COMMERCIAL TRANSLATION AND PROFESSIONAL TRANSLATION PRACTITIONERS IN THE ERA OF COGNITIVE CAPITALISM: A CRITICAL ANALYSIS

GÖKHAN FIRAT

BOĞAZİÇİ UNIVERSITY

2019

COMMERCIAL TRANSLATION AND PROFESSIONAL TRANSLATION PRACTITIONERS IN THE ERA OF COGNITIVE CAPITALISM: A CRITICAL ANALYSIS

Thesis submitted to the

Institute for Graduate Studies in the Social Sciences

in partial fulfilment of the requirements for the degree of

Master of Arts

in

Translation Studies

by

Gökhan Fırat

Boğaziçi University

2019

DECLARATION OF ORIGINALITY

I, GÖKHAN FIRAT, certify that

- I am the sole author of this thesis and that I have fully acknowledged and documented in my thesis all sources of ideas and words, including digital resources, which have been produced or published by another person or institution;
- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

Signature .....

Date .....07.08.2019.....

ABSTRACT

Commercial Translation and Professional Translation Practitioners in the Era of Cognitive Capitalism: A Critical Analysis

This thesis investigates how current technological advances affect commercial translation and the working conditions of professional translation practitioners in the era of cognitive capitalism. Based on previous research, it can be deduced that the technological transformation of the language industry to date has (i) led to indirect production networks, (ii) created one-sided intellectual property practices, (iii) devalued translator's skills and outputs. My primary conclusion is that as long as the aforementioned outcomes of previous technological developments prevail, current technological developments will not improve the role and position of professional translation practitioners. Instead, they will be rearranged and reorganized in space and time in accordance with the production methods and working conditions of cognitive capitalism.

In order to provide a critical analysis, I utilized (i) Cognitive Capitalism Theory, (ii) the industry reports by TAUS (iii) research papers on digital platforms by ILO and (iv) a survey conducted with 70 professional translation practitioners residing in Turkey. Drawing on theoretical exploration, this study introduces the "uberization of translation" as one of the most recent manifestations of the cognitive capitalism era, and the field research suggests that engaging in such work exposes professional translation practitioners to risks related to employment status, adequate income, work-life balance, social protections, free agency, bargaining power, dependence on platform, fair allocation of risks and rewards, and data collection, protection and privacy.

ÖZET

Bilişsel Kapitalizm Çağında Ticari Çeviri Faaliyetleri ve Profesyonel Çevirmenler: Eleştirel Bir Analiz

Bu tez çalışması, bilişsel kapitalizm döneminde ortaya çıkan teknolojik gelişmelerin, ticari çeviri alanını ve bu alanda çalışan bireylerin çalışma koşullarını ne şekilde etkilediğini incelemektedir. Dil endüstrisinde şimdiye kadar gördüğümüz teknolojik gelişmeler; (i) üretim ağlarının aracılarca yönetilmesine, (ii) fikir ve veri mülkiyeti haklarının tek taraflı kurgulanmasına ve (iii) çeviri alanında çalışan bireylerin beceri ve ürünlerinin değersizleş(tiril)mesine yol açmıştır. Bu bağlamda çalışmanın temel argümanı şu şekilde özetlenebilir: Bahsedilen bu sorunlar devam ettiği sürece, dil endüstrisindeki yeni teknolojik gelişmeler, bu alanda çalışan bireylerin rolünü ve pozisyonunu daha iyi hale getirmeyecek; aksine, bu bireylerin rol ve pozisyonları bilişsel kapitalizmin üretim biçimleri ve çalışma koşulları dahilinde yeniden kurgulanacaktır.

Araştırma kapsamında, TAUS ve ILO tarafından hazırlanan raporlar ve Türkiye'de ikamet eden 70 profesyonel çevirmen ile yapılan anket sonuçları Bilişsel Kapitalizm Kuramı dahilinde incelenmiştir. "Çevirinin überleşmesi" kavramı bilişsel kapitalizm döneminin en güncel dışavurumlarından biri olarak ele alınmış ve yapılan saha çalışması ile çeviri işinin überleşmesinin çeviri alanında çalışan bireyler açısından şu konularda çeşitli riskler taşıdığı ortaya konulmuştur: çalışan statüsü, gelir dağılımı, iş ve sosyal yaşam dengesi, sosyal güvence, aracısız çalışma özgürlüğü, pazarlık etme gücü, tek bir platforma bağımlı kalma, risk ve ödül mekanizmalarının adilane kurgulanması, veri toplama, koruma ve gizlilik.

ACKNOWLEDGMENTS

I would like to express my profound gratitude to my advisor Professor İsmail Kaplan for his openness, humility, and professional rigor throughout the process of learning, research and writing. I am gratefully indebted to him for his very valuable comments, suggestions and balanced engagement, which have led to significant improvement in the quality of this study.

I also wish to acknowledge the respected members of my defense committee, Professors Mehmet Şahin and Jonathan Ross for kindly agreeing to be the members of my thesis committee, their attentive reading of the thesis, their thorough feedback, encouragement and insightful comments.

Also, I like to thank the participants in the survey, who willingly shared their precious time and experience. I would like to thank all my professors, friends and colleagues who have supported me throughout this entire process, both by reading draft versions and helping me put the pieces together. Their valuable feedback was tremendously beneficial to me and served as further motivation for my research.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1

INTRODUCTION AND PROBLEM

1.1 Objectives of the study

My research investigates the increasing importance of the new role of knowledge labour[1] (Fuchs, 2011) being produced by translation practitioners in the era of cognitive capitalism[2] (Moulier-Boutang, 2008/2011), and more specifically, its relationship with the transformation taking place in the language industry, especially after recent technological advances, such as the Internet, translation memory (TM), machine translation (MT) and digital labour platforms.[3]

Describing and analyzing the effects of recent technological transformation on communities and economies, Marxists authors and scholars such as Moulier-Boutang, Fuchs, Hardt, Negri and Vercellone claim that especially after the invention of the Internet and more global information/communication technologies, we are entering into a new phase of capitalism - a phase generally termed "cognitive capitalism" (Moulier-Boutang, 2008/2011) or "informational capitalism" (Fuchs, 2011). This phase of capitalism can be understood as the third stage of capitalism, preceded by the industrial capitalism that began with the first industrial revolution. Discussions of this new phase of capitalism suggest -for the scope of this study- that:

[1] Christian Fuchs (2011) defines knowledge labour as the "labour that produces and distributes information, communication, social relationships, affects, and information and communication technologies" (p. 98).

[2] A theory that tries to understand and critically analyze the recent phenomenal changes in micro-electronics technologies and the widespread diffusion of information and communication technologies (ICT).

[3] The International Labour Organization defines digital labour platforms as both web-based platforms where work is outsourced through an open call to a geographically dispersed crowd, and location-based applications (apps) which allocate work to individuals in a specific geographical area (ILO, 2018b, p. xv).

- Production strategies and methods utilized during this era depend mostly on "flexible" working regimes, and thus, create "indirect" production networks (i.e. outsourcing and subcontracting).
- The intellectual property rights of knowledge workers are being systematically violated due to a profit motive, which has led to "one-sided" copyright relationships between knowledge workers and their employees.
- And the various skills and outputs of knowledge workers laboring under "precarious" conditions are "devalued" - mostly due to the impractical use of technology.

In this era of (cognitive) capitalism, the drive for financial globalization, especially after the dissolution of the Soviet Union, and the technological advances after the 2000s, have escalated the establishment of a new global industry, namely the language industry,[4] which has harnessed most of the translation activities to serve global market processes and policies to an extent never seen before in human history. Maeve Olohan (2017) argues in her article *Technology, Translation and Society: A Constructivist, Critical Theory Approach* that in this industry, "translation and technology development companies operate within a system of global capitalism which, much like the capitalist systems discussed by Marx and Gramsci, is distinguished by control of the conditions of labour to produce profit" (p. 11). As was the case with the Fordist assembly lines in factories, "technology continues to be designed, implemented and employed in ways that are aimed to achieve those goals of control of labour and reduction of costs" (p. 11). This work by Olohan provides us

[4] The term "localization industry" is also used as a sub-term to describe this industry. I prefer to use a more general term "language industry" throughout the thesis as I believe this term covers most of the agents (language workers in general) and notions (e.g., language as a value and commodity in an industry) related to my study.

with the basic arguments for the effort "to understand the nature of technological development and articulate how technology embodies and materializes the hegemonies and power relations of the translation sector" (p. 13).

My research focuses on software-specific advances in this global industry and assumes the introduction of TM and MT software technologies are two of the most critical milestones in the language industry. Recently, language industry players have widely deployed these two fundamental software technologies (TM and MT) across their production lines to increase productivity and profits, lower costs and improve quality. Even if the ongoing technological evolution of this industry (powered essentially by these two technologies) has somewhat improved the perceived and actual value of translation while enhancing the productivity, efficiency, quality, safety and security of some translation practices, the language industry is still fraught with significant challenges, uncertainties and limitations for professional translation practitioners. Some of these limitations became evident during the establishment and evolution of the language industry and have already been addressed by some translation scholars. They seem to be consistent with the challenges of the Cognitive Capitalism Theory outlined above.

- In their article *Managing Trust: Translating and the Network Economy,* Abdallah and Koskinen (2007) argue that the language industry now has a new structure of "indirect" production that takes the form of a "network", which is now based mostly on "outsourcing and subcontracting".
- In his research *Translation: Rights and Agency, A Public Policy Perspective for Knowledge, Technology and Globalization*, Sadek (2018) claims that current translation rights (and therefore, current copyright and intellectual

property systems) are built upon “questionable” premises, which have led to “one-sided” intellectual property and data ownership policies.

- Workplace research conducted by some translation scholars such as Ehrensberger-Dow, Massey (2011, 2014a, 2014b, 2015, 2016) and O’Brien (2012) show that translation practitioners can feel “devalued” and/or “dehumanized” - mostly due to the impractical use of technology.

There are clear signs that the language industry is going through a new shift centered on Artificial Intelligence (AI), machine translation (MT) and digital labour platforms. We anticipate that the coming half-century will usher in an era marked by profound technological and social advances, as recent technological developments have showed us that “inventions that were once confined to the realm of science fiction come into common usage” (Smith, 2014). According to industry reports prepared by a leading language industry organization and language data network, TAUS[5] (2017 and 2018), this new transformation process - powered mostly by advances in AI systems, machine translation and cloud based platforms - is expected to change or re-shape (i) what is translated and how, (ii) the who of translation and (iii) the business model of translation. In this regard, the starting point in this research is how these developments that are triggered by newly introduced technologies may affect the working conditions of professional translation practitioners?, and my guiding statement as it relates to the scope of this study is that as long as the aforementioned limitations prevail (indirect, one-sided, devalued), the current technological developments (e.g. AI powered MT and digital platforms) that we have seen in the language industry will not improve the roles and positions of

[5] Translation Automation User Society

professional translation practitioners. Rather, they will be rearranged and reorganized in space and time in accordance with the production methods and working conditions of the cognitive capitalism. As TAUS research has also reported, "uberization of translation"[6] (TAUS, 2017, p. 25) on digital labour platforms[7] seems to be one of the most recent manifestations of this rearrangement and reorganization process. In this study, uberization of translation -with the most contemporary production methods and working conditions- is discussed within the context of "platform capitalism" (see also Langley and Leyshon, 2016; Ince and Hall, 2017; Fuchs, 2017; Scholz, 2016), which is generally considered a sub-term to describe the new way of doing business in the era of cognitive capitalism.

To analyze this rearrangement and reorganization process, I utilize (i) the cluster of concepts associated with Cognitive Capitalism Theory (Moulier-Boutang, 2008/2011), (ii) the industry reports prepared by TAUS (2017 and 2018) and (iii) research papers on the impact of digital labour platforms on digital workers published by the International Labour Organization[8] (ILO, 2018a). Additionally, in order to provide insight into how translation practitioners are affected by the recent technological developments covered in this thesis, and to support my theoretical exploration, I also submit and analyze the findings of a qualitative survey conducted with 70 professional translation practitioners residing continuously in the Republic of Turkey and working on/for digital labour platforms that are equipped with the most

[6] I use the term "uberization of translation" as Uber, the new app-based taxi service, is an example of a technology and digital labour platform that is rapidly disrupting an old industry model in the era of cognitive capitalism, while raising important questions about the implications for its (new) business model.

[7] Such as Upwork, Fiverr, Proz.com, Lionbridge GeoWorkz, Gengo, Smartcat, Stepes, Unbabel, Protranslate, Hızlı Çeviri, Bionluk, etc.

