formulation of the problem and its initial discussion in relation to the current state of its knowledge, the expected professional contribution of the work:*

The internet surrounds us and we as a society already live in a new era when without online services of different variations cannot even imagine our life, both from the position of the regular user and from the standpoint of the organizations. The current authors draw attention to the existence of modern branches of the economy, which are connected to the usage of various platforms, software and apps. While definitions are intertwined, the precise terminology does not exist yet (Lehdonvirta, 2019). However, we can try to outline some delicate unique features about them.

The so-called sharing economy consists in the sharing of information or products on the basis of voluntary financial support for authors and possible contributors (Kenney & Zysman, 2019). Moreover, we can mention that this kind of economy “was originally referred to amateur or noncommercial transactions” (Parker, Van Alstyne, & Choudary, 2016)

Platform economy, on the other hand, is equally associated with companies and applications, but being rather a wider term. It can be manifested on a level of peer-to-peer communication, businesses or governments. In essence, the platform economy is based on the principle of maximum monetization and exchange of any goods or capabilities of the user.(Kenney & Zysman, 2019). Some argue that the platform economy is such a rapidly growing branch of the economy that has an immense influence on markets and networks and is now intrinsic to a society as a new form of mass employment.(Valas & Schor, 2020). Sometimes platform labour is even referred to as “Work 4.0”(Schmidt, 2016) as a way to emphasize the progressiveness of platform based businesses in relation to the workforce. A large number of scholars have presented taxonomies of digital work in relation to the functionality of a certain platform and the workforce needed. I can outline at least 5 types of employment from skilled professionals, independent contractors(most freelance and outsource based workers), mundane public service(delivery, taxi) to social media influencers and their support systems(social media managers and marketing) .(Kenney & Zysman, 2019, Valas &Schor, 2020, Frenken & Schor, 2017, Irani, 2015)



Regardless of the aforementioned types, the main role here still plays the professionals who carry out all the tasks. Thus, the phenomenon of gig economy or gig work is introduced.

Gig economy is a special kind of digital economy that is built solely on the premises of outsourcing job opportunities or individual tasks (Schmidt, 2016). Technological boom has provided a medium to popularize freelancers, however still being dependent on workers' expertise, "gig work is always bound to a specific person who has to show up on time to do the job"(Schmidt, 2016). It was initially intended to revolutionize the existing employment procedures and give more freedom to both employers and employees and to enhance overall suppleness of the market itself. "Workers can supposedly choose what to do, how, when, where and for whom. Many are able to find jobs and income previously hard to obtain"(Woodcock, 2020)

However, I feel that the gig economy as a distinguishing part of the modern economy is undeservedly overlooked. According to Scopus.com alone there are currently 1921 academic works devoted to the gig economy opposed to the 11902 works about the platform economy. What I found to be interesting is that most of the 1921 works in question are of critical nature, either criticizing gig work or explaining the various problems gig labour faces and causes. I feel that sociology brings a critical lense to the sphere and we can trace the effects it brings to us as a society. The popularization of the use of the internet around the world in the last 15-20 years, has completely changed the paradigm of perception of the network as a new center of the world economy. Previously, it was believed that the internet is just: "a bulletin for the effective advertisement of vacancies among job seekers " (Mýtna-Kureková et al. 2015), i.e. a mere list of reports and advertisements for experts and the theoretical possibility to search for information. However, now the public consensus refers to the development of the field of computer technology and the internet as the third globalization (Kenney & Zysman, 2019). My generation and generations to come are born with the power of the internet and are more likely to become the workforce for the growing sector of the platform economy. Thus, gig work is in my opinion our future main way of employment and I am afraid that the general audience is not aware of the problems and risks that the gig economy carries.

*why it is interesting and important to pay attention to the chosen problem, what the goal of the work should be (to help solve the problem, fill the white space, verify previous knowledge in a new context...):*

To my knowledge currently there are no works dedicated to the compilation of academic literature about the gig economy. I believe that literature review is needed because for the new and growing field of

studies such as gig economy studies, literature review helps to systematize the state of things in the field. Literature reviews are helpful to build cumulative knowledge.

For this work I have two main aims. Firstly, to define the consistency of the definition itself among the sociology articles, which use this notion. It is important to understand if currently the gig economy is understood with precise terminology or rather it being an umbrella term that can mean different things in different contexts, and therefore, be misleading - and conflict with the supposed cumulativeness in this field of studies. Secondly, I intend to define all the problematic aspects scholars see nowadays in the gig economy by doing a review of all the possible critiques of the gig economy. . I will discover what are the biggest concerns raised by scholars and which problems are overlooked, in other words examine what large kinds of "critiques" can be generalized from a number of articles from the topic of gig economy. Plus, analyze the risk factors and possible positive and negative outcomes of the gig economy.

#### *Methodology:*

This work will be completely theoretical,

To do this I chose to use the narrative literature review method. I believe that method is more useful to fulfill my goals. “ NRs [narrative reviews] are aimed at identifying and summarizing what has been previously published, avoiding duplicates, and seeking new study areas not yet addressed”(Ferrari, 2015) Moreover, SRs[systematic review] and NRs have different approaches, steps, goals and applications. SRs are focused on providing guidelines and meta-analysis which I do not have a capacity for, moreover systematic approach means that the final SR is not changeable for several years (Ferrari, 2015) . While NR is a fairly possible approach for me to make certain conclusions based on a smaller sample. It will adjust a lot of info into readable format and can be updated with new data. “They [NRs] are helpful in presenting a broad perspective on a topic and often describe the history or development of a problem or its management”(Green et al. 2006)

- Stage 1. conducted search in Google Scholar, Scopus, Web of Science, and ScienceDirect for most data.
- Stage 2. search through keywords (Ronteltap et al. 2011).
- Stage 3. conduct a selection process using various filters such as type of publication (peer-review journals), year of publication, language, research method, field of study atd.
- Stage 4. create clusters of problems mentioned in publications and possible definition indiscrepancies to answer the research question.
- Stage 5. draw conclusions and outcomes

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## *Introduction*

### ***Growth of the internet***

The popularization of the use of the Internet around the world in the last 15-20 years, has completely changed the paradigm of perception of the Web as a new center of the world economy. Previously, it was believed that the Internet was just: "a bulletin for the effective advertisement of vacancies among job seekers " (Kureková et al., 2015), i.e. a mere list of reports and advertisements for experts, and the theoretical possibility to search for information. However, now the general consensus considers the development of the field of computer technology and the Internet as so-called third globalization (Kenney & Zysman, 2019) or as third industrial revolution, which started in 1969 with "the application of the first programmable logic controller for broad use in IT and electronic systems in order to increase the automation of industrial production" (Harteis, 2019).

Since then, the process of business digitalization has been rapid and all-consuming, nowadays there is hardly any branch of business left untouched by digital technologies. According to Bouwman et al., (2018) accounting became the first area that began to introduce the effects of digitalization and automation. Then it was followed by the documentation flow, translated into electronic form. Services and business models are being adapted for smartphones, conditions are being created to attract an audience of potential customers.

After that, cloud computing has gained importance. Cloud computing has allowed small and medium-sized businesses not to purchase expensive computing equipment (mainframes, servers), not to incur significant costs for network infrastructure maintenance, but to use significant computing power of specialized companies that are ready to provide access to their expensive equipment for an optimal fee, creating a "partnership network" for specialists to share (Chang et al., 2010). In addition, the swift advent of cloud computing that further enabled the integration of a variety of technologies into operating and outsourcing software solutions, services, and infrastructure over the internet, had crucial insight into the prospects

of information and transaction exchange within businesses (Bhimani & Willcocks, 2014). Overall, advances in technology and data development have had a significant impact on how outsourcing has been conducted, with digital technology allowing for the remote execution of organizational operations.

Hence, the new economy, enterprises, business niche and job prospects is sometimes referred to as the industrial revolution 4.0 (Harteis, 2019). It involves : “short production runs of mass-customized goods, the global fragmentation of value chains, the networking of productive capacities and the blurring of boundaries between producers, sellers and consumers on the one hand and industry and the services sector on the other” (Valenduc & Vendramin, 2016). One of the most prominent concepts which aim to theoretically grasp new forms of relationships between businesses and consumers is the concept of gig economy.

This work contains a theoretical overview of academic articles on the gig economy as a phenomenon. My first goal of work is to determine the consistency of the definition itself, to outline what core features comprise the definition and what auxiliary features are included into the terminology. Second aim of this thesis is to define risks and problematic aspects that were distinguished by the authors of overviewed publications. Additionally, I present advantages of the gig economy both for the employer and the employee and outline the global impact caused by the development of the gig economy. Method I intend to use is the narrative literature review which I compare with the systematic literature review method. Then, I use transparent filtering criteria to narrow the scope of the research and present a cohesive sample. After obtaining the results, I analyze the context and deductions of authors and discuss implications of gig work for broader economic and social realities.

## *Theoretical part*

### *Digital labor*

Digital labor in essence is described by the production of goods and value by engaging with the digital economy or via interaction with digital technologies, such as digital platforms (Graham & Anwar, 2018). According to said authors, two major factors contributed to the rise of digital labor. First, “the link between distance and time has been almost completely severed. Proximity between employers, workers and clients now has almost no impact on how quickly a digital product or service can be delivered”. Second, the widespread use of technologies has changed the geography of the workforce globally. Nowadays, with the accessibility of computers and relatively low costs of the internet, participation in the digital labor has become common and allowed more flexibility outside one’s geographical markets and location. However, even considering all these advantages in mind, some authors remain critical of the concept of the digital economy (Burston et al., 2010; Fuchs & Seignani, 2013). While the first collective examines digital labor issues from a standpoint of the “creative class”, the latter see fundamental problems with digital labor from a neomarxist perspective.

Burston et al. (2010) claim that within the system of digital labor, a creator/producer lacks autonomy and selfhood, is subjected to scrutiny, is dealing with the instability of the digital market, is pressured and policed by the consumers or platform, depending on the location, and is forced to self-regulate. Fuchs and Seignani (2013) focus more on the so-called “digital working class” and the working condition issues within the Marxist theory. In short, they claim that digital labor has caused alienation of its workers on many levels. It has abused their “instruments of labor” (human mind), “objects of labor” (human experiences and emotions) and “product of labor” (the end result of digital labor to satisfy the needs of some group). This led to the paradox of wealth poverty of the employees within the digital labor systems, as authors illustrate on Facebook : “This manifold poverty of the digital working class is at the same time the source of wealth: they are the producers of online wealth that is appropriated by capital: the online time that they spend on platforms is productive work and labor time that is valorised and produces money capital that is created, but not owned by the users” (Fuchs & Seignani, 2013). In other words, the minority of owners of Facebook profits from the majority of the users of Facebook, who are the actual source of income.

Who earns a living as a digital worker? One way of employment is freelance.

Salamon (2020) claims that: “freelance workers see themselves as individual businesses that negotiate with clients rather than a class of workers with similar interests that should fight back”. In other words, a consistent motivation in jointly coordinating with other freelancers to push for greater salaries is prevalent inside the community, however, it does not transcend a professional dedication to growing their own careers and perceiving fellow freelance contractors as rivals. A freelancer is most often not officially employed and can participate in several projects in different organizations at once, unlike full-time employees of companies. Meanwhile, the earnings of a freelancer depends, as a rule, on the number of completed tasks, and not on the time of work. Thus, by implementing several projects at the same time, a freelancer possibly earns more than a full-time employee (Ettliger, 2017). Nevertheless, it is very important to draw a line between freelancing and another type of employment within the digital economy - the so-called gig work or the gig economy.

### *Digital economy*

The digital economy covers a broad spectrum of economic activities that rely on digitized data and information as main manufacturing inputs. The internet, big data, cloud computing, financial technology, and other emerging digital technologies are all being utilized to effectively acquire, preserve, assess, and exchange information, as well as modify social relationships. The term was originally coined by Don Tapscott at the brink of the worldwide technological boom in 1995. In his book “The Digital Economy: Promise and Peril in the Age of Networked Intelligence” he predicts a future full of economical opportunities, which is expected to change the classical corporate relationships. His idea of “network intelligence” which essentially comprises a network of computers that are powered by the human intelligence of users is crucial for reconstructing the classical ways of employment, business, infrastructure and goods exchange. In other words, it meant new client/business relationships, where everything - the way products or services are produced, paid for, transported, distributed, advertised and marketed - was changed by the introduction of digital technologies. This shift has facilitated several major changes, such as developing a new business model through the innovation of the digital support systems, flexibility of working conditions and cutting off the additional costs (Valenduc & Vendramin, 2016).



The digital economy has shown itself to be a beneficial addition to the regular economy over the years of the internet and technology expansion. According to the Bureau of Economic Analysis, over the course of ten years (from 2006 to 2016) the digital economy has shown a major growth by 5,6 % annually per year, thus becoming the sixth biggest industry share in the USA. Moreover, it has provided 5,9 million jobs (almost 4% of total workforce) and financially supported its employees at a level that is almost twice as much compared to an average annual income in the U.S. (BEA, Barefoot et al., 2018).

Charrier & Janin (2015) taken from Valenduc & Vendramin (2016) argue that the digital economy has 4 unique features : “the irrelevance of geographical location, the key role played by platforms, the importance of network effects and the use of big data. These features distinguish it from the traditional economy, particularly as a result of the associated value chain transformations”. These features have become key foundations of the digital economy. Digital economy includes different phenomenons, such as Platform economy as rather an umbrella term, Sharing economy as a part of Platform economy and Gig economy, as unique economic relationship within Platform economy and main focus of this work.

### *Platform economy*

Platform economy can be described from various angles. Essentially, it refers to commercial and social activity that is enabled by platforms. However, it is more complicated because platforms do not produce goods by themselves, they facilitate the exchange of products and services between producers and consumers. “The most relevant (intangible) asset a platform needs in order to facilitate transactions is its network of (distinct) participants, the interactions between them as well as the exchange of information” (Rohn et al, 2021).

What are platforms? According to Asadullah et al (2018), the definition can be based on the technical perspective and the applicable view. For example, Xu et al. (2010) (in Asadullah et al., 2018) identify platforms as : “a set of subsystems and interfaces that form a common structure for/from which derivative applications can be developed and distributed”. From an economic perspective, platforms can be described as a multi-sided markets that : “exist wherever a company brings together two or more distinct groups of customers (sides) that need each other in some way, and where the company builds an infrastructure (platform) that

creates value by reducing distribution, transaction, and search costs incurred when these groups interact with one another” (Pagani, 2013).

Evans and Gawer (2016) present a typology of various platforms which are a part of the digital economy. According to them, the most prevalent type of platform are *transaction platforms*, which are sometimes known as bilateral markets, multilateral markets, or matchmaking firms. These platforms frequently enable various types of online marketplaces, though most or all of the transactions supported by the platform are occasionally free (Social networks, stock markets, Youtube, Twitch, eBay, Mastercard, and Zoom).

*Innovation platforms* present an example of operations-supporting platforms. They provide a technology foundation, such as software, operating systems, processors, and browsers, on which a following network can grow additional products and services for resale to customers and other enterprises. Integrated platforms blend transaction and innovation platform features together (Apple, Google, and Alibaba) are examples of interconnected platforms.

*Investment platforms* are corporations that either act as investment organizations for other technology providers or fund in several company operations but do not manage a major platform themselves.

I have taken a liberty to outline a few key features of the platform economy that are distinguished by different scholars:

- A. First, platforms provide an algorithm that allows for an effective matching for job opportunities, products or service and users. It is also important to note that some platforms can create ecosystems around themselves and enforce supporting platforms. For example, the landlord on Airbnb may require additional workforce to maintain the property that is found also via different platforms (Maselli & Fabo, 2015; Drahokoupil & Fabo, 2016).
- B. Second, various platforms compete with each other, especially when they both present essentially a substitute for each other. In order to be successful, it is very important for platforms to obtain as much engagement from the user as possible. Thus, the use of attention-grabbing tactics are prevalent. For example, various rewards and bonuses, user-friendly colorful and simple interface, non-stop flow of personalized information (Barns, 2019).

- C. Third, platforms offer solutions to mitigate or control risk associated with market operations. For instance, they tackle systemic problems such as inadequate data on vendors and providers or the danger of fraud. Among these platforms are standard insurance protocols, tech and legal support (Drahokoupil & Fabo, 2016).
- D. Fourth, it is very important to understand that simply having a digital platform and being a platform-driven business model are two different things. Apps are just a commodity, the networks are the real business of the platform economy. To illustrate, I will compare Youtube and Netflix. Youtube, being a platform business model, does not produce content by itself, does not have any rights to the content, it merely provides means to exchange information between creators and subscribers, which contributes to the organizers of the community financially. Netflix, on the other hand, does not establish an online network of creators, it only distributes content that is produced by or affiliated to Netflix for a subscription payment. It is, in essence, a so-called linear business model with a classic supply chain (Rohn et al., 2021; Applico, 2019).