[8]The International Labour Organization (ILO) is a specialized agency of the United Nations (UN) dedicated to improving labour conditions and living standards throughout the world.

recent translation technologies (such as TM, MT and AI) and led by corporate entities. Based on the findings of the survey and theoretical research, it is possible to conclude that even though there are some technical advantages (such as automated processes) for professional translation practitioners working on/for digital labour platforms, engaging in such work poses certain risks with regards to employment status, adequate income, work and life balance, social protection, free agency, bargaining power and rights, dependence on platform, fair allocation of risk and reward across the ecosystem, and data collection, protection and privacy. The findings of this study are also consistent with the field research conducted by the International Labour Organization (ILO, 2018), which warns that digital labour platforms will introduce some new challenges, uncertainties and limitations that may contribute to undesirable terms and conditions for digital workers and lead to adverse working conditions.

In this regard, this research is motivated mainly by two key goals: (i) to make a theoretical and conceptual contribution to the scholarly understanding of the contemporary technological transformation occurring in the language industry, and (ii) to highlight the need for further research into the theoretical, practical and critical study of the relationship between translation and technology.

1.2 Literature review

Since the critical study of language technologies is a relatively new field of research, instead of having one single comprehensive literature review section, I have chosen to provide a short introduction of previous studies in this section, and then elaborate on contextually relevant research especially in section 3.1 and its sub-sections. While I have made use of the findings and implications of contemporary scholarship on

translation technologies in my research wherever possible, I have complemented this research with applications and practices from other fields wherever I felt that such connection was missing or required updating.

Şahin (2016, p. 3) states that the field of translation technologies has begun to attract the attention of translation scholars in recent years due to several reasons:

(i) the changing nature of the translation profession with more complicated translation tasks requiring translators to have more technological competence such as using desktop publishing (DTP) tools.

(ii) the new demands and practices in the field such as localization, post-editing MT output, web translation, fansubbing, and crowdsourced translation.

(iii) the changing profile of the learners, which are usually called "digital natives" (Prensky, 2001)

On the one hand, with the emergence of translation history and recent sociological studies on translation and its practitioners as sub-disciplines in translation studies, as illustrated through the theoretical contributions of Cronin (2003), Robinson (1991), Simeoni (1995), Venuti (1998), Wolf and Fukari (2007), von Flotow (1997), Gentzler, (2001), Tymoczko (2007), recent workplace studies on translators and translation technologies conducted by scholars such as Şahin (2013 and 2016), Ehrensberger-Dow, Massey (2011, 2014a, 2014b, 2015, 2016), and O'Brien (2012), and as a result of the latest developments in the field of language technologies (MT and TM technologies), there has been a greater focus on translation and its practitioners both within academia and industry. Some recent contributions by

translation scholars (e.g., Olohan, 2011 and 2017; Abdallah and Koskinen, 2007; Kenny, 2012; Kenny and Doherty, 2014; Moorkens, 2017; O'Hagan, 2016; Littau, 2015; Byrne, 2012) mark the beginning of critical studies on the relationship between translation and technology.

On the other hand, as Alonso and Calvo (2015) argue in their article *Developing a Blueprint for a Technology-mediated Approach to Translation Studies*,

> Translation Studies (TS) have traditionally contemplated technologies only as supporting tools for translation practice, and translators' tools have not enjoyed consideration as decisive actors in TS. Hence, their impact has been somehow underrepresented in the discipline. . . Most TS approaches are artifactual, this meaning that a rather simplistic and outdated distinction is made between translator minds and the tools they use. (p. 135)

Even though the studies, research and industry applications developed over the past several decades and the ongoing discussions have helped us understand some basic concepts of translation, its practitioners and technologies, I think there is still a need for more research devoted to these concepts as they play critical roles in people's lives. In addition, there are no enough accounts that set out to consider MT, digital platforms and language technologies (e.g. translation memory, translation project management systems or localization tools) as social products and that "seek to account more fully for the interplay of social, technical, cultural, economic and ideological factors through. . .periods of sociotechnical change" (Olohan, 2017, p. 7).

In terms a theoretical background, I benefitted from the cluster of concepts associated with Cognitive Capitalism Theory (Moulier-Boutang, 2008/2011) - a theory that tries to understand and critically analyze recent phenomenal changes in micro-electronic technologies and the widespread diffusion of information and communication technologies (ICT), and views these phenomenal changes as a representation of the fundamental transformation that capitalism is undergoing. It

should be noted that this study does not focus on whether or not capitalism is transitioning to a new phase, but instead attempts to provide a critical analysis of how recent phenomenal changes such as the rapid adoption and diffusion of information and communication technologies (ICT) may affect professional translation practitioners in the ways to be discussed in Chapter 3. Cognitive Capitalism Theory (Moulier-Boutang, 2008/2011) is utilized in this thesis because the language industry is "based on the rise of cognitive, communicative, and co-operative labour that is interconnected with the rise of technologies and goods that objectify human cognition, communication, and co-operation" (Fuchs, 2011, p. 85).

Although there are other terms and definitions that describe the effects of recent technological advances on communities, "Cognitive Capitalism Theory" (Moulier-Boutang, 2008/2011) constitutes the primary theoretical framework of this thesis. The recent technological transformation and evolution of commercial translation activities and professional translation practitioners can be examined and analyzed within the context of this theory, as translation has now evolved to "a complex cognitive activity carried out in different settings by translators that share an increasingly heavy reliance on language technology" (Ehrensberger-Dow and O'Brien, 2015, p. 98), and today the field of professional translation in particular is, without a doubt, "a form of human–computer interaction (HCI)" (O'Brien, 2012).

Translation memory (TM) and machine translation (MT) are relatively new immaterial products of the language industry, and "the ongoing process towards stabilization of meanings", "the widespread public use of MT technologies" and "the hegemonic position occupied by [global technology companies such as] Google" (Olohan, 2017, p. 8) make them relevant data or cases to study within the cognitive capitalism framework. As Olohan (2017) states:

> With the worlds of translation and translation technology dominated by a small number of global players and recent years characterized by a flurry of mergers and acquisitions, critical studies of translation technology need to focus on power struggles to develop, acquire or maintain certain technologies and the strategies used to shape technological outcomes. (p. 11)

The call for a "critical study of translation technology" vis-à-vis power struggles has still not been fully answered and elaborated with new research studies. In his book *Social Media: A Critical Introduction,* Christian Fuchs (2017) questions the meaning of "being critical" in an academic sense and comes to the conclusion that most of the critical questions related to technology ignore the topic of "power". Fuchs states that:

> [First], They do not ask the questions who benefits and who has disadvantages from the use of social media, the Internet and ICTs (information and communication technologies) and how the benefits of some are based on the disadvantages of others. Second, such questions are based on a particularistic logic: they are concerned with how certain groups, especially companies and politicians, can benefit from social media [and the Internet and ICTs] and ignore the question of how this use benefits or harms others and society at large (p. 8).

He gives some examples of these kinds of "uncritical questions" that ask, for example, "how *companies* can benefit from social media", "but do not discuss the working conditions in these companies," the wealth gap between the wealthy managers and shareholders, on the one hand, and the large number of unemployed, homeless and precarious workers on the other hand, i.e. the rising inequality in the world (p. 8).

Furthermore, in answering the question "why is it [critical theory or critical thinking] relevant for understanding computer technologies?", Fuchs (2017) claims that "the history of communication and transport technologies is not a progressive success story":

> Although many people today benefit in mutual ways from using books, telephones, trains, cars, television, radio, computers, the Internet, or mobile phones, the history of these technologies is deeply embedded into the history of capitalism, colonialism, warfare, exploitation and inequality (p. 10).

Fuchs provides some examples from the studies conducted by Winseck and Pike (2007)[9] and Edwin Black (2001)[10] to show us that "corporate, military or state interests often stand above the communicative interest of humans", and that "the computer and the Internet have their origins in the military-industrial complex and were later commercialized" (2011, p. 10). According to Fuchs, "they both first served the interest of war before companies discovered the profitability of these technologies (p. 10). In this sense, following Olohan's (2017) call for further research in the field of translation and technology:

> Translation studies can expand its repertoire of applicable social theories to account for the hitherto rather neglected technological and material dimensions, to understand the nature of technological development and articulate how technology embodies and materializes the hegemonies and power relations of the translation sector. (p. 13)

As Fuchs (2017) states, "we live in turbulent times that are shaped by worldwide inequality, global economic crisis, global ecological crisis, war and terrorism, high unemployment, precarious living and working conditions, rising poverty levels, etc." (p. 10-11). Therefore, highlighting the claims on the era of "cognitive capitalism" also allows me to pursue more reflective research in order to understand and analyze certain language technologies, and strategies used to shape technological outcomes.

[9] According to Fuchs (2017, p. 10), Winseck and Pike (2007) demonstrate a distinct connection between communication, globalization and capitalism with examples related to the global expansion of cable and wireless companies (such as Western Union, Commercial Cable Company, Atlantic Telegraph Company or Marconi) between 1860 to 1930.

[10] According to Fuchs (2017, p. 10), Edwin Black (2001) has shown in his book *IBM and the Holocaust* that by selling punch card systems to the Nazis, International Business Machines (IBM) assisted them in their attempt to extinguish the Jews, ethnic minorities, communists, socialists, gay people, the handicapped and others.

1.3 Methodology

Certain agents (professional translation practitioners), concepts (commercial translation activity, cognitive capitalism, platform capitalism, digital labour platforms) and language technologies (Internet, translation memory, machine translation, AI, etc.) are a focus of my research, and they will be discussed within the context of the language industry, which has been trying to keep pace with the demands of a rapidly-changing global market economy, and in connection with the body of interdisciplinary translation research that focuses on process (including cognitive processes, agents and technologies), product and society.

This study will be limited to the professional translation practitioners working in the language industry. The main focus of this study is the professional translation practitioners who produce "bilingual, text-based translation in a specialized domain destined for public consumption for which the translator is paid" (O'Brien, 2012, p. 102). Although the general concepts, agents and technologies of literary translation and interpreting are not explicitly mentioned in this study, it can still be claimed that the translation of literary texts and the interpretation of all kinds of oral activity that benefit from computer, technology and Internet resources can also be considered "a form of human–computer interaction" (O'Brien, 2012, p. 102), and some of the conclusions reached through this research may be valid for them as well.

Chapter 2 presents the theoretical and conceptual framework of the thesis with a brief introduction of the theory of "cognitive capitalism" and a discussion of some basic arguments including platform capitalism. The key concepts used in the thesis will then be defined and the foundations of the theory used in analysis and discussion will be outlined.

Chapter 3 demonstrates how Cognitive Capitalism Theory (Moulier-Boutang, 2008/2011) is connected to the language industry with an overview of the current status of commercial translation activities and professional translation practitioners. This is followed by an investigation of the current technological transformation and evolution of commercial translation and professional translation practitioners in the era of cognitive capitalism. This section will explore how this transformation has led to an indirect regulation of production networks, created one-sided intellectual property and data ownership practices, and devalued professional translation practitioner's skills and outputs by utilizing the Cognitive Capitalism Theory and research studies on translation and technology.

Then, the influences of the current shift resulting from the introduction of AI powered neural machine translation (NMT) technology and digital labour platforms on the language industry, its practices and practitioners will be outlined by using data from on TAUS reports (2017 and 2018). The term "uberization of translation" will be introduced within the context of "platform capitalism" (Fuchs, 2017; Scholz, 2016; Langley and Leyshon, 2016), and based on the research report published by the International Labour Organization (ILO, 2018a), I will discuss why this new business model of cognitive capitalism raises new challenges, uncertainties and limitations that may contribute to undesirable terms and conditions for professional translation practitioners. Then, the results of the qualitative survey that was conducted with 70 professional translation professionals as a part of this thesis will be presented to analyze how this new shift with certain recent information and communication technologies (ICTs) may influence the working conditions of professional translation practitioners. The survey methodology will be explained in section 3.2.2, before proceeding with the analysis of the findings.

The final phase of the study, Chapter 4, consists of a summary and conclusion, which summarizes the key findings within the context of Cognitive Capitalism Theory and discuss the contribution of the thesis to translation studies as well as making suggestions for further research. The research outcomes will be evaluated in this section and the purpose of the thesis will be summarized in the conclusion. I conclude with a discussion of new challenges and weaknesses that may contribute to undesirable terms and conditions for professional translation practitioners and leading to adverse working conditions.

1.4 Limitations of the study

My research focuses on a subject that raises certain "why" and "how" questions. Answering these kinds of questions requires an examination of relationships within the context of social situations. Therefore, all the limitations of qualitative research design apply to my research. In addition, some of the basic concepts of the research may have vague and personal connotations pertaining to the field of translation, and terms like "professional translation practitioner", "machine translation", "translation memory", "cognitive labour", "digital labour" "immaterial labour", "platform capitalism" "uberization of translation" and "cognitive capitalism" can be confusing for readers. Therefore, I will explain all of these terms in Chapter 2. There are also lots of translation practitioners working as a freelancer or remote-worker, and their involvement in the translation process is in some ways different than in-house translators. This might create disparity between the responsibilities of the in-house, freelance, part-time or remote-working practitioner, but addressing all of the potential differences is beyond the scope of my research. In order to maintain a perspective that is broad enough to include all of the relevant labour sources, I use

and explain the terms “translation practitioner” and “professional translation practitioners”, which cover most of the roles and working practices of these professionals.