### *Sharing economy*

Authors (Schor & Attwood-Charles, 2017; Codagnone & Martens, 2016) emphasize that sharing economy is a rather complex term that so far has not reached a scientific consensus and has been blurred with other neighboring terms. Frenken et al. (2015) identify the sharing economy as : “consumers (or firms) granting each other temporary access to their under-utilized physical assets ("idle capacity"), possibly for money”. In essence, idle capacity happens when an unused capacity is combined with a scarcity of raw supplies or trained workers. When a company has idle capacity, it may take on new orders without raising fixed expenses.

The idea of idle capacity in relation to the sharing economy, according to Schor & Attwood-Charles (2017) was core and promoted the “monetization” or increased usage of unutilized goods. It implied many different positive outcomes- support of various non-profit organizations, creating a community, lowering the costs, saving the environment. Hence, multiple sharing platforms were born - Airbnb, Taskrabbit, Lyft. However, examples and variations of sharing economy platforms are not limited to the aforementioned apps. Dubois et al. (2014) and Codagnone & Martens (2016) present different types of platforms that can

be classified as sharing economies. Such as second-hand marketplaces (Ebay), shared consumption of serviceable means (Rideshare), socializing (EatWithMe) or trading of goods and services (TaskRabbit, Soundcloud).

Important criteria for the authors mentioned above for a platform to be considered “sharing” is the ability to support transfer between many strangers instead of certain fellowship and the heavy dependence on technology, which may also endorse offline actions. Also, the involvement of social interactions, trust and engagement among total strangers is also a key for building a successful sharing economy platform.

It should also be noted that among all of the types of the platforms - “platforms that are Business-to-Consumer (B2C, i.e., Zipcar), Business-to-Business (B2B, i.e., Cargomatic), Government-to-Government (G2G, i.e. MuniRent) are placed alongside the classical Peer-to-Peer (P2P, i.e., Uber, Airbnb, TaskRabbit, etc.)” platforms (Codagnone & Martens, 2016). P2P businesses are the most successful in the realm of the sharing economy (Einav et al., 2015). Indeed, peer-to-peer business models are always in demand, they present a low transaction cost for consumers, exhibit a low entrance threshold and are performance-influenced in the way rating systems can “make or break” the individual’s business.

### ***Gig economy***

Technological boom has provided a medium to popularize freelancers and gig workers, however still being dependent on workers' expertise. While it is true that definitions are intertwined and the precise terminology does not exist yet (Lehdonvirta et al, 2019), we can try to outline some characteristic features of the gig economy in contrast with platform and sharing economy features, presented above.

Gig economy is a special part of the digital economy within digital labor, since it is built principally on the premises of outsourcing job opportunities or individual tasks. The name has originated from show business slang calling a gig the performance of one act or one concert at a given time in irregular locations (Schmidt, 2016). A direct manifestation of the new formation of the gig economy was a fundamental change in the labor market and employment relations, its transition from the availability of permanent jobs done for one employer, to temporary projects from different companies done by one independent employee

(Hesmondhalgh & Baker, 2010). It was initially intended to revolutionize the existing employment procedures and give more freedom to both employers and employees and to enhance overall suppleness of the market itself. “Workers can supposedly choose what to do, how, when, where and for whom. Many are able to find jobs and income previously hard to obtain” (Woodcock & Graham, 2020). Here we can see some similarities between freelance and gig work - flexibility of time management, disengagement from the local job markets, temporary employment that gives more creative freedom, performance-based pay. However, the difference between them is delicate, and I will illustrate it with the exact examples.

As I have mentioned before, freelancers essentially see themselves as a one-man “individual businesses” (Salamon, 2020), which means a certain level of responsibility for everything-starting from the instruments of production, manufacturing or providing services, advertising, launching promotion sites or accounts, securing the payment, taxing, accounting, legal protection. In essence, where a freelancer is supposed to build the business and reputation from the ground-up, for the gig worker all of the aforementioned issues have been covered by the platform. If we were to compare Uber drivers (gig work) and a private chauffeur business (freelance), we would come to the conclusion that the advantages of gig employment are ease and minimal entrance threshold. It is enough to download an app, register personal or rent a company car, register your driver license and the exchange with the platform will take care of the other aspects. The worker is subsequently given minimum legal and social protection by the employer's company, even if the nature of their relations is short-term. In the same niche, a freelancer is not only forced into competition with giants like Uber, Lyft, Curb, Bolt, but also is expected to launch a service independently that is of the same quality range as the competitors. However, the advantage here is that a freelancer is not restricted by the platform's policy and rules, so he or she is more free to conduct their business in a certain way (Schmidt, 2016; Gandini, 2019).

The gig economy shows a stable trend of growing as an economic and employment sector. Although it is still a relatively small niche, it has all prospects to become a more popular medium of future employment (Wood et al., 2019). For example, in the data research conducted by Ben Gitis et al. in 2017, the main focus of their analysis was to convey an existing trend of a rapid growth in popularity of employment as a gig worker among the generic workforce. The study is limited from 2002 to 2014 and is based in the USA, however,

it echoes the similar trend in the UK (Lepanjuuri et al, 2018) and India (Banik & Padalkar, 2021).

Over the course of these years they have concluded that: “From 2002 to 2014, while total employment increased 7.5 percent, gig economy workers increased by between 9.4 percent and 15.0 percent, depending on the definition of gig economy workers” (Gitis et al., 2017). Moreover, they have found that the rise in the field of gig work is related to recesses and other drastic changes in the economy of the United states as most of the participants have been dismissed from a previous job and used such time of employment as a temporary means of survival (especially in the areas with low density of population and hardly accessible location, such as Mountain and Pacific regions), or as a mere additional part-time job.

For the context of what is conceptualized as a gig work it is important to explain the threefold definition with which authors work. To put it shortly:

“Gig 1: independent contractors, consultants, and freelancers.

Gig 2: Gig 1 + temp agency workers and on-call workers.

Gig 3: Gig 2 + contract company workers.” (NORC, 2016, in Gitis et al., 2017)

Same study provides the data about the dispersion of gig economy workers, with accordance to the industry sector: (Table from Gitis et al., 2017)

<b>Industry</b>	<b>Gig 1</b>	<b>Gig 2</b>	<b>Gig 3</b>
Agriculture & Mining	33.9%	33.9%	33.9%
Construction	35.2%	44.7%	56.2%
Manufacturing	4.5%	9.6%	12.1%
Wholesale & Retail Trade	8.5%	9.9%	11.5%
Transportation & Utilities	19.9%	23.8%	28.6%
Information	15.1%	15.1%	20.3%
Financial Activities	22.0%	27.8%	27.8%
Professional & Business Services	22.0%	24.2%	26.7%
Education & Health Services	7.2%	8.7%	9.6%
Leisure & Hospitality	6.5%	12.4%	13.2%
Other Services	39.0%	46.8%	48.5%
Public Administration	1.5%	1.5%	6.7%

As it is evident from the table, gig work is not limited to one industry and is useful for any other field of occupation. Top placements consist of Agriculture & Mining, Finance & Business administration, which encompass different types of talent and expertise from coding and accounting to recruiting and practise of law. Another big percentage of 39,0 % classified as Other includes the aforementioned areas: blogging, taxi, delivery. Although the gig economy is a modern, simplistic and broad employment option, it does not safeguard from risks and drawbacks often found in regular employment.

It is predicted by Statista (2020) that with the current annual growth rate of 4,2% (2017) of the freelancer (i.e. including gig worker) workforce, by 2028 they would reach 90,1 million, which amounts to almost 51% of all the workforce of the USA.

The study by Gitis et al (2017) presents an example of industry diversification from the mostly so-called pre-Uber conceptualization of gig work. Which is important to showcase in relation to localized on-demand work, such as construction work, or seasonal agricultural work, the workers of which are also historically classified as gig workers (Lehdonvirta, 2018). My work, instead, focuses on the gig economy in a post-Uber sense, meaning a work conducted and facilitated through the digital economy platforms.

Uberization can be described as structural changes in employment and business, which were inspired by the introduction and mass success of Uber. Cambridge Dictionary (2022) defines uberization as: “the act or process of changing the market for a service by introducing a different way of buying or using it, especially using mobile technology.” In other words, features that make Uber successful (i.e. use of platforms, providing of own tools, mobility, self-employed status, performance-dependent payment) has been extrapolated onto other professions (Venco, 2019).

Hence, in the context of my sample, it is important to focus on the post-Uberization conceptualization of gig work. To illustrate the diversity of digital gig work, I would like to address the study conducted by Kässä & Lehdonvirta (2018), which, among other, measured the most common tasks carried out by the gig workers. It is evident from the table that the gig economy is a diverse industry not only for physical local labor, but also for remote digital work.



Occupation class	Examples of projects
<i>Professional services</i>	Accounting Consulting Financial planning Human resources Legal services Project management
<i>Clerical and data entry</i>	Customer service Data entry Tech support Transcription Virtual assistant Web research
<i>Creative and multimedia</i>	Animation Architecture Audio Logo design Photography Presentations Video acting Video production
<i>Sales and marketing support</i>	Ad posting Lead generation Search engine optimization Telemarketing
<i>Software development and technology</i>	Data science Game development Mobile development QA and testing Server maintenance Software development Web development Web scraping
<i>Writing and translation</i>	Academic writing Article writing Copywriting Creative writing Technical writing Translation

(Table from Kässi & Lehtonvirta, 2018)

It is also important to differentiate between different types of gig workers. According to Wood et al. (2019), we can divide the possibilities of gig work markets into regional and foreign. In short, for various types of jobs a different skill set is required: “examples of platform work in the local gig economy are transport and food delivery, while remote gig work consists of the non-proximate provision of a wide variety of digital labor, ranging from data entry to software programming.” Valas & Schor (2020) provide a taxonomy of types of employment within the gig economy based on the works of other authors as Frenken & Schor (2017), Irani (2015), Kenney & Zysman (2019), Kuhn & Maleki (2017) and Vallas (2019):

1. The first type is the so-called “creative class”, designers and architects behind platforms themselves, these people build infrastructure of the platforms and are responsible for the platform’s functionality



2. The second type are the professionals that may have the same skillset as the initial developers, but they are mostly contributing to carry out the functionality of the platform, but are not tied to any office or any address. Valas & Schor (2020) call them “cloud-based consultants”, they claim that to gain success they are supposed to exhibit a high level of skill in the particular field and gain reputation with a stable list of clientele.
3. The third type of gig work does not require special knowledge or expertise. Services, such as meal delivery, errands, care jobs, contract repairment, which are accessed through platforms and largely conducted offline. This sector has a fluctuating demand and a relatively high supply of keen workers. This structure allows the provider to have more options in terms of shift patterns and independence, which is a feature that the companies frequently promote.
4. The fourth type involves the so-called microtasking. Zulfiquar et al. (2022) define microtasking as “ the process which involves the shared effort of large number of remote-workers (generally known as crowd) who participate to solve the problem for clearly defined and self-dependent tasks, by reducing geographical participation expenses and crowd workers mobility, thus saving time and expenses.”  
In comparison to cloud-based experts and freelancers, these positions often involve minimal qualifications and knowledge. For instance, describing or categorizing the content of photographs, altering computer-generated text, and so forth.
5. The fifth type are social media influencers and their support mechanisms such as marketing agents, editors and moderators. Although it is not directly paid on a stable rate, creators are aiming to attract commercial deals (Instagram, Pinterest) or direct fan donations (Twitch). It is outlined by Valas & Schor (2020) that they are mainly talking about the “aspirational laborers who pursue creative activities that hold the promise of social and economic capital” (the term was coined by Duffy, 2016) that can describe not only bloggers, but also the branding of to-be influencers that have gained popularity through another exposure (Phillipov, 2022).

With all that in mind, it is evident that the digital economy is vast and a diverse phenomenon within which there are many conceptual subgroups with very subtle differences among themselves. The focus of my work is the gig economy, which is an example of a phenomenon within the digital economy that is often studied alongside other types described above. At this point, it is important to present the goals and research questions of this thesis in more detail.

## *Aims and questions*

I defined the goals of my work as:

1. Finding out all the problematic aspects scientists see nowadays in the gig economy by doing a narrative literature review of all occurring critiques of the gig economy. I want to find out the fears and risks which are commonly mentioned in the context of gig work, and the problems which are possibly less so. In other words, the aim is to generalize the main kinds of critiques from a series of articles on the topic of the gig economy.
2. Determination of the consistency of the definition itself among the sociological articles that use this term. It is important to understand whether currently the gig economy is defined with precise terminology, or rather that it is a more elusive term that can mean different things in different contexts. Therefore, it can turn out to be misleading, contrariwise to the perceived unity of this area of study.

To my knowledge, currently there are no narrative reviews of the literature studying gig economy. I believe that the narrative review is a necessity, because for the new and growing field such as gig economy studies, narrative review helps to systematize the existing research pool of the topic. It can find possible blind spots or problematic aspects, and put the topic into a new perspective, contributing to the cumulativeness of knowledge, connecting critical reviews of different fields of science. I will elaborate more on the narrative review method, its advantages and comparison to other review methods, followed up by my own research methods in the next section.

I will work mainly with international literature due to the fact that this issue is most studied by Western scientists and is of great social interest, especially in America, where the platforms which often dominate the global markets are born. Moreover, the current influence of this type of economic relations is obvious to its participants, regardless of the country of residence. The literature will be up-to-date, mainly because of the novelty of the phenomenon under study.

Thus, my research questions are:

- 1) What are the risks and problems of the gig economy?
- 2) What are possible advantages of the gig work?
- 3) What is the impact of the gig economy on other spheres of economy and on society at large?
- 4) How consistent is the definition of gig economy in the papers in the sample?
- 5) Which core (more commonly or universally outlined) and auxiliary (less commonly outlined or contradictory) features of gig economy can be distinguished?

## *Methodology*

### *Introduction*

The method I intend to use to fulfill my research goals is the narrative literature review. Firstly, it is important to define which role literature reviews play in the academic field. From a broader perspective a literature review is : “a type of research article published in a professional peer-reviewed journal. The purpose of a literature review is to objectively report the current knowledge on a topic and base this summary on previously published research“ (Green et al., 2006).

According to Baumeister and Leary (1997), several goals can be achieved by conducting a literature review. Overall, the main aim is to broaden and enhance a certain theory, in other words, provide new context and a wider scope for a pre-existing theory, which sometimes coincides with the second most popular approach- evaluation of theory by reviewing relevant sources and drawing conclusions about theoretical validity. Other outcomes of the literature reviews, according to the quoted authors, can be defined as estimating how common the topic is and to what extent the phenomenon is prevalent in the academic field, finding blind spots and weaknesses in existing theory or conducting a research from the changing historical and cultural perspective.

Literature reviews exist in different types that often differ in design, final assessments, fields of study, procedure and sources used. According to Ferrari (2015) the most popular and prevalent types of formal reviews in the academic field are systematic literature reviews and narrative literature reviews. I will take a liberty to outline differences between them to distinguish more essential features for the methodology of this work.

## *Systematic reviews : definition and characteristics*

Systematic review is a quantitative approach for weighing and comparing the findings of several research on the same issue in order to find commonalities, conflicts, or correlations that occur in the event of various studies within the same subject (Davis et al., 2014). In other words, the scope of a systematic review is broad, this approach requires sorting through enormous amounts of academic papers in order to combine disintegrated knowledge of the phenomenon across all possible publications, languages, schools, methods and approaches (Green et al., 2006). To conduct a systematic review correctly, it is essential to start with a “a complete, unbiased collection of all the original studies of acceptable quality, that examine the same therapeutic question” (Davies & Crombie, 2009). Systematic reviews have a rigid research design that requires a step-by-step description. TIn other words: “The initial stages of systematic reviews may be an iterative process of definition, clarification, and refinement” (Tranfield et al., 2003). First it starts with an in-depth review of the existing knowledge pool to evaluate whether a systematic review on the concerning topic is even needed, and to outline possible hypotheses for SR. Then, according to Ferrari (2015) and Pae (2015), systematic reviews always require a rigid formulation of the research questions, leaning on the extensive scientific base (or lack thereof) at its core. It is essential to also correctly specify the pool of articles - “A detailed search of the literature based upon a focused question or purpose is the hallmark of a systematic review” (Green et al, 2006).