CHAPTER 2

CONCEPTUAL AND THEORETICAL FRAMEWORK

This chapter introduces the conceptual and theoretical framework of the thesis. It will focus primarily on the technological transformation of translation and its practitioners in the era of cognitive capitalism, and concepts related to the combination of technology and translation will be examined in this section, as well.

2.1 Commercial translation activity and professional translation practitioner

Discussion and research aimed at translation and its practitioners first requires that the concept of "translation" and "translator" be clearly defined for the purpose of this study since it is necessary to clarify the meaning of widely used but ambiguous terms and expressions. There are various agents involved in the production and distribution processes of translation, and in order to construct an appropriate approach to the concept of translation, it is necessary to focus more on the interrelational and interactive character of these agents, as translation practice is now a cognitive, collective, collaborative and technology-dependent activity that spans various concepts, agents and technologies.

The terms "translation practitioner" and "professional translation practitioner" will be used throughout this study. The term "professional translation practitioner" should be considered a sub-term of "translation practitioner," which includes all kinds of human agents involved in the translation activity (for example, as a hobby, volunteer and/or political activity, part-time job, professional job, etc.) while the term "professional translation practitioner" includes only the people involved in the translation activity as a professional agent (for example, as a

professional translator, editor, post-editor, reviewer, proofreader, copywriter, transcreator, content creator, term expert, etc.).

The "motivation(s) of the translations" (Reiss and Vermeer, 1984) being produced during this era is also important for this research as an effort must be made to understand everything in terms of the motivations of human behavior. Translation as a professional activity emerged only after the invention of "barter of things" and/or "money". There was no such a profession before, but of course translation as a "cognitive activity" and "social phenomenon" has always existed. This and many other developments throughout the history of humankind have transformed "translation" into a "commodity" which is now both "a thing that satisfies a human need" and "a thing that can be exchanged for another thing," which means that this development has created a different motivation for human translation activities. This will be categorized under the concept of "commercial translation activity" throughout the study. Commercial translation activity can be viewed both as production/translation and reproduction/retranslation of texts related mostly with business/trade, and the motivation for this translation activity is regulated mostly by market demands.

Since there are a variety of different production methods, such as one-off, batch, mass and continuous flow production, commercial translation has its own types of production methods. The term "mass or industrial translation"[11] can be used for most of the work carried out in the language industry, and this study will focus primarily on these kinds of translation activities. Non-commercial translation activity does not fall within the scope of this study because the considerable number of professional translators appear to be employed to satisfy the huge and growing

[11] User manuals that employ more or less the same expressions, content and phrases are a good example of that kind of production.

demand for translations of commercial and industrial materials. Such a categorization will serve as a more solid foundation when it comes to clarifying some basic principles and motivations behind the current commercial translation activities, and hence make it possible to analyze the data more rigorously and effectively.

2.2 Translation memory (TM) and machine translation (MT) technology

As already noted, this research assumes that the introduction of TM and MT software technologies were two of the most critical milestones in the language industry. Because these two software technologies have a broad technical, historical and societal background, a brief description is warranted within the general scope of the research. What is interesting about these two software technologies in terms of this research is that I consider them to be two of the most significant, symbolic and strategic knowledge-goods of "the immaterial economy and of the new capitalism based on innovation and the production of value" (Moulier-Boutang, 2008/2011, p. 80).

The history of contemporary language technologies "starts with the halt to machine translation (MT) funding in late 1966 following the conclusions contained in the ALPAC report" (TAUS, 2017, p. 8). The ALPAC (Automatic Language Processing Advisory Committee) report entitled *Language and Machines: Computers in Translation and Linguistics* defined MT as being "too expensive, too time consuming, too inaccurate" and sent a clear message both to the public and the rest of the scientific community that "the technology in question was hopeless" (p. 8). The conclusions of this report "were mostly due to the large number of available translators at the time, the relatively small amount of texts to be translated, and the inexpensiveness of translators compared to scientists, which made MT

uneconomical" (p. 8). It recommended, however, "the development of tools to help translators become more productive" (p. 8).

As a result, with the introduction of the "electronic typewriter, with only two lines of memory, and the use of dictaphones, translation became a computer-interactive task. This was followed by the introduction of word-processing software" (O'Brien, 2012, p. 104). According to Haigh, although the origins of word processing dates back to before the mid-seventies, word processing only started to become globally recognized in the mid-seventies and early eighties (as cited in O'Brien, 2012, p. 104). And O'Brien argues that:

> This was a development that would have required some translators to interact with a computer for the first time. Not long after the mass embracing of word processing came the introduction of Translation Memory tools. In conjunction with this development came terminology management programs, which are ostensibly used to store terms and their corresponding translations in one or multiple languages, though it is well known that such programs are not restricted to the storage of terms, but also store phrases and sometimes even sentences or larger chunks of text, therefore creating a fuzzy line between TM and terminology management tools. (2012, p. 104)

As Luigi Muzii (2018b) puts it, "the last real innovation in translation were translation memories, a quarter of a century ago, as a development of the machine-aided translation effort following the (in)famous ALPAC report" (p. 21) Using this translation memory (TM) technology over the years, translation practitioners have created large repositories of translated data which are called translation memory (TM), and these large repositories of translated data have been utilized to train machine translation (MT) engines. The first applications of this technology were not successful enough to give "good enough" results, as at that time there were not adequate linguistic data to train the machines, or the technology (Internet, CPU and etc.) to process the data.

The military, politics and international relations in general have driven machine translation (MT) research since it first emerged. Throughout the Cold War, research in the USA and USSR focused on the English and Russian language pair. As Erik Ketzan (2007) puts it in his work *Rebuilding Babel: Copyright and the Future of Machine Translation Online*:

> The CIA, Department of Defense, and Air Force poured funding into early MT research. Throughout the 1970s and 1980s, researchers in Saarbrücken, Germany focused on Russian and German. The first MT project of the Logos Corporation, still in business, was an English-Vietnamese system for translating aircraft manuals during the 1970s. One of the best-known projects of the 1980s was the European Communities' Eurotra project, which aimed to translate among all the Community languages. Systran developed Serbo-Croatian-to-English MT for United States forces sent to the former Yugoslavia. (p. 14)

Today's most popular "hype" within the language industry is neural machine translation (NMT). In addition to the computer and the Internet, two of the most recent and significant technologies in the field of language and translation, MT and TM technologies evolved to a new level after "Neural Machine Translation (NMT)" technology was opened to the general public in 2016. NMT is "a new MT technology that has been under research and development since at least 2012, and which matured to the point of open availability during 2016" (TAUS, 2017, p. 11). The current interest in (N)MT technologies is being driven by several key factors including increased demand from consumers and producers of translation, recent technological breakthroughs and significant investment in machine translation by individuals, institutions and companies. In one of its most recent reports, *The Translation Industry in 2022*, TAUS (2017) states that:

> Organizations that have worked with the technology are convinced that it offers significant advantages over phrase-based SMT in terms of output fluency and accuracy. Unlike statistical machine translation (SMT) which

> uses look-up tables to "learn" comparable phrases, NMT learns to translate sentences by using technology called neural networks - several layers of linked "neurons" that operate in symbiosis to roughly imitate the cognitive processes used in the human brain to recognize and learn patterns of information. Like SMT, NMT is trained using parallel data, but due to the "deep learning" carried out by the neural network, the engines are capable of far richer sentence modeling than SMT engines. (p. 11)

This development can be seen as a radical milestone that has already started to influence a wide range of translation activities with its direct and indirect consequences. The recent developments in machine translation have led to a situation "where the quality of machine translated text is now at a level where it can be taken quite seriously" (O'Brien, 2012, p. 106).

The following chapter will present the theory of cognitive capitalism as given by Autonomist Marxists, such as Moulier-Boutang, Vercellone, Fuchs, Hardt and Negri.

2.3 Cognitive capitalism theory

The concepts and discussions surrounding the issue of "cognitive capitalism", "cognitive/immaterial labour" and "platform capitalism" will be utilized to better describe and analyze some recent technological developments in the language industry. As the proponents of this theory essentially focus on class struggle, history and interpretation of Marx's value theory, it is important for this research to briefly summarize some of the key arguments of this approach. After giving a brief definition of some concepts and background information about this theory, the connections between Cognitive Capitalism Theory and the language industry will be explored by pointing out how the current role and position of commercial translation activities and professional translation practitioners fit this paradigm today. To briefly outline for the scope of this study, the discussions around this new phase of

capitalism, namely “cognitive capitalism” (Moulier-Boutang, 2008/2011) or/and “informational capitalism” (Fuchs, 2011) suggest that:

- Production strategies and methods of this era are mostly depending on “flexible” working regimes, and thus, create “indirect” production networks (i.e. outsourcing and subcontracting).
- The intellectual property rights of knowledge workers are being systematically violated due to a profit motive, which has resulted in “one-sided” copyright relationships between knowledge workers and their employees.
- And the various skills and outputs of knowledge workers labouring under “precarious” conditions are “devalued” by the impractical use of technology.

According to Paulré (as cited in Jeon, 2018) the objective of this theory is “to address the role of knowledge in understanding the evolution and transformation of contemporary capitalism” (p. 99). Although the origin of this theory dates back to the early 1990s, Paulré states that (as cited in Jeon, 2018) its development as a separate research stream started when the thesis of cognitive capitalism was drafted during a symposium held in Amiens in 1999 (p. 102). Major contributors of this theory include Antonella Corsani, Antonio Negri, Michael Hardt, Patrick Dieuaide, Maurizio Lazarrato, Jean-Marie Monnier, Yann Moulier-Boutang, Bernard Paulré and Carlo Vercellone.

In order to explain why they prefer the term “cognitive capitalism”, Carlo Vercellone stresses that “i) the notion of ‘capitalism’ defines the enduring element in the change of the structural invariants of the capitalist mode of production; ii) the

term ‘cognitive’ emphasizes the new nature of labor on which value production in new capitalism rests” (as cited in Vercellone and Lucarelli, 2013, p. 2). The basic claim of this theory is that we are entering into a new phase of capitalism, the “cognitive capitalism” phase. According to Moulier-Boutang (2008/2011), cognitive capitalism is the third stage of capitalism, preceded by industrial capitalism that started with the first industrial revolution. In its first stage, capitalism was mercantilist capitalism “based on the models of production of the putting-out system and of centralized manufacture” (Vercellone, 2007, p. 15). The proponents of this theory remark that cognitive capitalism is as different from classical industrial capitalism as that capitalism was from the mercantile and slavery-based capitalism that preceded it. Moulier-Boutang (2008/2011) distinguishes three principal configurations in the history of capitalism:

> [The first one is] mercantile capitalism, which was based on the hegemony of mechanisms of merchant and finance accumulation and developed between the start of the sixteenth century and the end of the seventeenth. Next came industrial capitalism, which was based on the accumulation of physical capital and the driving role of the large Manchester-style factory in mass-producing standardised goods. (p. 50)

Moulier-Boutang” (2008/2011) claims that the third stage of capitalism is founded on “the accumulation of immaterial capital, the dissemination of knowledge and the driving role of the knowledge economy” (p. 50). According to this theory, historical struggles for reduction in working time “led to capitalist restructuring focused on immaterial production identified by the rise of knowledge-based industries” (Patil, 2015, p. 1) The aforementioned Autonomist Marxist authors and scholars have defined “new antagonisms of capital-labour relationship in terms of *immaterial labor, multitude, knowledge labor and information economy* while addressing knowledge as prime factor in value creation” (p. 1, italics in original). They say that

"capital has become external to production while appropriating collective knowledge"[12] (p. 1). This shift, Autonomists argue, is one of the most significant characteristics of cognitive capitalism.

It should also be noted that this theory argues that the transition towards cognitive capitalism is far from eliminating the contradictions and antagonisms of traditional capitalism; instead, this new phase of capitalism "dislocates them and, in a certain measure, increases their stakes" (Vercellone, 2005, p. 9). Moulier-Boutang (2008/2011) states that:

> Just as industrial capitalism had broken with the substance of slavery-based merchant capitalism, 'cognitive' capitalism, which is now beginning to appear and which produces and domesticates the living on a scale never before seen, in no sense eliminates the world of material industrial production. Rather, it re-arranges it, reorganises it and alters the positioning of its nerve centres. Financialisation is the expression of this remodelling, of this reformatting, of material production. (p. 48)

Jeon (2018), as well, claims that "whilst we are observing changes such as the rapid adoption and diffusion of information and communication technologies, they represent no fundamental change in the essence of capitalism, but comprise only new appearances through which more or less the same essence manifests" (p. 101).

Moulier-Boutang (2010) states that many theories and terms have been proposed to address this transformation of capitalism from different perspectives, regardless of what term is being used — "cognitive capitalism," "knowledge-based economy," or "intellectual capital" — and;

> . . . whether or not one agrees that knowledge is at the core of a new system of accumulation that is increasingly predominant, it has become clear at the present time it is the *activity* of producing knowledge and intellectual human

[12] There are some counterarguments on this view. In his research study, Patil (2015) tries to show for example that, "Facebook as capitalist firm is not external to the production process, it in fact deploys myriad mechanisms for steadily engaging users on their platform so that more and more advertisers find their potential customers for their products (p. 1)

> resources that is more central than the *end product* of that activity, that is to say, knowledge codified in software and databases" (p. 317, italics in original).

Moulier-Boutang (2008/2011) defines software as a "set of instructions for a computer or electronic machine - instructions that are written in a programming language" (p. 81). According to him, software can be seen as the concentrated essence of the new information technologies by constituting the "immaterial part of the computer" (p. 80). Software is therefore "a symbolic and strategic knowledge-good of the immaterial economy and of the new capitalism based on innovation and the production of value" (p. 80).

In his book, *Reflections on Empire,* Negri states that "today, we find ourselves in a way of life and in a way of producing that are characterized by the hegemony of intellectual labour. It has been said that we have entered the era of *cognitive capitalism*" (Negri, 2008, p. 64, italics in original). In *Explaining the Theory of Cognitive Capitalism,* Carlo Vercellone (2005) writes that the transformation of contemporary capitalism finds its origin "in the increased importance of knowledge and its diffusion that brought about higher levels of education and the expansion of the immaterial and intellectual content of labour" (p. 6). This transformation marks the birth of cognitive labour and immaterial production, which are, according to Vercellone, similar concepts; however, the term "cognitive labour" is more specific. Monnier and Vercellone suggest that cognitive labour can be either material or immaterial labour (as cited in Jeon, 2018, p. 108).

2.4 Cognitive/Immaterial labour

The term "immaterial labour" (Hardt and Negri, 2000, 2004) can be seen as one of the core concepts of this third stage of capitalism. Maurizio Lazzarato first

introduced the term immaterial labour, by which he means “labor that produces the informational and cultural content of the commodity” (as cited in Fuchs, 2011, p. 83). Michael Hardt and Antonio Negri define immaterial labour as labour “that creates immaterial products, such as knowledge, information, communication, a relationship, or an emotional response” (Hardt and Negri, 2004, p. 108). According to them, immaterial labour is jointly produced, but appropriated by capital for economic ends. They believe that immaterial labour has two main aspects:

a) it is 'manipulation of symbols' (i.e. IT work, production of knowledge, problem-solving, etc.) and/or

b) it is 'manipulation of affects' (production of emotions, well-being, smiles, etc.) (as cited in Aufheben, 2006, p. 24).

Autonomists argue that after the second world economic crisis in the mid-1970s “there was a transition from the Fordist mode of development to the Post-Fordist mode of capitalist development” (Fuchs, 2011, p. 86). According to Negri and Hardt, at this time, capital was forced to move into immaterial production “to dominate a new labour power that had redefined itself, autonomously, as creative, communicative and affective” (Negri and Hardt, 2000, p. 276). The transition to this third cycle of struggle which is still underway, has started “with the formation and struggle of mass worker against capital” (as cited in Jeon, 2018, p. 107). Negri states that during the struggles in the 1960s and 1970s against large-scale industry, capitalists had to adapt different strategies and a flexible regime of accumulation and domination in order to re-configure class composition and increase profits. According to this view, “globalisation of production sites, offshoring, shift to service work, outsourcing and adoption of flexible production methods” (as cited in Jeon,

2018, p. 107) are some of the most obvious strategies of this flexible regime. Fuchs (2011) puts forth that the main idea was:

> to increase profits by putting pressure on nation states to lower wages and by decentralizing and globalizing the production process in order to reduce wage costs and investment and reproduction costs of capital so that variable and constant capital decrease which results in an increased production of surplus value and hence in rising profits. (p. 86)

During this process, according to Negri and Hardt, "Capital had to abandon the large-scale factory, its linear production, its inflexible working day and its mechanistic logic and employ open networks and flexi-time and give space to creativity" (as cited in Aufheben, 2006, p. 29). In this relatively flexible model, "labour is more involved in the production of images, meanings, and cultural elements of material goods" (as cited in Jeon, 2018, p. 107). As for Hardt and Negri, what is different today, however, in the era of biopolitical production, "is that intellectual and/or affective invention has become the primary source of value and wealth in society" (as cited in Jeon, 2018, p. 108). Labour becomes increasingly immaterial, and even if this immaterial labour is not measurable, it is still seen as the source of value. The immaterial nature of the goods produced in the era of cognitive capitalism induces "a strong specificity of information-goods or knowledge-goods as regards their learning processes, their use, their depreciation, their enrichment and the conditions of their exclusive expropriation" (Moulier-Boutang, 2008/2011, p. 54-55). According to Moulier-Boutang (2008/2011), this, in the end, has led to a crisis of implementation of traditional property rights such as intellectual property rights, patents and copyrights, "which once constituted a particular form of social compromise between the needs of production and the public's enjoyment of immaterial goods" (p. 55). Hardt and Negri (2004) believe that "conventional terms such as service work,

intellectual labour, and cognitive labour all refer to aspects of immaterial labour" (p. 108). Encompassing both intellectual work and service labour, in its nature this labour is "cooperative, flexible, communicative and affective" (Moulier-Boutang, 2008/2011). In *Multitude*, Hardt and Negri claim that immaterial production shapes society in its image. It makes society "more informationalised, intelligent, affective":

> immaterial labour has become hegemonic in qualitative terms and has imposed a tendency on other forms of labour and society itself... Just as in [the times of the 'hegemony' of industrial production] society itself had to industrialise itself, today 'society has to informationalise, become intelligent, become affective. (as cited in Aufheben, 2006, p. 24)

Hardt and Negri state that under the 'hegemony' of immaterial production, "all production, including material production, tends to become more immaterial" - living in a world where immaterial production is central, "we increasingly tend to produce all goods for their images and meanings rather than their material functionality" (as cited in Aufheben, 2006, p. 24). Not only all production, but, Hardt and Negri put forth that, "society as a whole is shaped by immaterial production" (p. 24). According to them, immaterial production now defines "the way we see the world and the way we act in the world" and "it has anthropological implications" (p. 24).

2.5 Platform capitalism and uberization of work

The activities performed on digital platforms are considered by Autonomist theorists as "labour" that produces "immaterial data". The term "platform capitalism" is thus used to describe a new way of doing business in the era of cognitive capitalism and the transformation that signals a major shift in how capitalist companies operate and how they interact with the rest of the economy. "Platform capitalism" is a useful signifier for naming an analytical focus on "digital platforms" which, following José

van Dijck, “can be thought of as a discrete and dynamic arrangement defined by a particular combination of socio-technical and capitalist business practices” (as cited in Langley and Leyshon, 2016, p. 13).

The “uberfication” or “uberization” of “collaborative” and “sharing” economy is also defined with the term “platform capitalism” (see also Lobo, 2014; Srnicek, 2017; Scholz, 2016; Langley and Leyshon, 2016). Research on these kinds of digital labour platforms (see also Fuchs, 2017; Langley and Leyshon, 2016; ILO, 2018) show that platforms formed with an encouraging narrative using phrases such as “sharing economy” and “collaborative consumption” have turned into a capitalist business practice in the era of cognitive capitalism. Langley and Leyshon (2016) argue in their research that, this is mostly because, “the generative force of the platform in digital economic circulation turns, in different ways, on the practices of intermediation and processes of capitalisation” (p. 13).

To understand better what this newly introduced term means, we should first refer to Sangeet Paul Choudary’s basic explanation of labour platforms:

> . . . In the specific case of labour platforms, platforms connect workers with consumers of work. The platforms also provide the infrastructure and the governance conditions for the exchange of work, and facilitate the corresponding compensation. A platform’s overall goal is to enable producers and consumers to find each other, engage in the exchange of goods and services for money, and in some cases build lasting commercial relationships”. (ILO, 2018a, p. 1)

However, studies conducted by Langley and Leyshon (2016), Sangeet Paul Choudary (ILO, 2018a) and Ince and Hall (2017) on Uber-like digital labour platforms demonstrate that “the sharing with others of intellectual and physical resources that would otherwise be privately used has become a viable mode not only

of managing and distributing those resources but also extracting profit from them" (Ince and Hall, 2017, p. 3).

In their article *Platform Capitalism: The Intermediation and Capitalisation of Digital Economic Circulation,* Langley and Leyshon (2016) state that emerging over the last decade and now apparent across a number of digital economic ecologies –including social media networks, online marketplaces, crowdfunding, crowdsourcing, and the sharing economy more broadly – "such circulations [as Uber] carry ideas, knowledge, labour and use rights for otherwise idle assets between geographically distributed but connected and interactive online communities" (p. 13). According to Langley and Leyshon (2016), "prevailing explanations cast digital economic circulations as horizontal, networked exchange relations between users which are new and different because of their disintermediated, collaborative, and even democratising qualities" (p. 13). The same observation is presented by Dredge and Gymóthy, who state that the positive narrative employed by platform promoters in these kinds of digital economic circulations consists of phrases such as "sharing economy" and "collaborative consumption", "which conjure a positive image of platforms in general, and labour platforms in particular" (as cited in ILO, 2018a, p. 31). However, Langley and Leyshon (2016) believe that deploying concepts such as 'sharing economy', 'co-production' (e.g. Prahalad and Ramaswamy, 2004; Thomke, 2003), 'prosumption' (e.g. Ritzer and Jurgensen, 2010), 'productive publics' (Arvidsson and Peitersen, 2013), and 'peer-to-peer' (Oram, 2001), established accounts "are problematic", in short, "because they render platforms largely invisible in the understandings that they offer of the digital economy" (p. 13). Maurie J. Cohen (2017) claims that efforts to draw attention to "the multifarious shortcomings of the sharing economy—most notably its tendency to compound precariousness and to

fortify deepening patterns of inequality"—is dismissed as "either mischaracterizations or growing pains of a transition still moving through its early stages" (p. 68-69). In his research paper on the impact of labour platforms on workers published in 2018 by the International Labour Organization (ILO) as part of their Future of Work Initiative, Sangeet Paul Choudary also concludes that these narratives are at odds with the mechanisms that many platforms put in place to control workers (ILO, 2018a, p. 32). Moreover, he says, "the concept of sharing can be cynically obfuscated":

> Platforms such as Couchsurfing, which started as not-for-profit intermediaries, enabling sharing among participants, have moved on to create for-profit businesses, focused on maximizing shareholder value, sometimes to the detriment of existing stakeholders . . . While for-profit platforms may also encourage a culture of sharing, the eventual centralization of profits and maximization of shareholder value are at odds with the overall narrative. More specifically, these platforms may improve market access and generate additional surplus but this does not imply that such surplus is equitably distributed among all stakeholders. Any regulatory framework should ensure that these narratives do not function as a ploy to sidestep regulation while maintaining control, information asymmetry, and profit centralization that could lead to worker exploitation. (2018a, p. 32)

Christian Fuchs (2016) also claims that the basic idea about the sharing economy is that "mediated by apps and the Internet, humans share information, data, goods, services, their location, property, or animals". Sharing, according to Fuchs, "does in most cases not mean that humans give away something gratis or help each other, as in the case of Freecycle"[13], but mostly "involves for-profit businesses such as Uber, Airbnb, Upwork, or Amazon Mechanical Turk". Just like social media and big data, says Fuchs, "the sharing economy is a new hype spread by business consultants, who want to create the impression that it is easy to make profits by practicing new economic models". For him, the trouble with these kinds of networks is that "for

[13] www.freecycle.org

many everyday people the contemporary economy means precarious work, insecurity, debt, temporary unemployment, and high levels of inequality. The sharing economy is nothing more than the newest buzzword that tries to ideologically veil capitalism's unjust character" (Fuchs, 2016).

Chapter 3 will explore whether or not a similar phenomenon is occurring with the recent technological advances in the language industry that facilitate "the uberization of translation work". In this chapter of the study, first, the software-specific advances of the language industry and their effects on translation practitioners will be discussed within the scope of the Cognitive Capitalism Theory (Moulier-Boutang, 2008/2011). Then, based on some studies conducted by translation scholars, sections 3.1.1., 3.1.2 and 3.1.3 will analyze in more detail how language technologies that have emerged in the era of cognitive capitalism are affecting the language industry, its practices and practitioners.

CHAPTER 3

COMMERCIAL TRANSLATION ACTIVITY AND PROFESSIONAL TRANSLATION PRACTITIONERS IN THE ERA OF COGNITIVE CAPITALISM

Translation practitioners have been facilitating the sharing of information and knowledge among human beings since the beginning of human history, and are now one of the most significant agents in our global information society. The technology-dependent evolution and transformation of translation is one of the most distinctive advances of our society in the twenty first century, and at no time in human history have translation practitioners been as important as they are today. Currently, with thousands of translation practitioners and language service providers, almost every aspect of their work, and the power of the services they provide contributes to making the individuals, organizations and businesses of our world more effective.