### *Selection process*

In order to give more context to the selection process of systematic reviews, it is necessary to present the Cochrane Collaboration and its significance for medical systematic reviews. Cochrane is a non-profit organization, a member of the UK National Council for Voluntary Organizations and an international community of researchers, medical professionals, scholars and clinicians united under one goal (The Cochrane Collaboration, n.d). “The main aim of the Cochrane Collaboration is to help healthcare providers, policy makers, patients, their advocates and carers make well-informed decisions about human healthcare” (Cipriani et al, 2011).

If the publication was assessed by the Cochrane Review Group, it signifies its outstanding quality. “One of the main characteristics that make Cochrane reviews internationally recognized as the highest standard in evidence-based healthcare is that they follow a common

and specific methodology to limit bias and random error” (Cipriani et al, 2011). It is worth mentioning CC is famous for creating a Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Thomas, 2022). The handbook is considered to be a gold standard and detailed instruction on how to conduct a systematic review. Cochrane Library is also the biggest database of systematic reviews, controlled trials and clinical answers (i.e legible narrowed accounts from the Cochrane Review) in the medical field. The Cochrane library operates strictly with academic works that underwent a so-called Cochrane review.

### *Limitations*

Systematic reviews are limited by the final sample and the overall scope. Most SRs due to the number of included publications are conducted in a collective manner, or at least in co-authorship. Hence, the research, screening, sampling, cross-examination, peer-reviewing process takes time, so it is inevitable that by the moment a systematic review is finally published, the scientific field has already progressed further in its research base . In other words, SRs do not present the newest information possible, it is always delayed at least by a year and limited by the knowledge available at that year. This lowers the reporting clarity for the target audience (ie scholars, practitioners or academics) and may confuse a possible occasional reader : “As with other publications, the reporting quality of systematic reviews varies, limiting readers’ ability to assess the strengths and weaknesses of those reviews” (Gopalakrishnan & Ganeshkumar, 2013).

### *Research guidelines*

Research mechanisms of SRs are protocol based, so special guidelines are needed. This requires following the steps that are intrinsic and exclusive to the systematic review. These steps can be retrieved from the so-called statements or guidelines provided and devised by various scientific collectives, such as QUOROM and PRISMA. All of them are beneficial both to the authors of systematic reviews to fulfill the checklist requirements for the study to increase transparency, credibility and to assess biases within the publication. From the standpoint of the journal editors, methodologists and colleagues it is highly important to define “how to carry out, critically appraise, and apply meta-analyses in practice” (Moher et al, 1999).

**QUOROM** (Quality Of Reporting Of Meta-analyses) Statement " (Moher & Page, 2017). Initially, according to Moher and the collective, QUOROM has been created in response to the growing number of published systematic reviews in order to ensure their transparency and professional appraisal. It also includes a flow chart that explains the procedures that must be followed in order for articles to be excluded from the review. The motivation for presenting this chart is to enhance the clarity of the researcher's judgments about which studies to include or exclude, which might lead to inconsistencies in the general evaluation of effect (see Appendix 1).

However, in 2005 a scientific committee (29 participants) was held in Dublin, Ireland to revise the QUOROM. A 3-day meeting ended with the creation of **PRISMA** (Preferred Reporting Items for Systematic reviews and Meta-Analyses). A new name would avoid the word 'quality' and recognize "Systematic review" as a separate concept. Before that though SRs and meta-analyses have been examined as connected concepts that are inseparable when conducting research. However, a slight difference between them exists and is very important for the development of PRISMA. "Whereas systematic review identifies key scientific contributions to a field or question, meta-analysis offers a statistical procedure for synthesizing findings in order to obtain overall reliability unavailable from any single study alone" (Tranfield et al, 2003).

In essence, PRISMA examines different conceptual and empirical developments in SR as a method, as well as to assist in the resolution of several flaws discovered during an audit of SRs (Moher et al. 2006). Since publishing of the statement in 2009, PRISMA protocol has gained a notoriety within the medical scientific community, where systematic reviews are more prevalent (Moher & Page, 2017; Snyder, 2019). According to Moher and Page (2017), over the course from 2009 to 2017 PRISMA has been enriched by 8 extensions that are aimed to provide guidelines for different parts and aspects of systematic reviews with 8 more to be soon registered (see Appendix 2 and 3).

### *Public appeal*

According to Ferrari (2015), SRs are less comprehensive for a layman, they are intended for mostly professional use, often presented in sophisticated format. Also, SRs are rigid and closed for future development. It cannot be changed or revised with the introduction of new

articles without conducting the whole aforementioned process again. This means that the finished SRs are not changeable for several years and can be only a reference in the light of new information.

Conclusions of SRs are drawn solely on the data retrieved from the sample. It requires a double data-checking before making inference from the review. “Due to the expected human error and bias, we recommend a data checking step, in which every included article is compared with its counterpart in an extraction sheet by evidence photos, to detect mistakes in data” (Tawfik et al, 2019).

### *Advantages and disadvantages*

To sum up, the advantages of the systematic reviews are connected to the rigorosity and transparency of its process. Following a variety of aforementioned protocols, working with defined notions, concepts and hypotheses, piloting and revisioning by phases, assessing bias- all contribute to the highest reliability, transparency of the research and validity of outcomes. Additionally, a strong systematic review is constantly under the double-checking process, on the stages of development by the co-authors, peer-reviewed before the publication and reviewed again under alternative guidelines before registering into research networks and databases, such as the Cochrane Collaboration. Green et al. (2006) point out that : “each paper is reviewed in a systematic and consistent manner, usually by several independent reviewers, and usually rated using a scoring system by the authors.”

However, there are some challenges and disadvantages when conducting a systematic review. Firstly, it is the formidable task of creating an extensive and comprehensive sample. In order to do so, it is necessary to have access to multiple databases that provide open access publications to choose from, which are not often free or require some institution access. According to Mallett et al., (2012) it is essential to carry out the initial search not only on institutional websites, but also in other outlets that are not peer-reviewed. This helps to enrich the sample, however, undermines the credibility if the source material lacks scientific assessment. Secondly, systematic reviews are time-consuming and most often require a collective of authors due to many factors such as elimination of duplicates after the initial search, cross examination of publications to match the exclusion criterias, extensive screening or assessing the scope of the disagreement among the scholars. Thirdly, because of

the size of the literature pool and possible deviations both from the hypothesis and amongst the selected articles , it is quite hard to draw univocal conclusions : “The range and inconsistency of methodological approaches adopted make it difficult to draw meaningful conclusions” (Mallett et al, 2012).

Taking into account all these disadvantages and challenges, I conclude that conducting a systematic review is outside of my skill set and is not quite suitable for the aims of this work.

### *Narrative review : definition and characteristics*

“ NRs [narrative reviews] are aimed at identifying and summarizing what has been previously published, avoiding duplicates, and seeking new study areas not yet addressed” (Ferrari 2015). This definition may seem to be similar to SRs, but in fact narrative reviews differ on many levels. The narrative review follows the progression of a scientific concept, a field of research or a practical notion (issues which require a broader scope), the narrative core of which may be overlooked in the stringent requirements of systematic review.

Synthesis of past work, summary, detection of gaps or shortcomings, and gaining new ideas through uncovering previously undiscovered and implicit links, forming new creative ideas are all hallmarks of narrative review (Chaney, 2021).

To start with, according to Pae (2015) narrative reviews present a broader overview of the topic and are not strictly required to formulate research questions solely on the scientific basis. In other words, the main restriction on the first stage of conducting a narrative review is to find a suitable topic that has been vastly studied and overall makes the review of existing material logical and needed. “Fruitful topics include those with an abundance of conflicting information, divergent views, and/or lack of consensus” (Chaney, 2021).

The scope of the narrative review is narrower compared to the systematic review mostly due to the fact that their goals, applications and purposes differ so that a smaller sample is rather an advantage, especially for conducting this research by myself.

The smaller scope is not only useful in the scientific articles, but also in less formal papers as NR’s [narrative reviews] are often presented as editorials, commentary and overview articles each with their specific traits.

According to Green et al (2006), editorials are characterized by being short, narrowly focused and based upon a sample of a few articles, they tend to give the reader a layman's



understanding of the topic without the in-depth analysis. Commentary is also more one-sided and opinion-based, which sometimes can lead to biases and invoke a more scientific interpretation of the topic. Narrative overview on the other hand is more ample and comprehensive, the sample is often bigger than in the aforementioned types, the scope of the work itself is broader in order to provide the reader a more balanced view of the topic.

### ***Selection process***

The selection process of the sample examined by the NR is subjective mainly because it is primarily based on the filtering criterias that are also defined by the author of the NR and even can be omitted from the discussion - “In contrast, there are no such guidelines [such as PRISMA] for narrative Review Articles and searching process/results usually are not disclosed” (Chaney, 2021). However, it is beneficial to provide more context such as criterias, research design and study restriction for the research because this contributes to the overall credibility and to the validity of author’s illations (Gasparyan et al, 2011).

Additionally, it is important to create a comprehensive sample corresponding with all subjectively chosen criterias in order to attain transparency and consistency within all articles to present an overview after careful multi stage filtering process (Green et al, 2006).

### ***Limitations***

Narrative reviews are limited by an adequate amount of papers to analyze within the capacity of the author (who is usually conducting a review alone or maximum in pairs) and time constraints that authors of most journal editorials are the most familiar with. Also, NRs are limited by the scope of the review itself, expertise of the author and possible selection bias, where included studies are not representative of the evidence base.

Authors such as Baumeister & Leary (1997), Ferrari (2015), Green et al (2006), Chaney (2021) claim that NRs are more prone to biases for various reasons. For instance, reviewers can be feeling pressured by their audience or the editors to present NR in a certain way that can lead to swift unsupported conclusions. Or simply making a mistake outlining the sample without the proper introduction and defining key aspects of the papers included in the NR can be perceived as demagoguery and as an attempt to theorize ex post facto. Additionally, Green et al (2006) points out that the general subjectivity in the selection of the papers, interpretation latitude and “openness” of the sample can create bias. This occurs more often

with NRs due to the fact that compared to SRs, their guidelines are less rigid and this method as a whole presents more leeway for the authors, which leads to the higher possibility of biases and lower degree of reliability. Sometimes, the reason behind biases and prejudices are simple human error, lack of experience and possible generalized conclusions. “Additionally, the author(s) may only select literature that supports their preexisting opinions, lending undue credence to a preferred hypothesis” (Chaney, 2021) However, Green et al (2006) argues that if the author carefully conducts, double checks and provides substantial reasons for chosen filters- NRs can be successful and relatively reliable.

### *Research guidelines*

Research mechanisms in the narrative reviews are not protocol-based and do not require strict guidelines on the contrast with the systematic review. However, some standards of measuring the comparative quality of the NRs exist, thus benefiting not only the reader or the scientific board but also helping the author to construct the outline of the narrative review. For example, the so-called SANRA score (see Baethge et al., 2019 for further information on SANRA score).

According to Ferrari (2015) the main way to structure the narrative review is called IMRAD (Introduction, Methods, Results, Analysis, Discussion), which is the structure I intend to follow in this work. Sollaci & Pereira (2004) argues that the IMRAD structure has been dominating the field of literature analyses for an extensive amount of time. Namely, “From 1950 to 1960, the IMRAD structure was partially adopted, and, after 1965, it began to predominate, attaining absolute leadership in the 1980s.” The authors attribute this popularity, which continued in the 21 century, to the influence by other fields of study, scientific conferences that defined IMRAD as a standart, increase in the literature pool across the disciplines and the fact that the structure imitates natural patterns of human reading. It is broken down in such a manner that helps the reader to scan through individual paragraphs in search of concrete information that would be hard to obtain if the structure was linear as in literary text.

The structure of IMRAD (see Appendix 4) is clearly defined and useful as a step-by-step plan to follow when composing a literature review. The objective of the introduction is to establish the context, describe the current state of the field of study or the topic in question, identify the issue and main research questions, justify the rationale behind the conducting a study, and set

the tone for the rest of the paper. The methodology section explains how and why the scope of study was defined, how the sample was chosen, how method was applied, which tools or software was used at this stage, as well as why the methodology was done that way. The conclusions are presented in the results section, which includes tables, instructive graphics, and statistical analysis. Lastly, in the discussion part, the report is reviewed with interpretations and remarks on the relevance of the findings, what conclusions can be derived from the selected sample, as well as conclusions from other studies that are aligned to the research goals or previously defined premise (Ribeiro et al., 2018).

### *Public appeal*

Ferrari (2015) argues that NRs are more open for additions and development by other scholars and experts, after all, NRs are used in classrooms, journals, conferences due to the readable format provided by the narrative review method, it is overall sufficiently legible and comprehensive to different audiences of people.

### *Advantages and disadvantages*

Personally, I see the narrative review method as more beneficial and suitable for this work for a variety of reasons. First, it is important to consider the possible scope I am able to provide. As I have mentioned before, systematic reviews are most often done by the collectives of scholars or at least a co-author whereas narrative reviews are done frequently by a single author, possibly and maximally with the consultation of experts in the research field. Since this work is a Bachelor thesis, I as the sole author do not have a capacity or experience to conduct a systematic review, rather I feel I am capable of defining a comparatively smaller, but a more diverse sample.

Secondly, the narrative review method provides more opportunities and freedom to subjectively define criterias of selection and hence to control the sample manually, reading through the publications myself and defining their suitability on the basis of filters I have chosen to fulfill my goals for this work.

Thirdly, the narrative review, from my perspective, is the most comprehensive way to fill in the blind spot in the field of the gig economy that I have defined previously. Namely, the fact

that to my knowledge the taxonomy of problematic aspects of the gig economy as a sphere is absent so far. Another advantage of the narrative review method is the readable format and comprehensive style of text that will ensure the accessibility of the text to the broader public. Thus, the narrative review is a more appropriate method to present an overview of the chosen topic, with more leeway of personal insight, and more opportunity for interpretation, in contrast to the systematic review. Also, the narrative review is expandable, so following the existing trend for growth of the popularity of the gig economy as a topic, I am inclined to believe that my overview can be expanded and continued in future with new discoveries under the same requirements, answering my research question retrospectively (Ferrari, 2015).

Among the disadvantages are more often defined selection bias and lack of transparency (Pae, 2015; Ferrari, 2015). Although it is true that the narrative reviews are more prone to bias due to its subjective nature and for the reasons discussed in Limitations, it is possible to address this problem. In Methods of research section I design a search and filtering strategy and cross examine publications according to multiple criterias in order to ensure the exclusion under several valid attributes and minimize feasible bias, however not entirely eliminating the possibility of it.

Lack of transparency is a consequence of the relative freedom of the narrative review method where it is not strictly required to divulge the procedure of the review step-by-step (Ferrari, 2015; Chaney, 2021). To resolve this issue, it is important for me to be explicit and straightforward with my approach. Although my method of research is narrative review and criteria are defined and created by me, and not by strict SR's guidelines, I will still try to be as objective and as close to SRs as possible, by making my procedure of selection strict and transparent. I ensure that in case of reassessment of chosen criteria, (roughly) the same sample of gig economy papers should be reached. By doing this, I reduce the reliability problem of NRs to the least possible extent. This review thus aims to achieve a balance of being methodically transparent to produce reliable and comprehensive findings, while keeping the sample of reviewed papers manageable for the sole author.

## *Methods of research*

Green et al. (2006) argue that : “The first step in writing a narrative overview is to perform a preliminary search of the literature. In this endeavor, the author should search the literature to see what other work in the area of interest has already been published”.

For this task, it is vital to assess the possible fields and means of search. Thereby, I decided to compare different scientific databases to determine the most suitable for my research.

### Google scholar

Google scholar was originally developed by Google Inc. as a search engine, rather than a database or repository, that enables free access to the information to anyone, and is open to advanced search possibilities - keywords, URS, search operators. Since it supposedly includes all papers that have surfaced from a simple electronic search, there is no publication list accessible for Google Scholar. Its goal, like any search engine, is to attract the largest possible public. It has two search options: a rapid search and an extensive search. The outputs of an advanced search can be narrowed down by titles, authors, publisher, publication date, and topic categories (Malietzis et al., 2008).

Although Google Scholar is a good starting point for initiating the research, or looking for additional information, it has some disadvantages compared to the other databases. Firstly, it does not provide all full-text open source articles, the search results mix open publications with mere abstracts. Secondly, It has “no federated search engines, and expect the patrons to repeat their searches by hopping from one publisher’s archive to the other, finding the query form and resubmitting the same query” (Jasco, 2005). It provides only time and date filters, shows only patents and citations, allows to arrange by relevance or date. This creates a monotonous search routine, where it is easy to overlook publications.