In the era of cognitive capitalism, a growing number of polyglot individuals have started using their translation skills, cultural knowledge and intellectual abilities in exchange for material or immaterial value. As noted, translation has become a cognitive activity - and in many ways a product of cognitive capitalism - that has an "exchange value", and this "value" is used by individuals as an "exchange of labour" for social cooperation and division of labour. By utilizing computer-integrated language technologies and the Internet, translation practitioners from all over the world have started distributing and creating information and knowledge as a part of a profession built around cognitive abilities, thus creating a new economy with an extensive commodification of almost all kinds of translation activities. This commodification process has created an industry that requires people, data, technology, processes and shareholders to produce, and maintain constant

accessibility and connectivity via networks, especially after the ‘90s. Language and software have become two of the core “values” and “immaterial products” of this global industry, and we have seen a growing number of translation practitioners who are selling their immaterial labour and language-based cognitive abilities on a marketplace that is open to the worldwide community via the Internet. With the widespread growth of the Internet, TM, MT, AI and digital platform technologies, commercial translation production is now mostly based on “the cooperative labour of human brains joined together in networks by means of computers” (Moulier-Boutang, 2008/2011, p. 57).

In the era of cognitive capitalism, translation practitioners are producing “knowledge labour,” which is a social and historical product, and this knowledge “emerges from the historical heritage of knowledge in society and is in many cases produced co-operatively” (Fuchs, 2011, p. 105). Fuchs (2011) points out that knowledge labour is labour that “produces and distributes information, communication, social relationships, affects, and information and communication technologies” (p. 98). According to Fuchs, there are direct knowledge workers either employed as wage labour in firms, or outsourced, self-employed labour. And there are indirect knowledge workers who produce and reproduce the social conditions for the existence of capital and wage labour. Direct knowledge workers produce knowledge goods and services that are sold as commodities on the market, for example software, data, statistics, expertise, consultancy, advertisements, media content, films, music, etc. Indirect knowledge workers produce labour related mostly with education, social relationships, affects, communication, sex, housework, common knowledge in everyday life, natural resources, nurture, care, etc. (p. 98-99). Fuchs believes that these are the forms of unpaid labour that are necessary for the

existence of society, and they are performed not exclusively, but to a certain extent by those who do not have regular wage labour –houseworkers, the unemployed, retirees, students, precarious and informal workers, underpaid workers in temporal or part-time jobs, and migrants (p. 98-99).

In this regard, by producing cognitive/immaterial labour under various conditions and job descriptions, translation practitioners consist of individuals from almost all of the aforementioned groups. A growing number of people that can be defined as (direct or indirect) knowledge workers, wage workers, houseworkers, the unemployed, migrants, retirees, students, precarious and informal workers and etc. are producing translation as a part of their professional and/or non-professional activities. They produce "knowledge goods and services that are sold as commodities on the market" and "the labour that are necessary for the existence of society," which is performed "not exclusively, but to a certain extent by those who do not have regular wage labour" (Fuchs, 2011, p. 98-99).

As this study discusses, the language technologies developed in the era of cognitive capitalism have profound professional and humanitarian implications, and they have a serious effect on most areas of day-to-day life, productivity and the workplace environment of professional translation practitioners. The next section of the study gives an overview of the ongoing technological advances in the language industry during the era of cognitive capitalism, and explores how these advances have been affecting the industrial landscape of the translation field and its workforces.

3.1 Technological transformation and the evolution of commercial translation and professional translation practitioners

Cronin (2013) states that "Our present age, which is often referred to as the information age with its corollary, the knowledge society, should more properly be termed the translation age" (p. 3). In the translation age, "all kinds of technologies are of course an integral and embedded part of translation practice", and "not taking technology into consideration in our theoretical models and frameworks means we have, at best, a partial understanding of how translation works" (Olohan, 2017, p. 13). Byrne states that each of the main technological advances of our time has been accompanied by translation, so we cannot understand technology without translation, and we cannot understand translation without technology since, "all technology is based on the transfer of information, and this would be impossible without translation" (as cited in Calvo and Alonso, 2015, p. 138).

The rapid technologization of the translation profession, a largely analogue one until the 90s, has made it almost compulsory for translation practitioners to possess computer skills in order to take advantage of language technologies during their production and management processes. Today, many professional translation practitioners are required to use various computer-integrated technologies, and these technologies, which are now integrated and serve as a standalone tool, have already begun to function as much more essential elements of the translation profession. Alonso and Calvo (2015) state that technology constrains and defines translation processes at many different levels:

> Usage of translation tools, e.g., how texts are fragmented in segments by translation memory systems; how mark-up languages influence decision-making in translation and localization; how Internet impacts information mining, accessing and processing; how translators become integrated in collaborative virtual environments and social networks; the way

> computerized project management and QA routines influence the whole translation workflow and the translator role; how the translator critically evaluates the quality of the available resources for a project, such as translation memories, terminology databases or recommended translation strategies; how the audiovisual elements (sound, images, interfaces, etc.) restrain translation decisions; how translators extract meaning by using corpus-based technologies, etc. (p. 144)

Calvo and Alonso (2015) conclude that especially after the widespread adoption of the Internet in the early 21st century, "we are experiencing a historic rupture in our social fabric" (p. 137). The Internet, along with the computer, has provided innovative technological solutions to the centuries-old problem of communication barriers between individuals, cultures, societies and economies. As Byrne argues, computers and the Internet have the greatest impact on the field of translation:

> Commercial Translation: […] the point of which is to provide a written alternative to some foreign language, has always required the use of certain tools whether a clay tablet a stylus, quill and parchment or typewriter, telex and fax. Such tools, while requiring some acclimatization, more so in the case of typewriters and telexes, were unlikely to have any radical impact on the work of the translator; they were simply improvements on existing methods. […] translation only underwent genuine metamorphosis as a result of technology with the advent of computers and the Internet. (as cited in Calvo, and Alonso, 2015, p. 141)

Knowledge is now being stored, shared, communicated, networked and finally traded by translation practitioners with the help of technologies, such as the Internet, translation memory (TM), machine translation (MT), AI and digital labour platforms. Many of the translation practitioners now utilize various computer-integrated software technologies for diffusing, using, sharing and storing their cognitive labour codified in software technologies and databases. In addition, by using such advanced technologies to record and store various human languages into electronic translation memories (TMs), translation practitioners have now created a huge corpus of linguistic data stored in multilingual databases - mostly now owned by multinational

corporations like Google, Amazon, Yandex, Apple, Baidu, Microsoft, Facebook, etc. Apart from the professional effects and consequences, as the industry has more broadly adopted MT, TM and more recently AI and digital platform technologies, this advances also influences the daily lives of human beings[14] because the general public also has the chance to use these technologies in the form of "freely available" (but not actually free)[15] technologies such as Google Translate, Microsoft Bing, Yandex Translate, Apple's Siri, Amazon's Alexa, etc. These publicly available machine translation engines, which are trained mostly by the translation memories of translation practitioners, can be viewed as universal machines just like computers, and both of them are now simultaneously means of "production, circulation, and consumption" (Fuchs, 2011, p. 88). As Fuchs puts it:

> This feature [being available publicly for production, circulation and consumption] combined with networking has resulted in the emergence of the figure of the prosumer[16] that on the one hand promises a new model of co-operative production and socialization of the means of production, but on the other hand is antagonistically subsumed under the rule of capital. (p. 88)

In this sense, the increasing importance of the language industry, which is now based mostly on two software technologies (TM and MT), computer networks and global network organizations, is an instrumental result of capitalist development. As

[14] With the advent of Google Translate, "translation has become directly accessible to end-users. . . In January 2017, Google announced that Google Translate was available in 103 languages and serving over 500 million users monthly, accounting for 140 billion words per day. In other words, today Google Translate alone translates more words in a day than all human translators in the world translate in a year" (TAUS, 2017, p. 8).

[15] According to the GNU Project, "Free software" means software that respects users' freedom and community. Roughly, it means that the users have the freedom to run, copy, distribute, study, change and improve the software. Thus, for the GNU Project, "free software" is a matter of liberty, not price. For a detailed explanation of "free and non-free software", please refer to "What is free software?- GNU Project - Free Software Foundation", 2019

[16] A prosumer is a person who produces and consumes a product. As users in the online community are both producers and consumers of content, in critical media studies, Internet and social media users are often thought of as "prosumers" (producer+consumer). For more detailed information, see also Ritzer, G. and Jurgenson, N., 2010

discussed before in section 2.2, computer technology, the Internet, machine translation and translation memory were not invented and introduced in an economic context, but in a military one. However, the societal diffusion of these technologies is due to the role "they have played primarily for the economic restructuration of capitalism" (p. 86). Digital labour platforms that use these technologies are some of the most concrete examples of this economic restructuration process. Fuchs (2011) states that:

> Computer networks are the technological foundation that has allowed the emergence of global network capitalism, i.e. regimes of accumulation, regulation, and discipline that are helping to increasingly base the accumulation of economic, political, and cultural capital on transnational network organizations that make use of cyberspace and other new technologies for global coordination and communication. (p. 86)

Moulier-Boutang (2008/2011) remarks that "the contribution made by the computer-based digital network in assisting mainly intellectual work is the ability to exploit capabilities for complex labour, in other words for abstract qualified labour" (p. 68). From this point of view, we can say that the novelty of the language industry, which is based on the rise of intellectual work and supported by recent advances in computer-based digital technologies such as the Internet, TM, MT, AI and digital labour platforms, is not that there are resources, networks and technologies to produce more translated materials for the general benefit or interest of society, but that the processes of "production, power, exploitation, hegemony, and struggles take on the form of transnational networks that are mediated by networked information and communication technologies and knowledge processes" (Fuchs, 2011, p. 76).

In their production lines based on mostly digital networking, professional translation practitioners are connected to the Internet, which is a working tool "but also the prime tool for relations with other enterprises and with territories, customers,

suppliers and subcontractors" (Moulier-Boutang, 2008/2011, p. 71). With the most recent developments in the Internet, many translation practitioners have begun working as freelance language professionals of small, medium and large business enterprises or public and governmental organizations. Based only on LinkedIn Inc. profiles, Ofer Shoshan (2018) states that there are over 600,000 linguists and 21,000 language service providers (LSPs) in this global industry, and the numbers indicate that this industry is expected to grow more in the near future. According to a report on "The Language Services Market: 2018" by Common Sense Advisory (CSA), global market for outsourced translation and interpreting services and technology will reach US$49.60 Billion in 2019" (CSA, 2019). As organizations of every size make their products and services available in more languages, CSA predicts that "the language services industry will continue to grow and that the market will increase to US $56.18 billion by 2021" (GALA, 2018).

As above numbers indicate, today there are more translation practitioners working on more texts than ever before, and like many other professions, professional translation practitioners have also experienced some enormous changes in this technological transformation process. Along with the Internet and the computer, the language technologies with marketplaces, international online payment methods, and the abundance and increased prevalence of digitally enabled online translation work have already actively fragmented the labour standards of the language industry and are relegating traditional translation jobs to short term, outsourced tasks. We can say that there is recently an increased tendency to outsource translation work to freelancer translation practitioners, especially using cloud-based computer networks (namely digital labour platforms). This issue is also discussed by Moorkens (2017) and he believes that "the rapid globalization and a

background of neoliberal policies applied by western economies since the 1970s has precipitated a race to the bottom on costs and increased focus on productivity" (p. 464), which in the end "has pushed more translation practitioners to work on a freelance basis", and created "a growing class of contingent workers with limited job security" (p. 465). A survey of 1,850 translators carried out by Ehrensberger-Dow et al. (2015) found that 77% of the respondents in their study are working on a freelance basis. Rummel states that this number is likely to rise, and even the European Commission's Directorate-General for Translation, one of the organizations that provides the world market with a huge volume of translation work, plans to cut the number of permanent employees and increase their outsourcing from 25% to 40% of all translation work in the coming years (as cited in Moorkens, 2017, p. 466). Even though the "freelance working model" in the form of "outsourcing" or "subcontracting" is now one of the most significant realities of the language industry, there has not been enough discussion about the negative impacts and consequences of this rising trend in digital employment on freelance language professionals. Olohan (2017) discusses how this new technology-dependent, flexible production mode of the language industry "might well be described as a post-Fordist flexible regime in which labour is reduced to an economic input, required to be flexible so that it can be mobilised or dispensed with as required" (p. 11).

Furthermore, Common Sense Advisory (CSA), a translation market research firm, warns that "present methods cannot possibly keep up with [that level of growth], even if the language industry were to add new translators at a historically unprecedented rate" (CSA, 2016). And according to Doherty (2016), due to the proliferation of digital content, machine-generated data, the growth of digital libraries, archives and the participatory online culture of Web 2.0 technologies

(O'Reilly, 2005), "traditional human translation simply cannot keep up the pace with the translation needs of today (and tomorrow)" (2016, p. 948). Additionally, there is no indication that the language industry can meet the ever-increasing demand for translation of the increasing amount of content, whether they are video, audio, images, voice or other data, using traditional production methods. That's one of the main reasons why industry players have already started deploying machine automation in the translation production processes. Since the advent of the Internet, computer, MT and TM technologies, the volume of material to be translated has grown, and many translation practitioners are required to use various language technologies and machine translation engines from corporate companies like Google, Yandex, Badiu, Bing, Systran, SDL, Matecat, etc. and/or from open-source communities like Omega-T, TraduXio, Translate-5, OpenTM2, Moses, Apertium, OpenLogos, etc. to streamline and automate various management, production, operation and delivery processes.

In this process, the language industry has witnessed another technological advance that can be considered a milestone or maybe even a paradigm shift. The emergence of neural machine translation (NMT) engines which are capable of (re)producing relatively fluent and more grammatically correct commercial translation outputs for certain types of text is thought to be a game-changer in the language industry. According to CSA research, "the demand for post-editing of machine translated content is expected to grow faster than any other segment of the language industry in the next few years, and commercial translation will likely see double-digit growth over the next several years" (CSA, 2016). Arle Lommel (CSA, 2016), a senior analyst at CSA Research, says, "MT is profoundly changing the landscape of the language industry". Almost all of the big technology companies are

training deep neural nets using translations gathered mostly from translation practitioners, and they are all moving to this technology not only because they can merchandise machine translation in the cheapest way possible, but also because they can improve and train it in a much faster and broader way. Automated and machine-assisted language technologies are (again) expected to do most of the tedious and repetitive work currently done by human beings. Researchers in artificial intelligence also predict that "in 2024 machines will be "better" at translating a text than humans (Grace, Salvatier, Dafoe, Zhang, and Evans, 2018, p. 1).

Recent trends towards the automation of localization environments (see also TAUS reports 2017 and 2018) show us that industry players have already begun to embrace language technologies equipped with the most recent hype over artificial intelligence (AI) technologies to lower translation production costs, compete with each other, improve quality and provide faster delivery. Translation technology providers are attempting to differentiate themselves by creating highly curated experiences powered by artificial intelligence to provide better working platforms, tools, resources and workflows, and many of the translation practitioners have long relied on these computer-integrated technologies to produce, store and manage their translations. The ability of these technologies to streamline and automate some processes is already delivering an advantage for language service companies by taking over some of the traditional tasks of human agents, and by cutting the times and costs needed for commercial translation activity.

Pedro Domingos, Professor of Computer Science at the University of Washington, states that even if machines powered by artificial intelligence (AI) have already started taking over some of the traditional tasks of human agents, which were

until recently, too complex to be automated, for the time being, machines cannot become as intuitive as humans:

> Machines can be creative and they are creative. Intuition, meanwhile, is a knottier problem: It requires a deeper understanding of how people think and how the world functions. Tech's best engineers haven't yet figured out how to equip an AI with intuition; as long as that remains the case, humans will have the upper hand in the workplace. A lawyer needs to understand her target reader and all of the biases or predispositions that person might have; a translator needs to have a nuanced understanding of the two cultures whose languages [s]he is transposing. (as cited in Katz, 2017)

However, there are still significant signs and industry practices that make us skeptical about the developments in language technologies. Dam and Zethsen state that during the technology-dependent transformation process of the language industry, "even the higher-status workers in stable positions in countries with high living standards have been found to have a lower professional status than may have been expected" (as cited in Moorkens, 2017, p. 466). In order to understand the underlying reasons for this "devaluation" that Dam and Zethsen mention, we can also look at the translation industry report prepared by DePalma et al. in 2013:

> The language services market as a whole has shown consistent year-on-year growth in recent years despite the global financial crisis . . . Translation prices per word, however, have continued to decrease by up to 50% since 2008, a diminution that analysts attribute to budgetary pressures and increased acceptance of translation technologies. (as cited in Doherty, 2016, p. 949)

Even if the demand and supply for language services has dramatically increased as a result of recent technological developments and financial globalization, and in spite of the fact that the ongoing technological evolution of the language industry has somehow improved the perceived and actual value of translation, enhanced productivity, efficiency, quality, safety and security of some translation practices, the

language industry still represents significant challenges, uncertainties and limitations for professional translation practitioners, and some of them will be covered in general in sections 3.1.1, 3.1.2 and 3.1.3 respectively. In light of the most recent technological breakthroughs mentioned above, this new expanding network- and resource-based global industry is already forcing the people working in this industry to confront technical and practical shortcomings as well as ethical issues. As a matter of fact, this confrontation is inevitable due not only to global technological advances, such as mass storage options, open data, the Internet of things, mobile and smartphones, data-driven digital economy, augmented reality, artificial intelligence, machine learning, cloud computing, more flexible and easy international payment methods, but also due to some translation specific advances including web-based translation memories (TMs) and terminology management (TB) tools, more powerful collaborative cloud-based ecosystems for automatic/assisted translation and QA tools, the most recent versions of machine translation systems, such as Neural Machine Translation, as well as more integrated web-based project management systems.

The next section elaborates on some of the most prominent outcomes of the technological transformation that has occurred in the era of cognitive capitalism based on research studies conducted by translation scholars. Though retaining their own individual characteristics, the following three topics all coexist and are interconnected.

3.1.1 Indirect production networks

Professional translation practitioners are now involved in a more complex and global production network. Especially after the 2000s, we have witnessed the

transformation of small translation agencies with only a few in-house employees and limited technologies into big corporations employing hundreds or thousands of people. Most of these companies have built a business model that is mostly based on freelance production networks within an industry that has become "primarily digital, outsourced, and project-driven" (Dunne, 2012, p. 144), and as Yann Moulier-Boutang states, this is a very typical practice of cognitive capitalism era:

> The very rapid development of organisational forms such as project management, arrangement of small units articulated into networks and operating under outsourced relations of subcontracting, partnerships and locally based relationships is the public manifestation of this transformation. (2008/2011, p. 57)

This new regulation of production networks, which is mostly based on outsourcing and subcontracting, no longer has the client ('commissioner' in Vermeer's term) and the translation practitioner in direct contact. Furthermore, the emergence of language service providers (LSPs) and multi-language vendors (MLVs) as powerful intermediaries between these two crucial agents in the translation production process "has changed the dynamics of the field, resulting in a new configuration" (Abdallah and Koskinen, 2007, p. 674). Professional translation practitioners now have "less direct contact with their end client, for they often work as subcontractors in globalized production networks that consist of multiple intermediaries" (p. 673-674). In a rapidly changing world of work where many professions are undergoing enormous changes, these developments have also transformed the traditional production structure of translation activity which consisted of the client, the translator and the end user of the translation (see Holz-Mänttäri, 1984; Reiss and Vermeer, 1984). As explained by Abdallah and Koskinen (2007), the traditional model emphasizing the expertise of the translation practitioners is rapidly being

challenged in the language industry by a new structure that takes the form of a "network" (p. 675).

After some big corporations and institutions (buyers) decided to outsource translation projects which were previously performed in-house, language service providers started serving these corporations by providing a full package of products and services. However, instead of hiring in-house staff, these providers often subcontract work to component suppliers, i.e., subcontractors who may in turn have another layer of subcontractors, forming increasingly small units of work (Abdallah and Koskinen, 2007, p. 675). The long chains of these production and vendor networks generate indirect relations, and "all parties are not involved when the product specifications and work conditions are negotiated" (p. 678). The subcontractors in this "network" generally possess limited leverage against the intermediary agency in matters, "such as regular workflow, better fees or more sustainable working conditions" (p. 678). Campbell et al. suggest that there may be short term gains for the worker when contracted on this basis rather than in a traditional employment relationship in terms of opportunities for avoiding tax or to earn a higher basic wage, "but the advantages for the employer tend to be greater, including tax minimisation and evading regulations for minimum rates of pay, annual leave, sick leave, and pension contributions" (as cited in Moorkens, 2017, p. 468).

With this indirect production network supported by the latest technologies covered within the scope of this study, the position and role of the translation practitioners as "experts" seem to have diminished, "while translation companies have firmly established themselves as the intermediary between the client and the translator" (Abdallah and Koskinen, 2007, p. 675). This change, according to Champollion, has been described as an "industrial revolution":

> Translators are now facing turbulence and falling victim to their own industrial revolution. They are becoming machinery parts in a manner similar to the industrial workers of the early 19th century. All information is becoming more mechanical and more global. Globalization increases the volume of translation, but the translators are becoming anonymous parts of a giant system run by international translation agencies. (as cited in Abdallah and Koskinen, 2007, p. 675)

This indirect infrastructure and design of the current language industry has also triggered one-sided intellectual property and data ownership policies and practices which will be discussed in the next section.

3.1.2 One-sided intellectual property and data ownership policies and practices

Intellectual property and data ownership policies and practices have raised some thorny challenges and triggered serious conflict in our digital age. Moulier-Boutang argues that "we have witnessed, around the question of intellectual property rights, the emergence of a new and uncertain struggle over 'the new enclosures'" (2010, p. 328). In line with the technological developments covered in this study, translation practitioners also "engage increasingly with ethical and legal issues around data management and security, [and] intellectual property rights" (Olohan, 2017, p. 11-12). Translation memory and machine translation software technologies, the ultimate use of which is mostly commercial now, as well as service and non-disclosure agreements (NDAs) between different parties of the translation production process (buyers, agencies, subcontractors, etc.) could be viewed as cases peculiar to the language industry within the context of intellectual property rights. As the range of issues surrounding intellectual property rights (including copyright laws and data ownership) are too broad and complex to be discussed within the limits of this study, only a few important points that are relevant to this research will be discussed. The

basic assumption in this section is that, the current translation rights (and therefore, current copyright and intellectual property systems) (i) are built upon questionable premises, and (ii) are inconsistent with translation scholarship and the current and future realities of the world we live in (Sadek, 2018).

During the last few decades, “innovation and creativity in technology, business processes and collective intelligence have made a remarkable impact on the global translation industry” (van der Meer, 2013). It would not be incorrect to summarize this issue by saying that a great majority of this industry is now based on recursive revenues and profits generated from the cognitive, collective and collaborative activities of translation practitioners. In the early stages of this industry, decision-makers tended not to consider specialized translation (also known as technical translation) as a “creative work”, and usually ignored the fact that producing translation has always required life-time learning, experience and most specifically human judgements and decisions even if it is part of a literary or non-literary work. Bearing this fact in mind, language industry players have managed to gain recursive profits from (re)translated words, sentences and texts by developing translation memory and machine translation software for translation production lines. A translation memory (TM) is basically “a document mechanically broken down into individual sentences or phrases which are stored in electronic form with their other-language equivalents” (Smith, 2009, p. 7). Inside these translation memories are numerous, relatively small and separate entries “created by the translator using the translator's own judgement, effort and expertise and arranged or tagged in such a way that they can be easily retrieved by TM software” (p. 8). However, when we look at industry practices and applications, we can easily recognize that industry players have not yet provided any recursive revenue or profit share to professional

translation practitioners in return for the unlimited use of their translation and translation data. The non-disclosure and service level agreements that have been prepared and offered to translation practitioners are the most concrete manifestation of this desire to control and appropriate the recursive and exclusive rights of translation practitioners.

Sadek's study (2018) shows us that the current copyright regime with the rights, rules and regulations reflected in these agreements have devastating repercussions on translators and on society, which includes potentially detrimental effects on the author of the original as well. By investigating "the historical and philosophical foundations of copyright law itself where the translation right is housed", he demonstrates the "questionable philosophical arguments and a colonial past that has created legal path dependencies" (p. ii). Luigi Muzii (2018a), a veteran in the language industry, argues that the current copyright regime has become "the veil to hide the hypocrisy of those claiming to be in favor of protecting the rights of authors while acting for the continuation of monopolies and their prerogatives".

There is another important issue that today's scholars, industry experts, legislators and policy makers working in the translation field need to consider, which is how to address intellectual property rights for the new technology phenomenon, namely translation data which are defined as a database "containing terms, phrases and segments of text, aligned between two or more languages" (van der Meer, 2013). Today's practices, policies and principles of intellectual property legislation all stem from "a last-century definition of translation whereby translation memories were merely intended to help the translator do a better job a little faster and somewhat cheaper and more consistent than previously" (van der Meer, 2013). For some world languages, machine translation (MT) trained by translation memories is now

providing “good enough” results, and this has created a massive copyright infringement on a global scale. The focus is now shifting from translation memories on hard disks to “massive amounts of translation data in the cloud, in the form of parallel text corpora” (van der Meer, 2013). These massive amounts of translation data in computer-based digital networks are mostly accumulated from “translation memories, or from online translation service platforms or harvested (‘crawled’ and aligned) from localized versions of web sites and other sources” (van der Meer, 2013). In a way, the intellectual property practices in today’s language industry serve to centralize and monopolize “knowledge labour” by using various technologies, such as the Internet, translation memory and machine translation. van der Meer, one of the founders of TAUS, states that among other monopolies, Google, Inc. has already applied this common practice “by training new machine translation engines for 4032 different language pairs by using data, nothing but translation data” (van der Meer, 2013). Google collects user data, including translations, packages them and gains a profit. Google’s copyright policy states that:

> When you upload, submit, store, send or receive content to or through our Services, you give Google (and those we work with) a worldwide license to use, host, store, reproduce, modify, *create derivative works (such as those resulting from translations* [emphasis added], adaptations or other changes we make so that your content works better with our Services), communicate, publish, publicly perform, publicly display and distribute such content . . . This license continues even if you stop using our Services . . .. (Google Inc., 2019,

According to van der Meer (2013), many language service providers, new-generation MT developers, large and small organizations ranging from global IT companies to small start-ups in any part of the world “have started training MT engines with whatever data they could put their hands on”.