Thirdly, the filters provided by Google Scholar are very limited, and are not capable of effective narrowing of the pool of literature for an extensive in-depth search. Jasco (2005) even argues that: “the stunning gaps give a false impression of the scholarly coverage of topics and lead to the omission of highly relevant articles by those who need more than just a few pertinent research documents.”

### Web of science

Web of science was developed by a private company Thompson Scientific as a database and a repository of scientific publications. Unlike Google Scholar, it requires an access fee. Charles

University provides a student access, however, the usage of such credentials still sometimes limits the accessibility.

Web of Science has “a quick search (by entering a topic), an advanced search, a general search, and a cited reference search” (Malietzis et al, 2008). Help is offered by an advanced list of search operators, filtering through year, institution, title, affiliations, autor. It is also important to note that it has the longest time period covered in the database among the three chosen engines. It is entirely possible to find publications from 1900 in the Web of science (Tabacaru, 2019).

Both Wagner (2015) and Tabacaru (2019) define one of the disadvantages of Web of Science as the absence of “controlled vocabulary”. This leads to minimizing of additional keywords attributed to the publication, which makes the filtering process difficult and the initial search outcomes poorer. Another drawback outlined by the authors is “inferior visualization of journal metrics and results set bibliometric data” which again complicates the process of selection for the narrative review. The most serious obstacle of the Web of Science for the purposes of my work is that “Web of Science does not provide any data regarding open access articles that it includes (if any)” (Malietzis et al, 2008). It is very difficult to manually sort through all the articles after the initial search in order to obtain open access articles, that also satisfy other filtering criteria.

### Scopus

“The Scopus database was developed by Elsevier, combining the characteristics of both PubMed and Web of Science. These combined characteristics allow for enhanced utility, both for medical literature research and academic needs (citation analysis)” (Malietzis et al, 2008). Scopus also requires an access fee or an institutional account. However, compared to the Web of Science, the Scopus subscription is significantly cheaper as of 2019 (over \$212,000 for WOS and around \$140,000 for Scopus) (Tabacaru, 2019).

Advanced filtering system that includes a rapid search option, a basic search option, author search option, an advanced search option, and a reference search option. The outcomes for the keywords specified in the basic search can be reduced by date of publication, subject area and publication type. Additional search is available by DOI, ISSN, CODEN, organization, even the city of organization and even chemical element numbers. The advanced search includes the basic search with no restrictions and the author search (where it is limited only to

author's name), plus it allows for more operators and symbols. The source search is limited to choosing a topic area and a source type (Malietzis et al., 2008).

In fact, according to the report conducted in 2019 by Tabacaru, Scopus provides the most open access publications, however, within the database exist some limitations:

- ★ Scopus Gold is an article “Published version with Creative Commons license, available on publisher platform. Documents are in journals which only publish open access”.
- ★ Scopus Hybrid Gold is an article “Published version with Creative Commons license, available on publisher platform. Documents are in journals which provide authors the choice of publishing open access”
- ★ Scopus Bronze is an article “Published version of record or manuscript accepted for publication, for which the publisher has chosen to provide temporary or permanent free access.” Often the bronze status is given due to the different license or lack thereof
- ★ Scopus Green is an article “Published version or manuscript accepted for publication, available at repository.” However, most of the green publications in their “mother” repository require fee or organization access, which I do not obtain (Scopus blog).

Although it is true that Scopus has some disadvantages, I still feel it is the most suitable database for conducting the research for defining my sample. Wagner (2015) and Tabacaru (2019) argue that the clustering by the author and institution is rather flawed, however, I have not chosen either as my inclusion/exclusion criteria because both of them are irrelevant for selecting a sample for the narrative review, so it was not the problem I had to tackle.

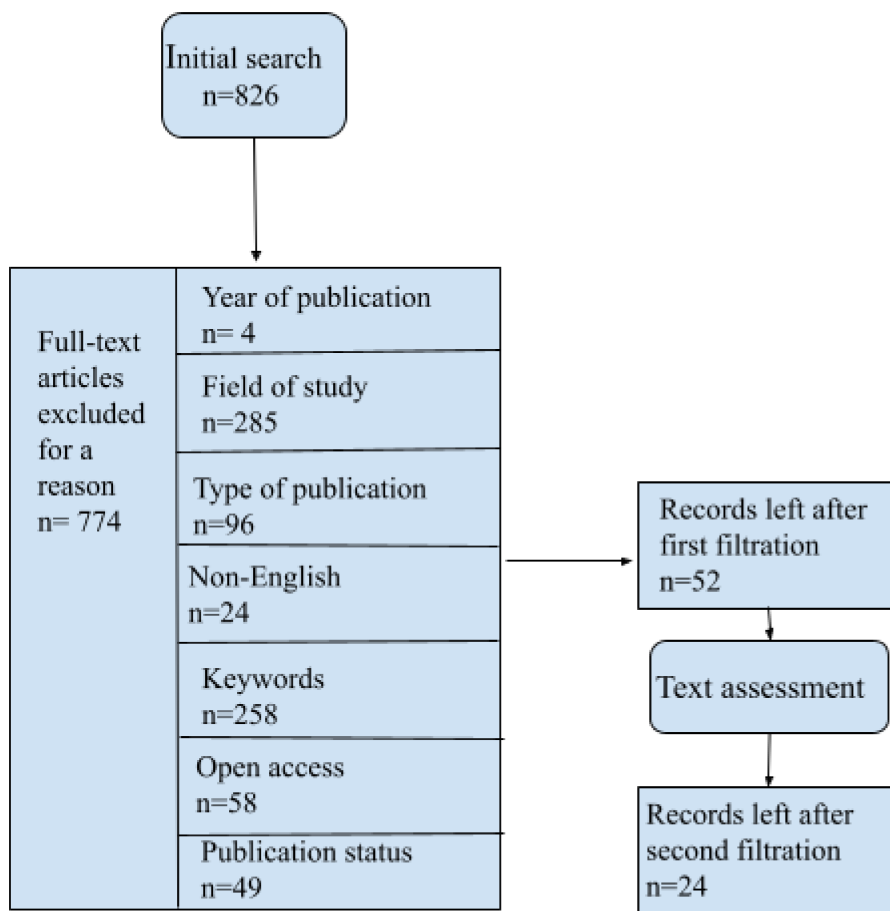
On the other hand, Scopus has a lot of advantages compared to the other databases mentioned above. To start with, Scopus has provided a variety of automated filtering criterias that allowed me to do the first stage of filtering. I was presented with the wide listing that I was able to analyze and pick the most suitable filters. The interface of the site is very user-friendly and it is quite easy to conduct even an advanced search with multiple exclusion criterias and search operators. Also, Scopus has a broader international coverage that gave me an opportunity to examine country-wide case studies or just works dedicated to looking at the subject of the gig economy through unique cultural, economical or legal lense.

Moreover, Scopus has provided the most diverse and extensive listing of keywords compared to Google Scholar and Web of Science. Both keyword search and elimination helped me to

carefully look through the publications in order to cross-check for bias and to filter through the most publications before the in-depth reading stage. Another great feature of Scopus is the possibility to see related, cited or mentioned articles that are not indexed in Scopus, however, retrieved from the reference lists that are also downloaded to Scopus. This gave me the opportunity to find more sources and to take into consideration the context in which the article is placed.

## *Filtration 1*

### Sampling process



The initial search contained keywords “gig” and “economy” and brought back 826 results. First, I screened the pool of articles.

Naturally, I had to narrow down the amount of publications to create a consistent sample.

### *Criterion 1.*

Then I have decided to exclude publications on the basis of the year.

I planned to focus mostly on the publications that were

up-to-date by the start of this work, meaning the period from 2016 to 2022. This meant excluding articles before 2016 on the grounds that according to Google Books Ngram Viewer (see Appendix 5) the term “gig economy” has shown a rapid growth of interest from 2016. Since then, the term is still swiftly trending up to 2019, which is the latest accessible year in Google Ngram due to the latest update on the English corpus. However, the claim that the gig economy faced a stable increase in interest can be supported by judging from the highest



number of publications all across the chosen period in Scopus. Starting from 2016 with the number of 12 publications, 2017-52, 2018-86, 2019-175, 2020-188, 2021-250, finishing with the 63 publications of 2022 so far.

Also, I have particularly focused on including publications from 2022. Of course, I would like to broaden my scope to the maximum and present more actual and fresh information, but the year 2022 has not finished yet. Some of the publications of this period are in closed access repositories, some are still in the “ready for publication” stage. So, the majority of the recent publications from 2022 were excluded through other criteria regardless of the date of publication.

### *Criterion 2.*

Then, I decided to exclude fields of study that are not suitable for creating my sample. I had a choice between different fields of study that were automatically sorted and provided by Scopus. One of the goals of my work is to present all risks, problems and “blind spots” in the subject of the gig economy. In order to do that it is necessary to focus on the articles from particular fields of study that are devoted to the social sciences and are at least of humanities nature. Hence, I have clustered and excluded the STEM related fields. In particular, a cluster of Science included Medicine, Environmental studies, Nursing, Agricultural and Biological Sciences, Biochemistry, Genetics and Molecular Biology. These articles were devoted to the gig economy workers in said fields, its future and perspectives and possible implementation of gig economy (mainly in the medical field), however, the focus of these publications was rather on the clinical aspects and tackled the phenomena of the gig economy from a different angle. Technology cluster included Computer sciences and Computer Technologies, which were focused on the technical application of the gig economy via platforms, mainly focusing on the development and programming aspect of the platforms. Engineering cluster tackled Physics and Astronomy, Energy, Earths and Planetary studies. These papers were more focused on the notion of freelancing in engineering, which though connected to the gig economy does not equate to the synonym of it. Mathematics cluster was for example focused mainly on the concepts of planning, logistics, blockchain and outsourcing within the gig economy. These publications rather presented a mathematical model of optimization of the gig work or the platforms themselves.

### *Criterion 3.*

Then I have excluded articles based upon a type of publication. Provided by Scopus, there were several types of publications available for filtering. I excluded: Short survey (1), Erratum (1), Letter (1), Conference paper (9) and Notes (21), Editorial (5) on the grounds that upon a further inspection I came to the conclusion that most of aforementioned publications were not entirely devoted to the topic of the gig economy, some mentioned the term briefly, some were a mere addition or rather a commentary to a already existing study or to the the general scientific discussion on the conference. Another strong argument against including these articles in my study is that the majority of them are not peer-reviewed. The additional type of publication that I have excluded were Books (18) and Book Chapters (40). Based on their length, it was decided that along with articles and reviews I do not have a capacity to read through these publications as well. Plus, some books did not directly tackle the issue of the gig economy and would have been filtered regardless during the second filtration.

### *Criterion 4.*

Non-English publications consisted of Spanish (10) ,Italian (7), German (2), Russian (2), Chinese (1), Dutch (1), French (1), Portuguese (1).

### *Criterion 5.*

To sort out irrelevant to the topic articles, I have decided to look through the keyword filter and to exclude literature from the sample that is more relevant to the topic, but is not directly focused on the issue of the gig economy. Again, Scopus has provided 169 categories of keywords connected to the gig economy. However, not all of the categories were relevant to the topic per se. I have decided to follow the same approach as in Criterion 2, to create clusters of keywords suitable for my sample and eliminate publications of peripheral interest. The first cluster consisted of keywords and collocations with the word Gig ( for example Gig economy, gig work, gig employment) yielding 208 publications. Another cluster consisted of the words Platform, Economy and Digital (for instance sharing economy, platform economy, freelance, platform work, digital work, platform capitalism, digital economy, collaborative economy, economic condition, economic system). Other cluster was connected to Employment and work-related keywords ( such as platform labor, labor law, working

conditions, self-employment, worker classification, labor relations). Another cluster was connected to social problems in order to consider as many topics that might yield interesting results of the gig economy's affect on other spheres of life (discrimination, workplace control, race, sex work, social security). All other categories of keywords have been screened manually and eliminated due to the publications having a relative connection to the topic of the gig economy.

### *Criterion 6.*

It is intrinsic to my work to operate with open source articles as it's crucial to have unlimited access to the full document in order to conduct a selection algorithm and a proper narrative review. According to Scopus so-called open source publication hierarchy, I have decided to start with double checking the Hybrid Gold articles as it is characteristic for publisher platforms to create an environment where authors should be able to choose whether or not to publish their work in an open access format. I have manually checked HG labeled articles to ensure they provide free access, all of the sampled articles did.

Then I focused primarily on the Bronze and Green publication. Bronze papers by design allow their author to publish both in open access and in limited one. Unfortunately, Scopus does not provide a way to identify that without sorting through the publication by yourself. After manually sifting through the manuscripts, I have retrieved that out of initial 72 publications, after filtering through Criteria 1-5, there were only 24 publications left. After that I have routinely double checked the accessibility with the result of exclusion of 17 manuscripts, leaving only 7 for further examination.

Another interesting type are Green publications that are currently on the stage of publishing and are available in various repositories. Again, it is impossible to discover that without filtering them manually as Scopus does not provide any indicators. After filtering, I have concluded that out of 182 initial Green publications, 42 have been excluded through the previous filters. After a second inspection, 12 denied access due to the different repositories that I do not have access to, leaving 30 for further sampling.

It is important to note the difference between the number of documents per Open Access filter and the total count of the document results. At first, it was confusing, however, the rationale behind this is provided by Scopus Blog, which is a page dedicated to help users navigate the database and read various manuals and FAQs. According to Scopus Blog, these

duplicates are showing because : “an Open Access document in Scopus can be tagged with more than one OA status as one article can be available in different OA version (e.g. “Gold and Green”) .” In other words, users will see a count for Gold and Green for the same document. However, duplicate counting does not feature Gold, Hybrid-Gold and Bronze categories. After cross-checking Gold and Green publications lists, I have retrieved 29 duplicates and excluded them.

### *Criterion 7*

I have also excluded some publications based on the so-called publishing stage. Manuscripts that are available for publication or preprints are not suitable for my sample.

Available for publication status means that manuscripts are still in the process of being peer-reviewed and might be altered.

According to Springer, a preprint is a copy of something that will be issued in print that is distributed before it is publicly released. The final release may deviate from the preprint.

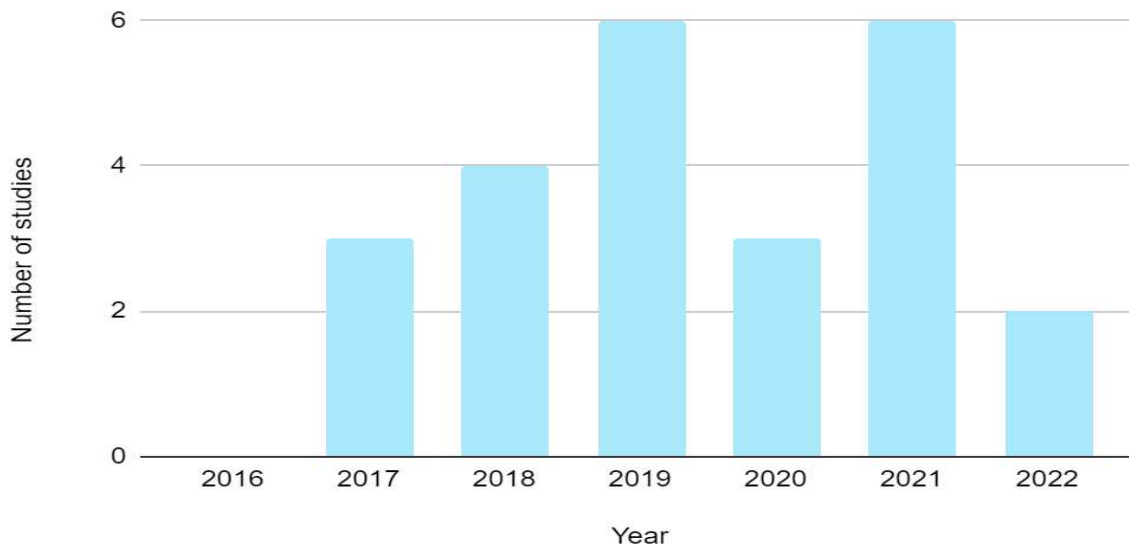
The presence of a preprint does not always imply that the work has been accepted for publication. It simply signifies that the authors plan to submit it in a more official format (journal, book, etc.), however the distribution may occur through other channels first, for example by circulation in repositories.

### *Filtration 2*

Being left with 52 publications I have continued the filtering process by reading the publications and excluding ones that did not tackle the issue of the gig economy from the angle that I have defined as a goal of my research. Namely, I am interested in creating a taxonomy of criticism and possible outcomes of the gig economy in different spheres of life mainly because the gig economy is a phenomena that has influenced many various avenues as the platform nowadays exists almost for everything. I focused on the articles that shed a light on the problems that gig workers faced and the influences created by the gig economy as a whole.

To begin with, I have proof-read the titles, abstracts and keywords to ensure that there were no publications that have slipped through the filters that do not pose a particular interest for me.

## Findings

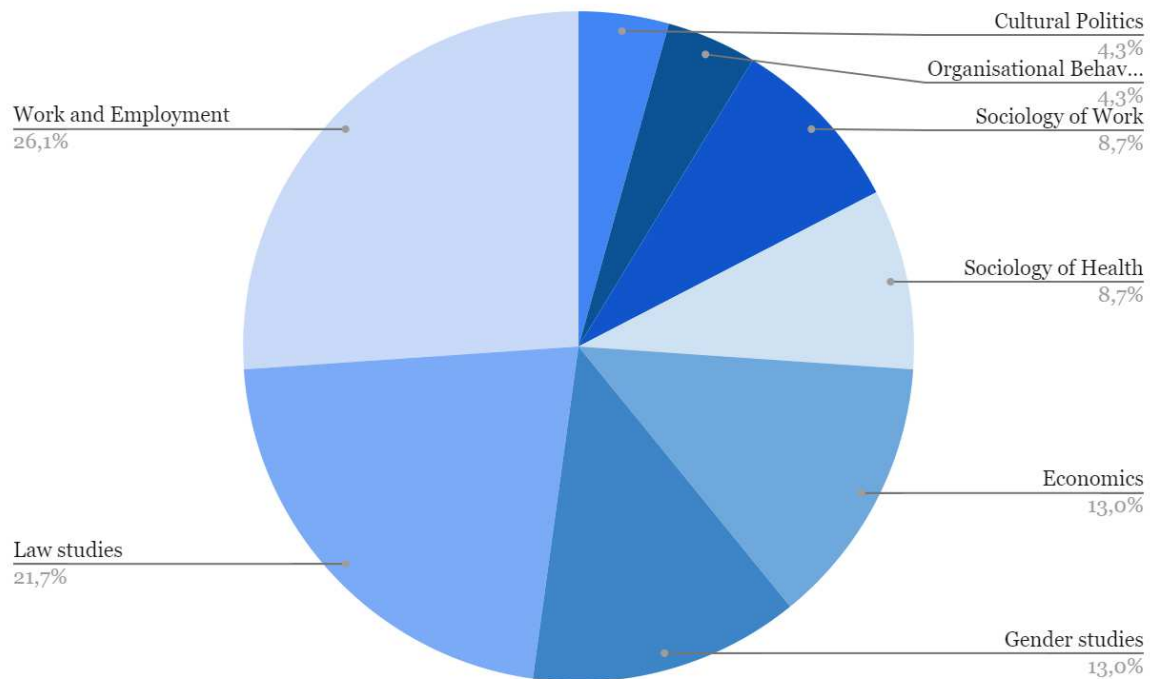


**Figure 1.** Number of publications per year

Overall the final sample consisted of 24 publications (see Supplements, Table 1). The publication years ranged from 2017 to 2022. Initially, the range was defined from 2016 to 2022 due to the rapid growth of interest regarding the gig economy from 2016. However, during both filtration processes all the articles (12) from 2016 were excluded from the sample based on the criteria 1-7. As it is evident from the figure 1, the most publications were from 2019 and 2021, peaking at 6 publications per year. Out of all the studies, only two did not specifically mention gig economy in their titles, however, contextually being devoted to the research on the gig economy.

A wide variety of publications were devoted to different fields of study. Judging from the figure 2, it is evident that the biggest number of studies (6) were dedicated to the research field of Work and Employment, in particular working conditions and expectations, scheduling and employer-employee relationships. Next biggest cluster were Law studies (5) that covered legal protection of gig workers and current state of legal base for gig work. Equally distributed were Economics (3) and Gender studies (3). First tackled the overall influence of the gig economy on the economy as a whole and possible contributors, such as COVID-19 pandemic. Second shed a light on the gender inequalities and discriminations among the gig workers. Sociology of health (2) dealt with mental health problems caused by the gig work,

Sociology of Work (2) focused on the social protection, risks and policing of the gig economy. Last were Cultural politics (1) and Organizational Behavior (1).



**Figure 2.** Number of publications per Field of study

Most studies used a Theoretical study (9) method, meaning they did not conduct any original research or calculations, only presenting an overview of the issue and pointed out trends, engaging in theoretical discussion based on multiple researches. In the sample also were Surveys (6), Comparative case study (1) focusing on the examining the issue on the narrow example, Qualitative researches (2), one Template analysis, one Content analysis, one Literature review, one Computational analysis, one Quantitative research and one Semi-structured interview.

For analysis I intend to refer back to research questions of this work.

## *Analysis*

### *Risks and problems of Gig career*

#### *Pre-employment*

To start with, eleven publications (Ashford et al., 2018; Bieber & Moggia, 2021; Corbel et al., 2022; Giazitzoglu & McDonald, 2019; Glavin & Schieman, 2022; Lehdonvirta et al., 2017; Signes, 2017, Steward, 2017; Williams at al, 2021; Wood et al., 2019; Woodcock et al., 2021) addressed employment or *job uncertainty* as one of the main problems of the gig economy. Namely, because job insecurity is a structural outcome of gig employment. argue that the insecurity stems from the characteristics of the gig employment where all the responsibility of securing a position is placed onto the employee. The tedious process of sorting through the listings, fighting the competitors, proving qualifications for the job, answering multiple calls and emails often is more time consuming than carrying out the job itself (Corbel et al., 2022; Lehdonvirta, 2018; Snider, 2018)

Moreover, the uncertainty also comes from the task-oriented, on-demand, short-term character of employment where the potential workers are placed in the position where they don't know when the next opportunity opens. They are thus forced into the cycle of constantly looking for the next “gig” while executing the previous. (Giazitzoglu & McDonald, 2019; Moore, 2019, Wood at al, 2019, ). Additionally, the gig worker is forced to contemplate herself the residual risks of current local and global economic situation, taxation, penalties of the platform, unstable or seasonal demand and oversupply of workforce (Lehdonvirta et al., 2017; Moore, 2019; Snider, 2018; Steward & Stanford, 2017; Wood et al., 2019 ).

Three publications (Ashford et al., 2018; Corbel et al., 2022; Glavin & Schiemann, 2022) pointed out a trend of growing complexity of the required tasks and constraints with the stable low payment rate. Four articles (Lehdonvirta et al., 2017; Steward & Stanford, 2017; Webster & Zhang, 2020; Wood et al., 2019 ) mentioned the implied expectation of the employee to provide necessary tools for the work themselves. In some cases it meant providing their own car, having an elaborate home office or even semi-professional kitchen- all by the expenses of the gig worker, including maintenance, insurance, equipment

development. Moreover, most platforms do not provide any training for its future employees (Bieber & Moggia, 2021) and paradoxingly are sorted through only by a superficial scanning of the requirements and credentials provided by the potential worker (Williams et al., 2021).

According to Glavin et al., (2021) sometimes workers are unaware of the full extent of the proposed work (Uber's final destination point) and are forced to pick up jobs without the risk and profit assessing. This requires major time-management skills, overlooks personal issues and forces people to prioritize work over free time and family life. According to Woodcock et al (2021), it is prohibited by some platforms to work on multiple platforms, which only encourages the overworking of employees, as offerings on one platform are limited and the demand is outnumbered.

### *Gig employment*

The next problem is the *illusion of scheduling* outlined by eight publications (Barzilay, 2018; Bieber & Moggia, 2021; Churchill & Craig, 2019; Lehdonvirta et al., 2017; Lehdonvirta, 2018; Signes, 2017; Wood et al., 2019; Woodcock et al., 2021). On the one hand, the worker is free to create her own time schedule and kinds of jobs or projects she is willing to perform. On the other hand, the work-life balance is always hindered by night shifts and an extensive workload that is needed only to simply secure the next job. Moreover, authors (Glavin et al., 2021; Novitz, 2020; Signes, 2017) argue that platforms themselves encourage intense non-stop work by implementing rating systems and invisible hierarchies with the possibility of higher/lower pay or faster client-matching to create artificial competition and hence push workers to fill up their schedule.

Twelve publications (Barzilay, 2018; Churchill & Craig, 2019; Giazitzoglu & McDonald, 2019; Hjorth et al., 2019; Lehdonvirta et al., 2017; Lehdonvirta, 2018; Moore, 2019; Snider, 2018; Steward & Stanford, 2017; Webster & Zhang, 2020; Williams et al., 2021; Wood et al., 2019) name *self-exploitation* and *competition* as problematic factors. Especially with low-skilled jobs (taxi, delivery, errands) where the supply is high and the competition forces overworking, lowering price bids, and low trust in the community. Some authors even consider the practice of fragmentation and re-outsourcing (Lehdonvirta, 2018; Wood et al., 2019) of tasks among higher and lower-ranking employees in order to overcome competition and take up as many jobs as possible.



Twelve publications (Churchill & Craig, 2019; Giazitzoglu & McDonald, 2019; Glavin & Schieman, 2022; Glavin et al., 2021; Hjorth et al., 2019; Lehdonvirta et al., 2017; Lehdonvirta, 2018; Moore, 2019; Novitz, 2020; Signes, 2017; Wood et al., 2019; Woodcock et al., 2021) explicitly pointed out *control* of the platform as problematic. Some publications outlined soft options of control via algorithmic evaluation and rating systems that correlate with in-app reputation and possible income. Others mention forms of hard control, such as surveillance, progress check, requirement of full-time constant internet connection, deadlines and time frames, even automatic temporary bans and expulsion from the platform.

*Low pay* was characterized by thirteen publications (Barzilay, 2018; Bieber & Moggia, 2021; Churchill & Craig, 2019; Corbel et al., 2022; Giazitzoglu & McDonald, 2019; Glavin & Schieman, 2022; Hjorth et al., 2019; Lehdonvirta et al., 2017; O’Keeffe et al., 2020; Shade, 2019; Snider, 2018; Webster & Zhang, 2020; Woodcock et al., 2021). It is caused by various reasons, such as high rivalry, forced undermining on the end of the potential employee in order to gain some profit, low-skilled jobs, platforms’ termless commissions, bad reputation, no experience, few credentials, legal gaps, having to voice or influence over the direction of employer’s business.

### ***Legal framework of gig work***

First it is important to understand the logic behind any non-standard employment. According to Moore (2019) if we were to compare non-gig employment strictly from the “labor provider”, it is less risky and more profitable for the potential “labor supplier”. Securing the payment and sticking to the given schedule is not connected with any risks of possible business failure or crisis. However, it takes away the possibilities of swift personal growth, entrepreneurship and freedom. Whereas when a gig worker subjects him or herself into the open market of multiple platforms, has the means to promote oneself, be more flexible and considerate with the job. However, he or she is faced with the influences of external economic situation, risk, time consuming nature of securing the job and the unfortunate gray or “shadow” nature of the gig economy legal coverage.

The main issue underlined by five publications (Moore, 2019; Novitz, 2020; Signes, 2017; Snider, 2018; Steward & Stanford, 2017) is the *paradox of legal employment status* of the gig

worker. Namely, it is a common practice to register gig workers as self-employed. This should mean that the worker has the freedom to choose business, time, conditions, place and clients, is also required to keep records, provide budgeting plans and pay taxes. However, that is not the case with the platform gig work. The schedule consists of “gigs” that are available right away, conditions, rules or instructions are enforced by the platform and are undebatable in the contract. Clients of the gig worker are also random. For example, an Uber driver cannot accept or decline a passenger pre-ride (Glavin et al., 2021). The passenger may execute the right to finish the ride anticipatorily and to decline service, however, the driver is then faced with multiple consequences, such as lower rating or violation of conduct defined by the platform.

Eight publications (Giazitzoglu & McDonald, 2019; Corbel et al., 2022; Moore, 2019; Novitz, 2020; Steward & Stanford, 2017; Williams et al., 2021; Woodcock et al., 2021) outline the *lack of transparency* with the gig employment contract. Some describe them as unnecessary long and complicated with the lack of legal knowledge that the average person has, hence some gig workers find themselves in need of legal advice to carry out a seemingly simple job.

This forces many gig workers to sign these contracts without proper scrutiny and consent to the conditions that are referred to as “bogus self-employment” (Giazitzoglu & McDonald, 2019). Moreover, with labeling of the gig worker as self-employed, he or she becomes deprived of social security, disability coverage, health insurance, pension, benefits, accident insurance, property insurance, sick days and maternity leave (Moore, 2019; Novitz, 2020; Signes, 2017; Snider, 2018).

Four publications (Bieber & Moggia, 2021; Novitz, 2020; Steward & Stanford, 2017; Webster & Zhang, 2020) stated that the prevalent workforce of the gig economy locally consists of migrants due to weak integration, language barriers and limited access to the job market. Because of that, the issue of *cross-border jurisdiction* arises. In other words, the international and local laws interfere and cause problems for the workers depending on the geographical location, even with the remote work. For instance, what laws are applied if the court proceedings tackle producer/consumer relationships in two different countries or the conflict concerns the citizenship state laws of the migrant worker and the state where the gig was performed? Also, some jurisdictions cover the amount of minimum wage that can affect

possible price formation, they also tackle the problem of minimum and maximum work hours, which causes the absence of overtime pay, lastly, some jurisdictions are far more advanced and already solved the precedents of gig work, whereas in other places the issue of fragile legal standing of gig workers has not been studied and does not provide sufficient legal help.

Also, mentioned by two publications (Williams et al, 2021; Woodcock et al, 2021) is the *risk of criminality*. Firstly, because mainly platforms try to swiftly match the clients to the executor by superficial criteria of qualification, reputation, rating and price. Hence, no background checks are performed leaving possible co-workers of the customer with people with criminal records. Moreover, platforms do not take the responsibility to compensate for or to protect their employees against the danger of criminality like robbery, road accidents, or damage of tools and property.

### ***Beyond the employment***

Another problem is *payment rates*. The common practice in the gig economy is performance-based pay provided after finishing an individual task. Lehdonvirta (2018) that the distinctive characteristic of the gig economy is exactly “piece-rate” payment, which is different from the payment of freelancer, that is fixed and hourly. So, the amount of potential work and time of the gig worker is calculated in advance and approximately by the gig worker or suggested by the platform. Then, the supplier is subjected to ex ante payment, meaning that final sum can sometimes not be adequate to the actual effort and resources invested by the gig worker. This also aligned with no bonuses or employee incentives. Also, no intellectual or authorship rights or profit-sharing rights apply to the gig workers (Moore, 2019).

Several publications focused on the issue of the *absence of a community* of gig workers inside one platform or globally. This partially stems from the sense of untrust, competition and the nature of most gigs to be a one-man job. With few exceptions, such as Uber driver meetups (Woodcock et al, 2021) and community-based voluntary support services (Corbel et al, 2022), the fellowship and unity is missing. Seven (Hjorth et al, 2019; Lehdonvirta et al, 2017; Lehdonvirta, 2018; Novitz, 2020; Snider, 2018; Steward & Stanford, 2017; Woodcock et al, 2019) publications suggested the creation of unions as a way to enforce platforms to

change working conditions and to solidify the community in possible striking and activism. Moreover, (Churchill & Craig, 2019; Lehdonvirta, 2018; Moore, 2019; Snider, 2018; Webster & Zhang, 2020) comment on the *lack of bargaining power*. Firstly, due to the isolation of individual workers or low social status within the platform, and secondly, since it is easier to replace the worker compared to raising the conditions and protection bar and keeping high standards.

### ***Psychological effects of gig work***

Five studies ( Ashford et al., 2018; Giazitzoglu & McDonald, 2019; Glavin et al., 2021, Glavin & Schieman, 2022; Hjorth et al., 2019 ) connected gig work with high levels of *stress and anxiety* mainly caused by the irregular job flow, overwork, high demands and strong competition. Same reasons cause gig workers to procrastinate (Lehdonvirta, 2018) and burn out (Ashford et al., 2018).