At the industry level, the intellectual property rights to the source and target documents belong to the author/translator or to the company that employs the author/translator or that has purchased the services of the author/translator as a subcontractor. Therefore, as Ross Smith states "the party creating the translation, the party purchasing the translation and the party acting as intermediary between them, if any, are the candidates for ownership" (2009, p. 5) However, almost all language service providers (LSPs) and multi-language vendors (MLVs) or direct clients "re-use the translations received from vendors for new projects and purposes other than the original ones, and most transactions are not regulated by any contract" (Muzii, 2018a). As some of the agreements don't even mention copyright and data ownership issues, translation practitioners may not even realize that they are allowing their clients or any other company to re-use their translations – "not to recreate the original work, but to carry out research on translation technology, and generate derivative work" (van der Meer, 2013). Most translation practitioners install the translation software on their desktop computers and build their translation memories without "ever considering the possibility that they could be extracted and sent elsewhere, or that the content of their databases might in fact belong wholly or partly to someone else" (Smith, 2009, p. 1). With the advent of high-speed data transmission over computer networks, however, "these resources have been released from the confines of individual PCs and have begun circulating around the Internet, causing a major shift in the manner in which they are perceived and uncovering new commercial possibilities for their exploitation" (p. 1).

Sadek claims that the effects of intellectual property issues in the context of a globalized knowledge society "do not stop at monopolizing intellectual products, because intellectual property is continuously colonizing new and significant realms,

from the different forms of information exchange, to the genetic codes of plants and humans" (2012, p. 9). According to him, given that we are in an information society, the relevance and urgency of addressing intellectual property and copyright issues "are therefore quite evident" (p. 9). He believes that current systems of intellectual property deem translation "a reproductive/derivative activity", as though "it simply consists in copying the contents of an original into a new linguistic form; while also granting it copyright protection, as though it is an original work itself". (Sadek, 2018, p. 4). For him, the assumption that translation is a derivative product (as opposed to the originality of the original) cannot be taken for granted, especially when taking into account recent scholarship in translation studies with their emphasis on the agency of the translator (p. 4-5). In his research, he claims that "the translation right negatively impacts society by severely impeding the free circulation and dissemination of cultural and scientific works that are made possible by translation, while also perpetuating the harm done to the status of translators and translation" (p. 5).

Furthermore, in his book *The Scandals of Translation*, Lawrence Venuti (1998) discusses some internal contradictions of current copyright law. Although the provisions of actual industry contracts can vary widely, he believes, "in principle copyright law places strict limitation on the translator's control of the translated text" (Venuti, 1998, p. 47). According to him, in copyright law's treatment of derivative works, the law is based on a fundamentally Romantic concept of authorship in which "the author freely express personal thoughts and feelings in the work, which is thus viewed as original and transparent self-representation . . ." (p. 50). A translation, then, can never be "more than a second-order representation: only the foreign text can be original, authentic, true to the author's psychology or intention, whereas the

translation is forever imitative, not genuine, or simply false" (p. 50). But Venuti argues that any text—and this includes literary texts—is a collective creation of humanity. All texts are created by borrowing and adapting from the "other", or by translating and transforming existing material into a new form. In fact, what is protected by copyright law is not the ideas, but the form they have been given in time and space. In other words, what can actually be plagiarized, copied, stolen or exploited is the form, not the content. Therefore, according to Venuti (1998), we have to be open to the possibility of changing many of our "institutions, policies, and ways of thinking to cope with these new realities, including copyright" (p. 16). In the early history of copyright law, a translation was seen, not as derivative, "but as original, or "new", because it resulted from the translator's labor" (p. 56). Copyright laws on translation can also serve professional translation practitioners, not because their works represent a personality, but because translation activity is in many ways a product of a cognitive and collective labour. In other words, it is not that translation expresses thoughts and feelings, but because translation activities result "from an investment of time and effort, both mental and physical" (Venuti, 1998, p. 54). According to copyright laws that are generally derived from international conventions such as the Bern Convention for the Protection of Literary and Artistic Works, nobody can make commercial use of a translated text without the permission of the text owner. It is protected and guaranteed by the law so that if anyone gains any profit from the commercial use of someone else's translation, the translator has a right to claim a share in this profit. This means that content creators and professional translation practitioners have the right to own their words, and as Muzii (2018a) argues, professional translation practitioners "could claim their moral rights even on segments". Smith (2009) states that as intellectual creations, the content of databases

and translation memories "are covered by copyright (often called "authors' rights" in other European languages), not by industrial property rights" (p. 2). And unless copyright is previously transferred under contract, "translation memories belong to the translators who create them" (p. 6).

It's obvious that the traditional one-sided intellectual property regime is not protecting all of the parties involved in the translation production process, and will continue creating massive copyright infringements on an unprecedented global scale. With the current applications of the General Data Protection Regulation (GDPR) which took effect on 25 May 2018, "life could get really complicated for translation industry players, even the larger ones, and a multilingual, multiple-aligned language repository of over one billion sentences as training data might be illegal or subject to the claim of their moral rights by many a translator" (Muzii, 2018a).

The last significant consequence of this technology-dependent transformation that will be covered within the scope of this study is the undervaluation of professional translation practitioners' skills and outputs. The above-mentioned indirect production networks and the one-sided intellectual property regime have also triggered devaluation of the skills and outputs of professional translation practitioners.

3.1.3 Undervaluation of professional translation practitioners' skills and outputs

Professional translation now involves multi-task production activities within a complex system of client expectations, deadlines, job requirements, technological tools, information sources, and organizational constraints. Moreover, reading and researching in the source text, writing and revising in the target text, all the while striving to comply with client requirements and target reader needs within a limited

amount of time, imposes a significant mental burden on professional translation practitioners, which has a huge impact on their translation performance and daily lives. This complex production system, which is supported with the latest language technologies and based mostly on outsourcing and subcontracting, ends up devaluing the professional translation practitioners' skills and outputs, and adds a new dimension to the usual experience of human-machine interaction, regardless of the translators' age, experience or status. As Ehrensberger-Dow and Massey (2014a) state "if translators are being constrained by the tools they are using and the system that they are working in, it might prove very difficult for them to gain expertise" (p. 7).

Translation performance is now highly affected not only by what happens in the translator's mind or on the computer screen, but also "by how translators interact with their technological, physical, and organizational environment" (Ehrensberger-Dow and Massey, 2014a, p. 2). Workplace studies conducted by Ehrensberger-Dow and Massey in 2011 and 2014 show that the tools, resources and instructions provided by the client can also constrain the autonomy of the translation practitioner since "even apparently low-level decisions have to be checked against what has already been documented in style guides, parallel texts, websites, concordances, bilingual dictionaries, forums, and translation memories" (Ehrensberger-Dow and Hunziker Heeb, 2016, p. 5). Most of the time, professional translation practitioners need to adjust their cognitive processes and actions to comply with those constraints instead of focusing on the translation process in search of creative solutions to the problems that they encounter. Professional translation practitioners produce translation by "using multiple editors, dealing with content that is generated by other translators (in translation memory — TM — or terminology management tools) and

by computers (in machine translation — MT — systems)" (Ehrensberger-Dow and O'Brien, 2015, p. 98-99). These technologies were developed to lighten the mental load on translation practitioners "by serving as an external store of previously translated segments, by relieving translators of repetitive tasks, and by ensuring consistent terminology" (Ehrensberger-Dow and Hunziker Heeb, 2016, p. 4)". Ideally, these technologies facilitate the translation processes for translation practitioners and contribute to optimized performance. However, research on various language versions (see also Bowker 2005; Dragsted 2006; Ehrensberger-Dow and Massey 2014a; Torres-Hostench et al. 2010) suggests that the use of language technologies can also negatively influence "the cohesion of target texts, judgments about the best choices, and likelihood of translating sentence by sentence instead of treating the text as the unit of analysis, which may increase the effort involved in revision" (Ehrensberger-Dow and Hunziker Heeb, 2016, p. 4). Certain features of these technologies might sometimes actually "disturb the process, impeding productivity and limiting creativity" (Ehrensberger-Dow and Hunziker Heeb, 2016, p. 2).

The logic behind the segmentation of texts to be translated in an editor page integrated with CAT Tools is to store the multilingual data so that it can be used again to reduce production costs and save people from repetitive tasks. However, professional translation practitioners are often expected to translate "out-of-context segments of text, instead of complete, coherent documents, yet still somehow maintain cohesion and comprehensibility" (Ehrensberger-Dow and O'Brien, 2015, p. 98-99). As Ehrensberger-Dow and Massey (2014a) note in their article *Translators and Machines: Working Together,* due to the lack of human and organizational aspects in the design and workflow deployment of language technology tools,

"software developers and corporate LSPs have been increasingly disempowering and alienating translators" (p. 7). Segmentation can also have a negative impact on translators' self-concept and professionalization "if it prevents them from making informed decisions and taking adequate responsibility for what they do" (Ehrensberger-Dow and Massey, 2014a, p. 7).

In her article *Translation as Human–Computer Interaction,* O'Brien (2012) summarizes the potential and realistic benefits of using computer-integrated language technologies: faster throughput, increased consistency, lower costs for clients, possibly leading to higher volumes being translated, as well as increased access to information in languages not normally seen as being commercially important (p. 108). However, she also argues that having to fix the errors (auto)propagated from a machine translation engine and/or translation memory, some translators feel "dehumanised" by the technology they are required to use. In the case of MT and TM technologies, some translation practitioners also feel as if they are being replaced by the machine. Being paid lower rates to fix machine-generated errors "than to create their own translation adds to the feelings of negativity" (p. 109).

O'Brien (2012) also argues that in the field of professional translation activity, creativity is sometimes "exactly what the client does not want because it is associated (rightly or wrongly) with requiring more time and introducing inconsistency where consistency is valued more than creative (alternative) solutions" (p. 111). So, the pragmatic view according to O'Brien is that "legitimate friction occurs when clients want the highest quality, but are not willing to tolerate the conditions necessary for that quality (higher cost, more time, better quality control over the technologies used, etc.)" (p. 113). According to her "the ability to produce the translation quality required in the time given is a professional skill" (p. 113).

O'Brien (2012) states that when a TM offers exact matches containing errors, "the professional translator feels obliged to correct those errors even if she is not being paid to do so. Time and effort are expended without recompense, and the translator's work is once again devalued" (p. 110). She also puts forth that translation practitioners can feel "devalued" by technology, as well:

> The use of a translation tool effectively causes the amount the translator is paid to decrease, and she is expected to demonstrate higher productivity at the same time. Since the introduction of TM tools, the rates per word for translation have come under a consistent downward pressure. With the uptake in MT, this downward pressure is felt even more. (p. 110)

Even if there are various other reasons of this downward pressure on rates, this characterization of the situation by O'Brien also accords with the aforementioned translation industry report prepared by DePalma et al. in 2013.

Translation companies mostly use language technologies "to justify the payment of lower rates for work with translation memories and machine translation outputs" (Olohan, 2017, p. 12). Professional translation practitioners produce translated texts using language technologies, and therefore translation only needs to be produced once and "can be infinitely reproduced at low costs, and can be distributed at high speed" (Fuchs, 2011, p. 107). Therefore, language technologies, especially in their networked or cloud-based forms,

> produce a misleading impression of autonomy by 'allowing' translators the 'freedom' to complete their work anytime, anywhere, while their lived experience may be that of a translator on call, asked to complete translations any time of the day or night to be published as part of continuous updates of global content on globally accessible websites. (Olohan, 2017, p. 11)

In brief, as Doherty (2016) states, the ongoing technological evolution in translation,

> has yielded unprecedented gains in terms of increased translator productivity and consistency, greater global language coverage, and greater support for improving international communication and distribution. However, there also exist significant knock-on effects that these technologies have on the practice and perception of translation itself, including the perceived and actual value of translation; the awareness and uptake of translation technologies; and the status and visibility of the profession. (p. 950)

Up until now, this study has applied certain approaches and concepts from the era of cognitive capitalism to better understand how "the mode of production" and "the capitalist relations of production" (Moulier-Boutang, 2008/2011) are changing in the language industry. In light of the discussions referenced in this study, we can now state that (i) the production strategies and methods in the language industry have created indirect production networks; (ii) the Internet, coupled with TM and MT technologies have led to massive infringement of the intellectual property rights of translation practitioners; (iii) and in addition to these developments, the impractical use of language technologies has played a major role in the undervaluation of the outputs and skills of translation practitioners.