Another major problem stressed by four publications (Glavin et al, 2021; Hjorth et al, 2019; Lehdonvirta et al, 2017; Wood et al, 2019) is the *sense of isolation and alienation* facilitated by lack of communication and support by the family and friends (Webster & Zhang, 2020), community and poor management support of the platforms that do not provide problem solving services placing the responsibility on the gig worker (Woodcock et al, 2021). Especially with the influence of the COVID pandemic, the sense of isolation and loneliness increased due to the social distancing and inability to meet people offline (O’Keeffe, 2020; Umar, 2021).

Two studies (Ashford et al., 2018; Corbel et al., 2022) mentioned the risk of identity crisis of the gig worker. This stems from the dubious position of being simultaneously an “own boss”, and the constant cycle of completing low-skilled cheap tasks which can be imagined as being “enslaved” by the platform. Gig workers are expected to self-motivate, regulate schedule, deal with finances, delegate microtask to other executors, assess and price their labor, just as somebody in a management position does. In contrast, they are also expected to adhere to the rules and regulations of the platform, battle the rating systems, adjust to all of the risks, deal with competition and perform tasks without any team-building colleague experience, like a regular subordinate employee. This can cause not only an identity crisis, but also perpetuate senses of guilt, powerlessness, depression or worthlessness.

## *Discrimination*

Two articles focused on the *racial discrimination* aspect of the gig economy. In one publication (Webster & Zhang, 2020) it was discussed how the platform has capitalized on the racial stereotypes and forced its workers to fit the narrative. Another study mentioned that most of the mistreatment stays unreported due to the fear of the consequences and is radicalized by nationality or ethnicity radicalized (Woodcock et al., 2021).

Another major point of *discrimination is based on gender*, noted by four publications (Barzilay, 2020; Churchill & Craig, 2019; Shade, 2019; Webster & Zhang, 2020). It is argued that the labor of women in the gig economy stays invisible, taken for granted and is perceived as lesser or non-productive. Authors argue that for most women the attraction of the gig economy is its flexibility and ability to juggle career and more “traditional” roles like childcare, housekeeping and caregiving, that are more stereotypically expected from women (Barzilay, 2020). Thus, in order to provide a second income, women tend to take more mundane cheap low-skilled jobs that lead to overwork and higher stress levels. Moreover, this results in under evaluation of self worth, underestimation of working condition demands and lowering of the bargaining power for women. Motherhood is the reason for the dismissal and the general undesirability on the market (Barzilay, 2020, Bieber & Moggia, 2021). Thus, women are rarely perceived as the ideal worker who does not have strong family ties and is fully devoted to the company. Another major disadvantage for women is the lower pay, which accounts for  $\frac{2}{3}$  of males’ income, often combined with more workload. This happens due to the forced low-quality tasks, less time for career and the influence of the pay gap (Shade, 2019; Webster & Zhang, 2020).

## *Advantages of Gig career*

### *Benefits for the employee*

All publications from the sample in some form outline *flexibility* as the major advantage of the gig economy. In other words, the gig economy can overcome geographic boundaries giving people an opportunity to work worldwide without the tedious process to obtain visas (Lehdonvirta et al., 2017). Gig work allows more time flexibility for various reasons like spending more time with family, combining studying and work, and providing a second income (O’Keeffe et al., 2020; Webster & Zhang, 2020). Gig economy overpasses language

barriers, provides opportunities, gives experiences working in multinational teams and even helps to integrate into the foreign culture for migrants.

The freedom of entrepreneurship helps to build important professional skills of negotiating, time management, decision making, problem solving, communication with clients and management, self-promoting and self-organizing. Four studies (Hjorth et al., 2019; Lehdonvirta et al., 2017; Lehdonvirta, 2018; Wood et al., 2019) concluded that the positive effect of high competition combined with high expectations motivates workers to develop individual talents, push for excellence by picking harder tasks, skill training, and enhance personal development. Ashford et al. (2018) claim that the cycle of searching for the next job is beneficial for building self-discipline and self-motivation skills.

According to Moore (2019) and Williams et al (2021), the task-oriented and short-term nature of the gig economy provides an opportunity to try out different types of “gigs” to create a vast and diverse personal portfolio and gain more experience. The creative freedom of the gig economy helps to match almost any type of work or service with the customer. Gig work helps to monetize almost any skill or talent, for example, homecooking (Giazitzoglu & McDonald, 2019; O’Keeffe et al, 2020; Webster & Zhang, 2020).

Giazitzoglu & McDonald (2019) argue that for many young people gig work is stepping stone into the free market world, they gain more insight into basic employer/employee relationships and deal with problems professionally. Gig economy has allowed faster career growth and a steep learning curve for the youth. Both O’Keeffe et al (2020) and Giazitzoglu & McDonald (2019) argue that the gig economy provided an opportunity for teenagers and young adults to produce income and gain professional experience without the legal restrictions of wage and time that are provided by traditional employment. Modern generations are more accustomed to the digital technologies and are brought up with the “hustle culture” values, importance of entrepreneurship and independence and worth of mental health, so the gig employment is the perfect medium for that.

### ***Benefits for the employer***

From a business model perspective, the gig economy is also beneficial. First, digital technology allows globalization of platforms and diversification of the workforce. For a potential employee it means earning more than the local rate could ever offer, especially in the

case of countries with developing economies, where the labor is overall cheaper, but the conditions provided by the gig work are significantly better (Lehdonvirta et al., 2017). Banik & Padalkar (2021) and Signes (2017) both argue that from a business standpoint gig work is very useful and profitable, because it does not require special expenses for staff training and the work of hiring managers (scouting for potential employees, conducting interviews, reviewing resumes) as the workforce in gig economy attracts itself.

It is important for any business to create a stable environment to protect its employees. Facilitation of easy support services by platforms has provided a medium for tackling these issues. Hence, two publications also mentioned some positive functions and services within the platform to help gig workers. It can be the complex structure of the platform, where the tasks are primarily team-based, support via colleague chat is provided, support numbers or chats for employees or creating a community support section or Q&A on bona fide conditions (Corbel et al, 2022; Lehdonvirta, 2018).

### *The impact of the gig economy on other spheres of economy and on society at large?*

Seven articles (Ashford et al, 2018; Banik & Padalkar, 2021; Bieber & Moggia, 2021; Graham et al, 2021, Lehdonvirta et al, 2017; Lehdonvirta, 2018; Wood et al, 2019) predicted that gig economy will become a growing sector of the economy and a probable future of employment. Thus I have decided to consider the overall influence of the gig economy.

According to Banik & Padalkar, (2021) the rise of the gig economy happened in the aftermath of the 2008 economic crisis, and has led to the creation of multiple job opportunities by providing a new medium for workers and businesses, bringing more freedom and diversification of market. Subsequently, the overall productivity increases, based on the low entry barrier for all age groups, bringing into the workforce people, who traditionally were laid off of the job market- elderly or the teenagers (O’Keeffe et al, 2020). Gig economy enforced new income distribution by allowing international employment without the physical location change. Additionally, it has positively affected and developed such sectors as delivery, transportation, microwork and helped to transform classic business

models of restaurant business or retail (Banik & Padalkar, 2021; O’Keeffe et al., 2020; Umar et al., 2021).

From a business perspective, the gig economy has revolutionized the corporate culture in a positive way. Classic business models are often affected by the under or over staffing, rigid hierarchical structure and additional positions that are devoted to optimize business processes, solve conflicts and tune the interpersonal staff relationships. In contrast, the gig economy provides outsourcing opportunities with concrete tasks and minimal middle management, facilitating direct executor/ consumer line of communication. This cuts the staffing expenses for businesses and protects staff from overcrowding, conflicts of interests and productivity gaps (Banik & Padalkar, 2021).

However, Bieber & Moggia (2021) argue that the gig economy brings negative effects on society at large. First it is the degradation of skills of the gig workers, which are often self-taught and very niche and the degradation of social skills facilitated by the person-centered nature of work and isolation. Secondly, the gig economy enforces “social cohesion” by making the workers alienated from the community, unable to plan and achieve goals as the unit and facilitate social change.

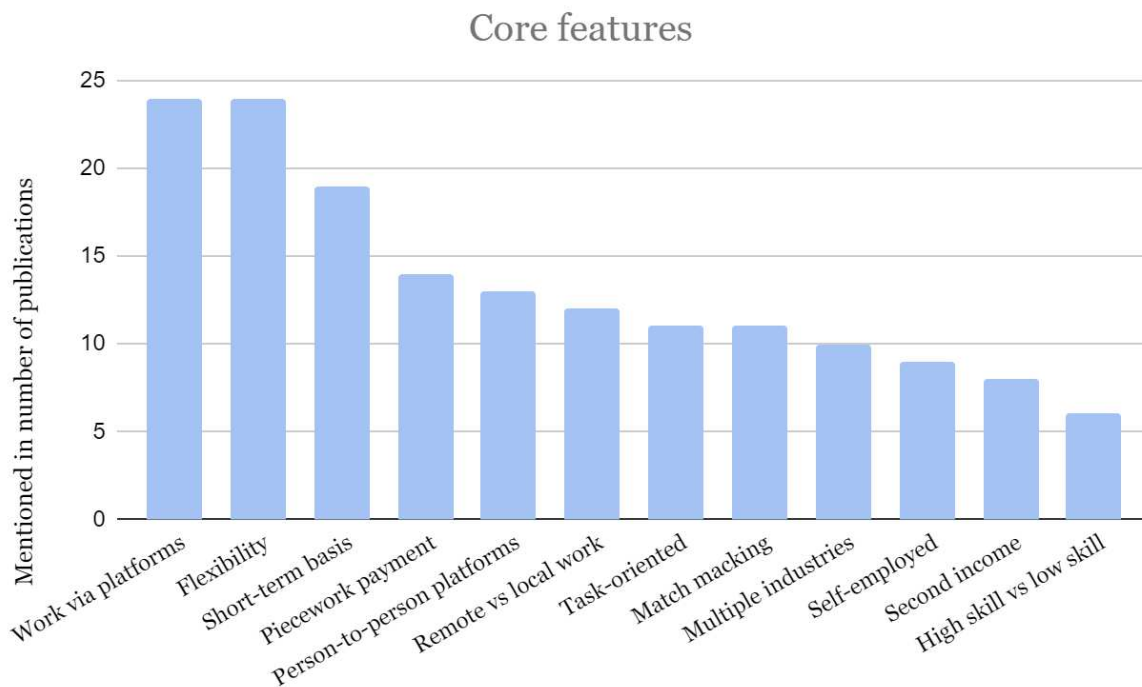
### *Definition consistency*

It is argued by the authors of all chosen publications that a scientific consensus regarding the definition of the gig economy has not been reached yet. In order to answer my last research question and fulfill the first goal of this work, it is important to provide the definition of gig economy provided by authors during the studied period from 2017 to 2022. First, I intend to present a table with features, industries and examples of platforms mentioned in the articles from the sample (see Supplements, Table 2).

### *Core features*

Thus, summarizing from the table, I can distinguish core features of the gig economy provided by the authors of publications from the sample. To be the core feature, the most frequent and only non-conflicting characteristics were chosen. The rule of thumb of frequency threshold for this category was the mentioning of a feature in at least 5 papers.





**Figure 3.** Core features of the Gig economy

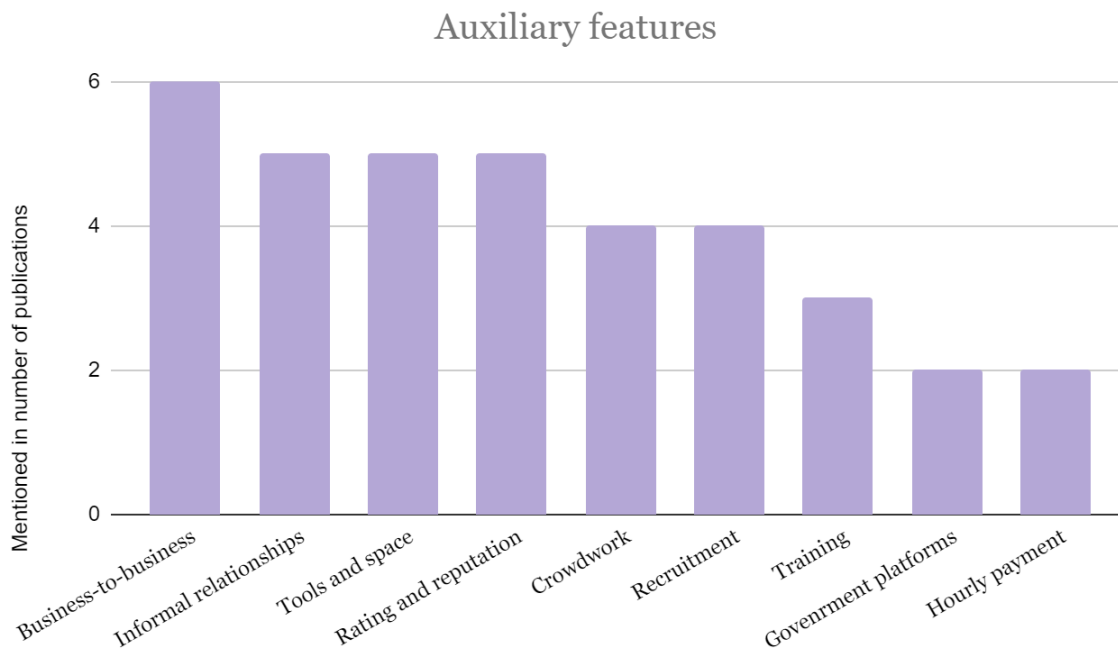
All authors outline gig economy as a form of employment that is provided by platforms (24) and is characterized by being flexible (24), short-term (19) and task-oriented (11). Most person-to-person (13) platforms provide matching between customer and worker (11), who is self-employed (9) and is compensated on a piecework basis (14). Also, authors claim that the gig economy is widespread in multiple industries (10) from professional software development, copywriting and running errands. Half of the publications note that the gig economy is divided into two variations (12). First, it is the so-called remote digital work that is conducted from any place via the internet. This type is not dependent on external factors or geography. Second type is the so-called “on-demand” local work that is carried out locally with the help of platforms, however being physically present and communicating with the client face-to face.

Some authors (6) outline the distinction between high-skill jobs and low-skill jobs. High skill and expertise are often associated with remote work, however, not limited to it. According to Lehdonvirta (2018) and Wood et al. (2019) remote work platforms such as MTurk or Fiverr are not homogeneous with the task offerings, where expensive jobs that require professional knowledge coexist with micro low skill or joking tasks that are low-priced. Low-skilled jobs

are associated often with local “on-demand” jobs because they require not specialized skills such as driving, cooking, laundry, and cleaning. Thus, it is outlined that the gig employment is considered to be a second income (8) for both types of jobs due to various reasons. For some, gig work is a way to earn extra combined with the wage from the primary job (Glavin & Schieman, 2022), for others second income stems from being a second provider of the family, meaning women (Churchill & Craig, 2019).

### *Auxiliary features*

However, some other features mentioned by the publications are rather unique and have been overlooked by the majority of the authors, or even conflicting some of the core features outlined above.



**Figure 4.** Auxiliary features of the Gig economy

To start with, it is claimed by several publications (6) that gig economy is not limited to person-to-person or person-to-business platforms, it is also widely accepted for business-to-business and business-to-client platforms to engage in the gig economy, for example during hiring low-skilled care workers for elderly homes (Williams et al., 2021). Also, contrary to other articles from the sample, which only mentions commercial private platforms, some publications (2) mention government-supported or government-created

platforms that are designed to provide a new medium for the unemployed - for example, Digital Malaysia and Najiacloud (Lehdonvirta et al., 2017) or JobKeeper, JobSeeker, JobMaker (O'Keeffe et al., 2020).

It is noted by (4) publications that gig work requires one to provide his or her own tools and place for executing the work, whether it is a car, office space or basically computer and internet. Lehdonvirta (2018) argues that sometimes tools can be borrowed from a labor provided, however, it will be only rented by the worker and considered to be one's responsibility. Also (4) publications mentioned rating systems as a part of various gig economy platforms as a way to engage with the worker and provide feedback and control. Informal relationships (4) mean the lack of additional management staff and lack of hierarchical orders within business, that are a consequence of freedom and flexibility of the gig economy. Rating systems and Informal relationships are closely connected with the factor of worker's reputation, which leads to higher income (Umar et al., 2021) or faster career ladder (Ashford et al., 2018; Banik & Padalkar, 2021).

(4) publications define remote gig work as a form of so-called crowdwork that is associated with group fragmenting and execution of tasks. However, most publications from the sample define gig work as a "one-man standalone" job that is also pressured by high demand. On the other hand, re-outsourcing (Lehdonvirta, 2018) is a common practice among gig workers, in this way, it can be loosely defined as crowdwork.

Some authors (4) mention that recruitment and advertisement of gig work is also conducted online via platforms or via more conventional methods such as cold calls, target advertising, social media (Lehdonvirta, 2018). Hence, an important part of recruitment is matching the credentials of the potential worker to the job, that is often superficially done by the platform algorithms placing responsibility on the end-client (Williams et al., 2021).

Contrary to the belief of the other authors, that platforms are not willing to provide any training, several publications (3) mention that some platforms provide short training that helps to integrate into the platform's workflow and learn some special features. Additionally, (2) articles mention hourly-based payment for the gig workers, which is fundamentally different from the piecework payment defined by (14) articles of the sample and are attributed to freelance work (Lehdonvirta et al, 2017).

Overall, I can conclude that despite there being no scientific consensus and confusion in the terminology per se, the definition of the gig economy is mostly consistent and unified all across the sample, having multiple core features and some additional exceptional ones.

## *Discussions*

Based on all the analysis carried out, I believe that the goals of my work have been achieved and the phenomenon of the gig economy has been sufficiently reviewed. Indeed, this area of socio-economic relations is still understudied, most likely due to the relative novelty of this phenomenon.

Gig economy may well be the future of employment and has a potential to revolutionize the labor market and forms of employment globally. This is indicated by the essence of gig economics, which consists in the fragmentation of large tasks and outsourcing. This in some sense may lead to change in the educational structure that may soon align with the mechanism of the gig economy, providing niche and targeted skills in contrast to the overall knowledge base that is still widely accepted by conventional education institutions.

Introduction of online schools may somehow affect gig economy matching types of work and professions in demand of gig economy to courses provided by online schools and course databases.

Fundamental change in the employment mechanism, such as the gig economy would be impossible without the change of ideals, workaholicism and “hustle culture” that has become mainstream among the younger generation. Nowadays non-stop work, “grind” and immense productivity has been acclaimed as the characteristics of a successful person and has become cult-like. Gig work from this standpoint is a perfect medium for gaining more income, more experience, more opportunities that can be accessed online whenever. Thus, for younger generations being involved in some form of gig second income job becomes somewhat of a common sense. Various platforms, startups and big IT entrepreneurs facilitate this productivity cult via social media posts and motivational speeches, encouraging younger generations to push their abilities to the maximum. It can be perceived as manipulative, because companies largely benefit from voluntary overworking while maintaining persistent indicators of work completion.

While in itself productivity and entrepreneurship is positive, the overall effect of the hustle culture is toxic (Balkeran, 2020). It facilitates feelings of failure, powerlessness and low self-esteem due to not being capable of significant success while juggling multiple enterprises. So-called hustle culture is a certain factor of the popularity of the gig economy, however, it also worsens the psychological toll caused by the gig employment, as some papers from my sample pointed out.

Most of the disadvantages and issues outlined above are mainly connected to the institutional and legislative framework. It may be likely that the regulators are relatively unprepared for the change that the gig economy constitutes. Lack of the legal standing can be explained by the novelty of the gig economy, the absence of tradition and precedent covering digital law as a whole, let alone in minor individual platform vs worker cases. In other words, the process of establishing a sufficient legal base and social policy protection is rather time-expansive yet nevertheless useful. The following more hard legal regulation is inevitable, since according to currently growing trends and future estimations, the gig economy is soon to become even more accessible and widespread.

Another point of discussion is the disparity between pros and cons of the gig economy, as in my research finding advantages were notably less represented contrary to the disadvantages. Firstly, most of the articles from the sample after double filtration turned out to be rather critical-natured theoretical articles that tried to define problematic aspects in order to cover the blind spot in the current scientific base and thus start the process of problem-solving. The biggest number of publications were dedicated to Work and Employment. I believe that such results were reached because the majority of articles provided a critical lense on the grounds of the critical tradition of labor studies. Some articles view the issue of gig economy from neo-marxists perspective, in particular, shedding the light on the underlying precarity of digital labor, (self-)exploitation, lack of unification and the feeling of alienation.

Hence, the diversification of fields of study represented in the sample. Gig economy is a phenomenon that is related to various industries and areas, so sociologists and economists examine the phenomena in different environments, however, its expanse is likely to be limited. For example, gig employment may not experience a success in fields like medicine. Which is logical, because medicine requires mostly high-skilled professionals who, following core and auxiliary features of the definition, cannot be as flexible, do not rely as much on

platforms and digital jobs, cannot tackle constant cycles of non-employment and non-pay, are less adaptive to changing markets and cannot outsource minor tasks performing medical examination.

In contrast, some fields of study provide a potential negative effect on the gig economy, which is essentially dependent on the human capital. Computer sciences are primarily aimed at optimization of processes and development of digital technologies. With the rapid growth of Artificial Intelligence technologies, some avenues of gig employment can be threatened. Namely, the microwork or transportation services, that are still carried out by humans, can soon be outsourced to AI mechanisms, that are learning faster than any person is capable of, are not limited in working hours, are not affected by discrimination and psychological influences, and don't have autonomy by design that is highly valued by the gig workers.

## *Conclusion*

Overall, the gig economy is indeed a unique phenomena that belongs to the digital economy and digital labor, taking on characteristics and features of both spheres. On the one hand it is poorly studied and loosely defined, on the other hand, after the analysis, it is evident that core features of the definition can be outlined. Core features of gig economy provide a cohesive framework for distincting gig economy from for example sharing economy or freelancing.

The methodology of narrative literature review proved to be very useful in conducting the research. Its distinct features include not having a strict protocol to follow, more freedom in choosing exclusion/inclusion criteria, more room for interpretation, allowing me to study a smaller sample that is within my capabilities and skill set. Criterias that I used for the first filtration were primarily suggested and provided by Scopus, however, the sorting algorithm installed into the Scopus database is not perfect and I had to cross-eliminate publications manually to ensure the most cohesive sample I could. Second filtration consisted of reading the publications and assessing their relevance to the topic of gig economy and to the scope of my thesis. In the end, a small but diverse sample was created. Additionally, I have analyzed main and secondary characteristics of the gig economy to assess the consistency of definition and unity of understanding of the gig economy.

Nevertheless, I have come to the conclusion that the gig economy is hard to assess uncontroversially since it is possible to present both positives and negatives of the phenomenon. Hence, answering one of my research questions, gig employment puts on people multiple strains, meaning financial, psychological or social, ranging from the pre-employment, discrimination and highest degree of personal responsibility, to the complex process of searching for and securing the position. Among the positives, I can distinguish accessibility in the age of broad connectivity and the adaptability of various skills and talents.

If we were to assess the impact of the gig economy on the different spheres of economy and at society overall, globally, the relationships on both external international and internal corporate labor markets and professional relationships were drastically affected. Gig economy has revolutionized the entry barriers and provided income opportunities for people of all ages.

Thus, I truly believe that it is very important to study such obscure entities as relations between people and platforms, as it has become very common and even innate for specific social groups. Although my thesis is limited by my own capabilities and by the existing pool of knowledge, I would suggest that in future the research of this topic should be continued and developed. Mainly because my generation and generations to come are born with the power of the internet and it has become so usual and pedestrian that most people can hardly imagine their life without it. Hence, we are more likely to become the workforce for the growing sector of the platform economy, so I feel that it is important to raise awareness of the general public of the benefits, influences, problems and risks that the gig economy carries.

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## Supplements

Table 1. Final sample

Title	Authors, year of publication	Research method	Research topic
Dependency and Hardship in the Gig Economy: The Mental Health Consequences of Platform Work	P Glavin, S Schieman (2022)	Survey data analysis	Gig work and mental health
Gender in the gig economy: Men and women using digital platforms to secure work in Australia	B Churchill, L Craig (2019)	Quantitative survey	Gender inequalities between male and female gig workers

Regulating work in the gig economy: What are the options?	A Steward J Stanford (2017)	Theoretical study	Employment regulations, legal base, policymaking for gig economy
Flexibility in the gig economy: managing time on three online piecework platforms	V Lehdonvirta (2018)	Comparative case study	Flexibility and time management of gig work
Discrimination Without Discriminating? Learned Gender Inequality in the Labor Market and Gig Economy	A R Barzilay (2018)	Computational research using API	Gender inequalities and wage gap in gig economy
Recruitment in the gig economy: attraction and selection on digital platforms	P Williams P McDonald R Mayes (2021)	Qualitative thematic analysis	Recruitment and HR functioning in gig economy
Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy	A Wood V Lehdonvirta M Graham (2019)	Semi-structured interviews and cross-regional survey	Work conditions, job quality of the gig work
Gig Expectations: Literacy Practices, Events, and Texts in the Gig Economy	C Corbel L Farrell T Newman (2022)	Template Analysis	Working requirements, building identity in gig work
Careers Delivered from the Kitchen? Immigrant Women Small-scale Entrepreneurs Working in the Growing Nordic Platform Economy	N Webster Q Zhang (2020)	Semi-structured interviews	Racial and gender perspective into the gig economy
Networked but Commodified: The (Dis)Embeddedness of Digital Labour in the Gig Economy	A Wood V Lehdonvirta M Graham I Hjorth (2019)	Interview and survey analysis	Absence of working regulations, (dis)embeddedness of digital labour
The Potential for International Regulation of Gig Economy Issues	T Novitz (2020)	Theoretical study	International legal base, hiring conditions for the gig work
Systematic evaluation of gig work against decent work standards: The development and application of the Fairwork framework	J Woodcock P Mungai J-P Van Belle M Graham	Interview + development of Fairwork framework	Working conditions, employment regulation in the gig work



	(2021)		
The spread of gig economy: Trends and effects	N Banik M Padalkar (2021)	Theoretical study	The impact of the gig economy globally
Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods	V Lehdonvirta M Graham I Hjorth (2017)	Qualitative research	Working conditions and concerns of the gig workers
The 'gig economy': employee, self-employed or the need for a special employment regulation?	A Signes (2017)	Literature review	Employment status, legal base
The impact of Covid-19 on Gig economy	M Umar Y Xu S Mirza (2021)	Quantitative research	Overview of the pandemic in the realm of the gig economy
Continuing the precedent: Financially disadvantaging young people in "unprecedented" COVID-19 times	P O'Keeffe B Johnson K Daley (2020)	Theoretical study	Involvement of new workforce into gig economy during the pandemic
Youth, enterprise and precarity: or, what is, and what is wrong with, the 'gig economy'?	A Giazitzoglu R McDonald (2019)	Theoretical study	Disadvantages and challenges of the gig work
The gig economy: a hypothetical contract analysis	M Moore (2019)	Content analysis	Legal and financial coverage of the gig economy
Über-Alienated: Powerless and Alone in the Gig Economy	P Glavin A Bierman S Schieman (2021)	Survey analysis	Mental health and gig work
Risk Shifts in the Gig Economy: The Normative Case for an Insurance Scheme against the Effects of Precarious Work	F Bieber J Moggia (2021)	Theoretical study	Risks and social security in the gig work
Enabling Exploitation: Law in the Gig Economy	L Snider (2018)	Theoretical study	Critical overview of legal regulation of the gig economy
From surviving to thriving in the gig economy: A research agenda for individuals in the new world of work	S Ashford B Barker Caza E Reid (2018)	Theoretical study	Organizational behavior, mental health and gig economy
Hop to it in the gig economy: The sharing economy and neo-liberal	L Shade (2019)	Theoretical study	Gender inequality and the position of females

feminism			in the gig economy
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Table 2. Features of the gig economy

Author (s)	Characteristics of the gig economy used in their research	Areas to include in gig economy	Web platforms (mentioned explicitly)
N Webster Q Zhang (2020)	<ul style="list-style-type: none"> <li>-distinction between remote and localized gig work</li> <li>-flexible and accessible</li> <li>-informal relationships</li> <li>-matching workers and consumers</li> <li>-person-to-person services</li> <li>-piecework payment</li> <li>-platform provides training</li> <li>-second income</li> <li>-short-term basis</li> <li>-work conducted via platforms</li> <li>-workers provide own tools for work</li> <li>-workers provide place of work, often home/car or professional office</li> </ul>	<p><u>Transportation services:</u> delivery</p> <p><u>Errands:</u> cooking</p>	Yummy
L Shade (2019)	<ul style="list-style-type: none"> <li>-flexible and accessible</li> <li>-matching workers and consumers</li> <li>-self-employed status</li> <li>-short-term basis</li> <li>-wide range of industries</li> <li>-work conducted via platform</li> <li>-workers provide own tools for work</li> </ul>	<p><u>Transportation services:</u> taxi</p> <p><u>Errands:</u> translation clicking video description montage</p>	Uber  TaskRabbit
A Signes (2017)	<ul style="list-style-type: none"> <li>- distinction between remote and localized gig work</li> <li>-flexible and accessible</li> <li>-matching workers and consumers</li> <li>-piecework payment</li> <li>-rating system</li> <li>-self-employed status</li> <li>-short-term basis</li> <li>-task-oriented character</li> <li>-wide range of industries</li> <li>-work provided via platforms</li> </ul>	<p><u>Transportation services:</u> taxi</p> <p><u>Other services:</u> guided tours laundry electronics repairs cooks at home housekeeping tutor at home personal training</p>	Uber  Sandemans, FlyCleaners, Myfixpert, Chefly, Helping, Sharing academy, Entrenar.me
B Churchill, L Craig (2019)	<ul style="list-style-type: none"> <li>-distinction between remote and localized gig work</li> <li>-flexible and accessible</li> <li>-high-skill tasks vs low-skill tasks</li> <li>-matching workers and consumers</li> <li>-person-to-person services</li> <li>-piecework payment</li> </ul>	<p><u>Transportation services:</u> taxi, delivery couriering</p> <p><u>Intelligence tasks:</u> re-outsourcing microwork data entry</p>	Uber Deliveroo  Airtasker, Gumtree, Freelancer, Fiverr,

	<ul style="list-style-type: none"> <li>-second income</li> <li>-task-oriented character</li> <li>-wide range of industries</li> <li>-work conducted via platforms</li> </ul>	<ul style="list-style-type: none"> <li>clerical work</li> <li>drafting legal contracts</li> <li>university paper</li> <li>copywriting</li> <li>software development</li> </ul>	Upwork
P O’Keeffe B Johnson K Daley (2020)	<ul style="list-style-type: none"> <li>-business-to-business services, business-to-client services</li> <li>-government- provided apps and platforms</li> <li>-hourly-based payment</li> <li>-self-employed status</li> <li>-short-term basis</li> <li>-work provided via platforms</li> </ul>	<ul style="list-style-type: none"> <li><u>Transportation services:</u></li> <li>taxi</li> <li>delivery</li> <li>ride-hail services</li> <li><u>Intelligence services:</u></li> <li>freelancing</li> </ul>	Uber  AirTasker, JobKeeper, JobSeeker, JobMaker
A Steward J Stanford (2017)	<ul style="list-style-type: none"> <li>-”crowdwork” vs “on-demand” work</li> <li>-distinction between remote and localized gig work</li> <li>-matching workers and consumers</li> <li>-person-to-person character</li> <li>-piecework payment</li> <li>-second income</li> <li>-wide range of industries</li> <li>-work conducted via platforms</li> <li>-workers provide own tools for work</li> <li>-workers provide place of work, often home/car or professional office</li> </ul>	<ul style="list-style-type: none"> <li><u>Transportation services:</u></li> <li>taxi</li> <li><u>Intelligence services:</u></li> <li>microwork</li> <li>re-outsourcing</li> <li>app &amp; software development</li> </ul>	Uber  Airtasker, Freelancer, MTurk
L Snider (2018)	<ul style="list-style-type: none"> <li>-advertising and attraction via platforms and forums</li> <li>-flexible and accessible</li> <li>-high skill vs low skill tasks</li> <li>-matching workers and consumers</li> <li>-self-employed status</li> <li>-short-term basis</li> <li>-task-oriented character</li> <li>-wide range of industries</li> <li>-work conducted via platform</li> </ul>	<ul style="list-style-type: none"> <li><u>Transportation services:</u></li> <li>taxi</li> <li>ride-hail</li> <li><u>Intelligence services:</u></li> <li>freelancing</li> <li>programming</li> <li>microwork</li> </ul>	Uber, Lyft, CarShare  Fiverr, Upwork, TaskRabbit
P Glavin A Bierman S Schieman (2021)	<ul style="list-style-type: none"> <li>-business-to-business services</li> <li>-flexible and accessible</li> <li>-high skill vs low skill tasks</li> <li>-matching workers and consumers</li> <li>-person-to-person services</li> <li>-rating system</li> <li>-short-term basis</li> <li>-task-oriented character</li> <li>-work conducted via platform</li> </ul>	<ul style="list-style-type: none"> <li><u>Transportation services:</u></li> <li>taxi</li> <li>ride-hail services</li> </ul>	Uber, Lyft
T Novitz (2020)	<ul style="list-style-type: none"> <li>-work provided via platforms</li> <li>-self-employed status</li> <li>-high-skilled vs low-skilled tasks</li> <li>-flexible and accessible</li> <li>-distinction between remote and</li> </ul>	<ul style="list-style-type: none"> <li><u>Transportation services:</u></li> <li>taxi</li> <li>delivery</li> <li><u>Intelligence services:</u></li> <li>programming</li> </ul>	Uber, Deliveroo  Upwork,

	localized gig work -matching workers and consumers	software development digital design	MTurk
J Woodcock P Mungai J-P Van Belle M Graham (2021)	-distinction between remote and localized gig work -flexible and accessible -person-to-person services -piecework payment -self-employed status -short-term basis -wide range of industries -work provided via platforms	<u>Transportation services:</u> taxi delivery house cleaning <u>Intelligence services:</u> data entry software development	Uber, Deliveroo, Rappi, Gojek  Upwork, Freelancer, MTurk
N Banik M Padalkar (2021)	-distinction between remote and localized gig work -fast career ladder -flexible and accessible -low entry barrier/accessible to everyone -matching workers and consumers -person-to-person services, business-to-person services -platforms provided training -rating system -short-term basis -task-oriented character -wide range of industries -work provided via platforms	<u>Intelligence services:</u> microwork freelancing business outsourcing processes (BPO) <u>Transportation services:</u> taxi delivery ride-hail services <u>Other services:</u> hospitality babysitting retail	TaskRabbit, Freelancer  Uber, Swiggy, Zomato, Zipcar, Hertz, Lyft  Airbnb, Ebay
V Lehdonvirta M Graham I Hjorth (2017)	-government-provided apps and platforms (Digital Malaysia, Naijacloud) -hourly based payment -person-to-person services, business-to-business services, business-to-client services -piecework payment -second income -short-term basis -task-oriented character -wide range of industries -work provided via platforms	<u>Intelligence services:</u> business outsourcing processes (BPO) translation microwork transcriptions marketing personal assistance	Naijacloud
A Wood V Lehdonvirta M Graham (2019)	-business-to-business and business-to-client services -distinction between remote and localized gig work -flexible and accessible -person-to-person services -short-term basis -wide range of industries -work conducted via platforms	<u>Intelligence services:</u> data entry software development translation accounting consulting financial planning human resources legal services project management photography	Fiverr, Upwork, Freelancer, MTurk, CloudFlower

		ad posting	
C Corbel L Farrell T Newman (2022)	<ul style="list-style-type: none"> <li>- crowdwork vs “one-man job”</li> <li>-business-to-client, person-to-person services</li> <li>-flexible and accessible</li> <li>-high-skill vs low-skill tasks</li> <li>-matching workers and consumers</li> <li>-piecework payment</li> <li>-platforms provide training</li> <li>-rating system</li> <li>-self-employment status</li> <li>-task-oriented character</li> <li>-work conducted via platforms</li> </ul>	<u>Social media &amp; Intelligence services:</u> copywriting graphic design storytelling microwork writing a report editing	Facebook, Instagram, TikTok, and LinkedIn, Airtasker, Freelancer, Scripted, 99Design, LocalMotors, Skillshare
V Lehdonvirta (2018)	<ul style="list-style-type: none"> <li>-business-to-business outsourcing (BPO)</li> <li>-distinction between remote and localized work</li> <li>-flexible and accessible</li> <li>-informal relationships</li> <li>-low entry barrier/ diverse workforce</li> <li>-matching workers and consumers</li> <li>-more “one-man” tasks compared to the crowdwork</li> <li>-person-to-person character</li> <li>-piece-rate payment</li> <li>-short-term basis</li> <li>-task-oriented character</li> <li>-wide range of industries</li> <li>-work conducted via platforms</li> <li>-workers provide own tools for work</li> <li>-workers provide place of work, often home/car or professional office</li> <li>-workforce recruited via platforms and conventional methods-calls, ads, referrals</li> </ul>	<u>Transportation tasks:</u> taxi delivery <u>Businesses:</u> online marketplaces <u>Intelligence tasks:</u> outsourcing and fragmenting of tasks microwork transcribing handwriting posting ads and contact details classifying videos or images participating in surveys	Amazon  MTurk, MobileWorks, CloudFactory, oDesk
P Glavin, S Schieman (2022)	<ul style="list-style-type: none"> <li>-distinction between remote and localized gig work</li> <li>-flexible and accessible</li> <li>-informal relationships</li> <li>-matching workers and consumers</li> <li>-person-to-person services</li> <li>-piece-rate payment</li> <li>-second job/second income</li> <li>-self- employed status</li> <li>-short-term basis</li> <li>-wide range of industries</li> <li>-work conducted via platforms</li> </ul>	<u>Transportation services:</u> ride-hail services delivery services <u>Intelligence tasks:</u> remote online work localized job offerings	
F Bieber J Moggia (2021)	<ul style="list-style-type: none"> <li>-distinction between remote and localized gig work</li> <li>-flexible and accessible</li> </ul>	<u>Transportation services:</u> taxi delivery	

	<ul style="list-style-type: none"> <li>-high skill vs low skill tasks</li> <li>-matching workers and consumers</li> <li>-more crowdwork digital jobs compared to “one-man” jobs</li> <li>-person-to-person services, business-to-business services</li> <li>-piece-rate payment</li> <li>-second income</li> <li>-short-term basis</li> <li>-task-oriented character</li> <li>-wide range of industries</li> <li>-work conducted via platform</li> </ul>	<ul style="list-style-type: none"> <li>ride-hail services</li> <li><u>Intelligence services:</u></li> <li>freelancing</li> <li>programming</li> <li>accounting</li> <li>microwork</li> <li><u>Other services:</u></li> <li>care work</li> <li>babysitting</li> </ul>	
S Ashford B Barker Caza E Reid (2018)	<ul style="list-style-type: none"> <li>-faster career ladder</li> <li>-flexible and accessible</li> <li>-high skill vs low skill tasks</li> <li>-person-to-person services, business-to-business services</li> <li>-second income</li> <li>-short-term basis</li> <li>-work conducted via platform</li> </ul>		
A R Barzilay (2018)	<ul style="list-style-type: none"> <li>-flexible and accessible</li> <li>-informal relationships</li> <li>-person-to-person services</li> <li>-second income</li> <li>-self-taught skills</li> <li>-short-term basis</li> <li>-task-oriented character</li> <li>-wide range of industries</li> <li>-work conducted via platforms</li> </ul>	<ul style="list-style-type: none"> <li><u>Errands:</u></li> <li>carework</li> <li>babysitting</li> <li>cooking</li> <li>cleaning</li> <li>beauty-related home-based services</li> <li><u>Intelligence services:</u></li> <li>microwork</li> <li>retail</li> </ul>	
P Williams P McDonald R Mayes (2021)	<ul style="list-style-type: none"> <li>-attraction and recruitment via platform or social media, target ads</li> <li>-business-to-person services</li> <li>-distinction between remote and localized gig work</li> <li>--matching workers and consumers</li> <li>-second income</li> <li>-self-employed status</li> <li>-short-term basis</li> <li>-wide range of industries</li> <li>-work conducted via platforms</li> </ul>	<ul style="list-style-type: none"> <li><u>Intelligence services:</u></li> <li>microwork</li> <li>re-outsourcing</li> <li>app &amp; software development</li> <li>graphic design</li> <li>marketing</li> <li>illustration</li> <li>animation</li> <li><u>Errands:</u></li> <li>elderly, disability, pet care services</li> <li>housekeeping</li> <li>house nursing</li> <li>babysitting</li> </ul>	
A Wood V Lehdonvirta M Graham I Hjorth	<ul style="list-style-type: none"> <li>-crowdwork vs “one-man” job</li> <li>-distinction between remote and localized gig work</li> <li>-flexible and accessible</li> <li>-person-to-person services</li> </ul>	<ul style="list-style-type: none"> <li><u>Transportation services:</u></li> <li>taxi</li> <li>delivery</li> <li>Marketplaces</li> <li><u>Intelligence services:</u></li> </ul>	

(2019)	-piecework payment -rating system -reputation -short-term basis -task-oriented -wide range of industries -work provided via platforms	data entry software development accounting consulting financial planning human resources legal services project management	
A Giazitzoglu R McDonald (2019)	-attraction and recruitment via advertisement on platform -flexible and accessible -piecework payment -self-employed status -short-term basis -task-oriented character -work provided via platforms	<u>Intelligence services:</u> tutoring research assistance projects of self-promotion market positioning CV enhancement	
M Umar Y Xu S Mirza (2021)	-flexible and accessible -reputation -work provided via platforms -wide range of industries		
M Moore (2019)	-distinction between remote and localized gig work -flexible and accessible -piecework payment -piecework payment -self-employed status -short-term basis -task-oriented character -wide range of industries -workers provide own tools for work -workers provide place of work, often home/car or professional office -work-provided via platforms	<u>Transportation services:</u> taxi delivery ride-hail services <u>Intelligence services:</u> freelancing programming accounting <u>Other services:</u> care work retail	

## *List of appendices*

### **Appendix 1.** QUOROM assessment checklist



Heading	Subheading	Descriptor
Title		Identifies the report as a meta-analysis or systematic review
Abstract	Objectives	Uses a structured format States the clinical question explicitly
	Data sources	The databases and other information sources
	Review methods	The selection criteria; methods for validity assessment, data abstraction, study characteristics, and quantitative data synthesis
	Results	Characteristics of the RCTs included and excluded; qualitative and quantitative findings, with sub-group analyses if appropriate
	Conclusion	The main results
Introduction		The explicit clinical problem, biological rationale for the intervention and rationale for the review
Methods	Searching	The information sources in detail and any restrictions (years considered, publication status, language of publication)
	Selection	The inclusion and exclusion criteria (population, intervention, principal outcomes, study design)
	Validity assessment	The criteria and process used
	Data abstraction	The process or processes used (e.g. independently or in duplicate)
	Study characteristics	The type of study design, participants' characteristics, details of intervention, outcome definitions
	Quantitative data synthesis	The principal measures of effect, method of combining results, handling of missing data; how statistical heterogeneity was assessed; a rationale for any a priori sensitivity and sub-group analyses; and any assessment of publication bias
Results	Trial flow	Provides a meta-analysis profile summarizing trial flow
	Study characteristics	Presents descriptive data for each trial
	Quantative data synthesis	Reports agreement on the selection and validity assessment; presents simple summary results; presents data needed to calculate effect sizes and confidence intervals in intention-to-treat analyses
Discussion		Summarizes key findings; discusses clinical inferences based on internal and external validity; interprets the results in the light of the totality of available evidence; describes potential biases in the review process and suggests a future research agenda
<p>This checklist was adapted from the original article describing the QUOROM criteria.<sup>40</sup> Reprinted from Moher D et al, <i>The Lancet</i> <b>354</b>: 1896–1900. Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. <i>Quality of Reporting of Meta-analyses</i>, p. 1897, Copyright © 1999, with permission from Elsevier.</p>		

Taken from Finckh & Tramèr (2008) and Moher et al (1999).

## Appendix 2. PRISMA statement published extensions and overall application of PRISMA

Taken from Moher & Page (2017).

**Table 1** Scope of the PRISMA Statement and published extensions

Reporting guideline	Year published	Scope of reporting guideline
PRISMA	2009	Reports of systematic reviews and meta-analyses, primarily of randomised trials that evaluate health care interventions [11–23].
PRISMA-Equity	2012	Reports of systematic reviews and meta-analyses with a focus on health equity, defined as the absence of avoidable and unfair inequalities in health [24–26].
PRISMA-Abstracts	2013	Abstracts for all types of systematic reviews, but the emphasis is on systematic reviews of evaluations of interventions where one or more meta-analyses are conducted [27].
PRISMA-Network Meta-Analysis	2015	Reports of systematic reviews that address networks of multiple treatment comparisons [28].
PRISMA-Individual Participant Data	2015	Reports of systematic reviews and meta-analyses of individual participant data. Developed primarily for reviews of randomised trials, but many items apply to other contexts, including reviews of diagnosis and prognosis [29].
PRISMA-Protocols	2015	Protocols for systematic reviews and meta-analyses that summarise aggregate data from studies, particularly those which evaluate the effects of interventions [30, 31].
PRISMA-Harms	2016	Reports of systematic reviews and meta-analyses assessing adverse events (as either a primary or secondary outcome) that are reported in prospective interventional studies or observational studies (with or without a comparison group) [32].
PRISMA-Complex Interventions	2017	Reports of systematic reviews and meta-analyses of complex interventions. Complex interventions are defined as interventions that have 'multiple components (intervention complexity) and complicated/multiple causal pathways, feedback loops, synergies and/or mediators and moderators of effect (pathway complexity)' [33, 34].



### Appendix 3. PRISMA extensions in development

Taken from Moher & Page (2017)

**Table 2** Scope of the PRISMA extensions in development

Reporting guideline	Month registered	Scope of reporting guideline
PRISMA-Children	Nov 2014	Reports of systematic reviews and meta-analyses of randomised trials or observational studies of newborn and child health research [155].
PRISMA-Protocol for Children	Nov 2014	Protocols for systematic reviews and meta-analyses of randomised trials or observational studies of newborn and child health research [155].
PRISMA-Diagnostic Test Accuracy	Nov 2015	Reports of systematic reviews and meta-analyses of diagnostic test accuracy studies (i.e. studies of the ability of medical tests to detect a target condition) [156].
PRISMA-Rapid Reviews	Nov 2015	Reports of rapid reviews, including those with analogous terminology (e.g. rapid evidence synthesis, rapid knowledge synthesis) [157].
PRISMA-Scoping Reviews	Dec 2015	Reports of scoping reviews, which are used to map the concepts underpinning a research area and the main sources and types of evidence available [158].
PRISMA-Search	Feb 2016	Reports of literature searches in systematic reviews [159].
PRISMA-Traditional Chinese Medicine	Aug 2016	Reports of systematic reviews and meta-analyses of studies that evaluate Chinese herb medicine or moxibustion [160].
PRISMA-In Vivo Animal studies	To be registered	Reports of systematic reviews and meta-analyses of in vivo animal studies (Manoj M. Lalu, personal communication, June 2017)

Registered PRISMA extensions were identified in the library of reporting guidelines available at the Enhancing the QUALity and Transparency Of health Research (EQUATOR) Network website (<http://www.equator-network.org/library/>), on 24 July 2017

### Appendix 4. IMRAD structure

Taken from Ribeiro et al (2018)

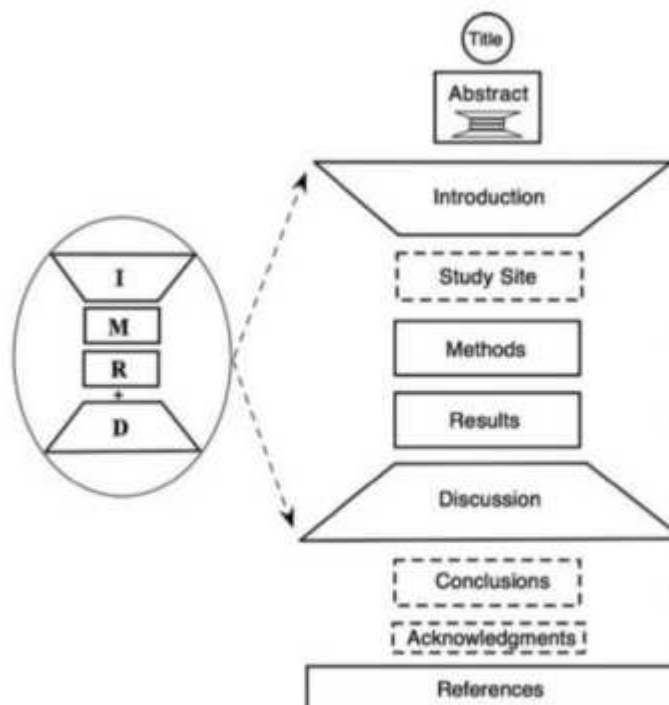


Fig. 1. IMRaD Structure [11]

## Appendix 5. Google Books Ngram Viewer search of the term “gig economy”

Google Books Ngram Viewer

Q gig economy X ?

2000 - 2019

English (2019)

Case-Insensitive

Smoothing of 0