3.2 Commercial translation and professional translation practitioners in the era of cognitive capitalism

The industrial production mode utilized in commercial translation activity is now in many ways a product of cognitive, collective, collaborative, technology-dependent and immaterial labour, and this labour results from "an investment of time and effort, both mental and physical" (Venuti, 1998, p. 54). The most prominent outcomes of this transformation process have been outlined and defined in previous sections. In this section, I focus on how the current shift that began with the advent of AI-powered neural machine translation (NMT) technology (including Machine Learning

(ML) and Deep Learning (DL) technologies) and digital labour platforms may influence the language industry, its practices and practitioners.

As stated before, there are clear signs that the language industry is going through a new shift centered on Artificial Intelligence (AI), machine translation (MT) and digital labour platforms. This section argues and explains that as long as the challenges, uncertainties and limitations outlined at Chapter 3 in general, and in sections 3.1.1., 3.1.2 and 3.1.3 in particular, prevail, the current technological developments that we have seen in the language industry will not improve the role and position of professional translation practitioners. Rather, they will be re-arranged and re-organized in space and time with the prevailing production methods and working conditions in the era of cognitive capitalism. The industry reports prepared by TAUS in 2017 and 2018 will now be used to elaborate some of the main factors of this rearrangement and reorganization process.

TAUS (2017) expects that automation in the language industry "will accelerate in the next five years" and this automation process "will bring along opportunities and challenges". The main opportunity is "the increase in efficiency", and the challenges "will be the changes in jobs, sharing of data, getting intelligence from the data, working in the cloud" (p. 4). According TAUS reports, this new transformation process, powered mostly with advances in AI systems and machine translation, is expected to also change or re-shape such phenomena as (i) what is translated and how, (ii) the who of translation and (iii) the business model of translation.

TAUS reports that "the translation companies of today will not be the same in 2022" (2017, p. 24) and "there is little doubt that NMT will have a major impact on the way much large-scale translating is carried out in the next decade" (2018, p.

6). According to TAUS (2018), “unlike the emergence of statistical MT nearly 20 years ago and the bewildering range of TMS and production tools today, ML-driven technology will have much wider significance as it is leading to new forms of content and knowledge technology convergence” (p. 6). The general trends with the advent of recent technological breakthroughs and transformations suggest that “there will be rapid growth in the sheer amount of linguistic content produced due to the rollout of AI systems”, and much of this content “will need to reach end users around the world, which will mean some form of localization, adaptation, or bulk translation”, and Machine Learning (ML) at work in the economy as a whole “will almost certainly expand the world’s pool of translatable content” (p. 5).

And since “emerging content” and “knowledge technologies” largely concern “natural language”, TAUS (2018) expects that they will impact translation practices in the longer term. Many of the traditional content formats of the language industry - “product descriptions, planning documents, maps, contracts, messages, emails and visual content of all kinds - will be transformed by ML applications from traditional static, discrete documents into dynamic, multimedia user/customer flow ‘experiences.’” (p. 7):

> Technology-enabled processes involving speaking, reading and writing such as summarization, speech recognition and synthesis, conversation or dialog design and management, text generation (automated writing), subtitling, transcription, text-to-image production, image-to-text description, argumentation, human-machine interface design and more will gradually converge into an ensemble of more closely interrelated automated language skills that will enable the emergence of *new combinations of media and meaning*. (p. 7, italics in original)

In this new transformation process, apart from what is translated and how they are translated, technologies are expected to change also the who of translation “in that such technologies have opened up access and interest to translation, especially with

regard to user-generated content, social media, and audiovisual translation" (Doherty, 2016, p. 960). According to TAUS (2018), for translation practitioners this will mean that:

> product and information translation and localization will increasingly address not simply standard "language" populations, but a lengthening tail of more fine-tuned linguistic targets, sometimes with specific idiolects and cultural traits. This drive towards mass personalization is a highly competitive business, and translators will be in the front line for processing much of this content. It will also open up new sorts of language-related jobs. (p. 5)

One candidate for these new sorts of language-related jobs is the post-editor, in another words, "translators working as (Specialist) Reviewers" who "are responsible for editing (aka post-editing) the final output" of the machine generated content (2018, p. 10). According to TAUS (2018), reviewing (or post-editing) MT output "is now becoming a key role that translators will play in the age of algorithms" (p. 12). However, TAUS states that the demand for the post-editing of machine-generated content will become gradually less and less because "the evolving data/algorithms will continuously improve the baseline quality of Good Enough"[17] translations for a broad range of documents, so that post-editors "will be required to make fewer and fewer modifications as the systems learn cyclically from improved quality input" (TAUS, 2018, p. 10).

Transcreation is also "a growing activity in business communication for global marketing and advertising campaigns", whereby "a translator creates local language "copy" (in the special sense of "advertising or marketing text") either on

[17] TAUS (see also TAUS, 2018, p. 9) has developed a classification for the different types of post-editing. The schematic pipeline posits three levels of translation quality for buyers and suppliers dealing with the translation of mostly large volumes of different types of content (using a mix of human and machine translation):

Q Level 1: FAUT (Fully Automatic Useful Translation)
Q Level 2: Good Enough, reviewing needed
Q Level 3: High Quality, leading to transcreation

the basis of a brief from a client, or from an existing source text in another language" (2018, p. 12). According to TAUS, transcreation "will continue to expand as content localization in general becomes more personalized and market-specialized through the powers of datafication" (p. 12). In this sense, translation practitioners are expected to become "writers, journalists, and storytellers, cultural consultants, global brand promoters (2017, p. 25). They become "crucial to the success of a product in a new market":

> The cascaded supply chains come under pressure and disintermediation will become a theme, again. New ventures like Translate and Create will challenge established translation service houses. Convergence with publishing and advertising and marketing services seems a natural way to go. It will be interesting to see how the market evolves around this widening gap of automatic and creative translations. (p. 27)

Additionally, TAUS reports (2017 and 2018) show that translation practitioners are now expected to act not only as a translator, reviewer, editor or post-editor and transcreator, but also as a computational linguist, data analyst, content marketeer, content profiler, cultural advisor, brand ambassador, local storyteller, conversational system trainer, quality consultant or a dialog polisher for chatbots, working with input and output from different technologies. TAUS (2017) expects that a highly-automated localization environment will "depend on human skills in quality evaluation, content profiling, cultural advisory, data analysis, computational linguistics, and gradually less and less in post-editing" (p. 22). The future, TAUS states, "may not really need translators, at least not in the old way, as the audience will become even more forgiving for lesser quality of fast-moving content" (p. 22).

Another important issue that will have a huge impact on the language industry during this transformation process, according to TAUS (2017), is "the datafication of translation" (p. 25). TAUS (2017) remarks that the potential of

datafication of translation "has already become visible in recent years, and it is now in full swing" (p. 18). According to TAUS (2017), data is now "a new commodity" (p. 19), and has now become "the drive to all the technologies that are reshaping our lives and businesses", and will "provide the fuel for the next stage of development in artificial intelligence through machine learning" (p. 13). The translation practitioner's role in this datafication process, reports TAUS, "will in many cases be that of *provider* for the very data that will be used by the machine" (italics in original):

> By leveraging some human translator-quality data, machines will be able on many but not all occasions to predict better translations from their parallel data memories. This has been the case ever since statistical MT began to recycle translated texts as fragments of automated outputs, and it will become a standard feature of any ML culture. It is all the more true today now that NMT accelerates data-driven translation. Unless translators can claim to own their data, they will not be able to avoid this data sharing role (TAUS, 2018, p. 15).

The translation memory data will not be enough for the language industry, says TAUS (2018):

> Data has become an obsession, either way, in the translation industry. And it does not stop with translation memory data. We need speech data too. And we want to have the edits and annotations on human as well as machine translations, plus the attributes for content types, industry sectors, translators' locations, the process applied, the technology used. And why not correlate it with the weather reports, the social graphs of the translators and their eye movement tracking?". (p. 25)

Finally, the working environments and business models of the translation practitioners are, as reported by TAUS (2018), also being significantly influenced by the aforementioned transformations:

> We are now seeing the emergence of a third service model for translation: *crowdsourcing translations on platforms* such as Unbabel, Smartcat, Gengo

> and One Hour Translation. These solutions enable end-clients to plug into a virtual translator community via the online site that automates all the job management concerns for both translators and end-clients, and tools and data can be automatically updated and maintained. This can mean that translators may have to bid for jobs more globally in competition with other language specialists" (p. 8, italics in original).

The major effect of this business model triggered by the rise of global, cloud-based technologies is, according to TAUS (2018), to "disintermediate" the traditional end-client/LSP/translator logic. TAUS (2018) believes that:

> Among other changes, disintermediation means that buyers will not necessarily need to find in-country translators for local translations, as these can be hired from anywhere via the platform. These competitive "crowd" platforms are also developing in lower-cost countries such as India, where industrial-strength computing skills will be able to offer XaaS (anything as a service) platforms to a very broad market of service buyers. In the case of translation, buyers could be tempted to pay much less for their translation jobs by subscribing to such platforms. (p. 9)

This section of the study served as an overview of how this new transformation process powered mostly by advances in AI systems, machine translation and cloud-based digital platforms is expected to transform or re-shape such phenomena as (i) what is translated and how, (ii) the who of translation and (iii) the business model of translation. It can be concluded from the aforementioned projections from TAUS (2017 and 2018) that:

- The volume of content requiring translation will continue to grow, bringing new demand and new content types for translation in the form of new combinations of media and meaning.
- Significant changes are underway in job descriptions and the ways in which translation practitioners work today, and two of the most prominent

candidates for meeting the demand for translations of publishable quality are post-editors and transcreators.

- Data is becoming increasingly important in the industry and translation practitioners are expected to become data providers.
- Since data becomes increasingly important, and new types of content arises, the language industry will need new agents such as computational linguist, data analyst, content marketeer, content profiler, cultural advisor, brand ambassador, local storyteller, conversational system trainer, quality consultant or a dialog polisher for chatbots.
- The tendency to work on cloud-based digital platforms is expected to transform the working environments and business models of this industry.

3.2.1 Uberization of translation and platform capitalism

This section of the study will both explore and critically assess the so-called "collaborative" and "sharing economy" business model which we already have seen in the language industry in the form of Uber-like digital labour platforms, and the ramifications for professional translation practitioners. To analyze translation practitioners' perspectives and practices regarding digital labour platforms equipped with recent language technologies (such as CAT Tools, TM, MT, AI, etc.) and driven by corporate entities, the findings of the survey conducted with 70 translation professionals as a part of this research will be presented.

Along with the above listed projections, TAUS (2017) also reports that "we have heard many start-ups in our sector already refer to themselves as the Ubers of translation. . . self-driving translations will be the norm in '22" (p. 25). Actually, especially after the invention of the Internet, the business model of translation

agencies is generally based on a concept similar to Uber-like platforms (see section 2.5), and we can see a similar assumption in the language industry, namely that since everybody is on the Internet, practically anyone who "knows" two languages can be a "translator". Luigi Muzii also states in his book *Upstream* (2018b) that "this [uberization of translation] is exactly what has been happening for decades in the localization industry, where freelancers have been experiencing this kind of 'novelty,' called moonlighting (p. 17, emphasis in original).

The trend towards subcontracting, outsourcing and adoption of flexible production methods fueled by the most recent technologies in the language industry (see sections 3.1 and 3.1.1.) continues with the new applications and strategies of digital labour platforms. It is critical to explore the professional effects of this business model to better understand whether they improve the roles, positions and working conditions of translation practitioners. These digital labour platforms mostly employ any bilingual individual, including knowledge workers, wage workers, houseworkers, the unemployed, migrants, retirees, students, precarious and informal workers, etc. All of the newly emerging translation agents (such as post-editors, transcreators, etc.) mentioned in the TAUS reports (2017 and 2018) have already started selling their cognitive abilities on/for these kinds of digital platforms. For example, Stepes.com, which is a digital [app-based] translation agency that defines itself as more "uber" than the "Uber app", claims that anyone who is bilingual and has a smartphone can be a translator. In their website, they say:

> "Stepes is easy enough to use that anyone bilingual and with a smartphone can become a translator and earn money" (Yao, 2016).
>
> "One of Stepes biggest claims is that because it is so easy to use and so accessible (global smartphone access has skyrocketed), virtually anyone bilingual is now able to translate (Feng, 2016)".

On the one hand, research on such digital labour platforms suggests that "these networks can create work and income opportunities for producers" (as cited in ILO, 2018a, p. 7). For example, widely-cited research on labour platforms (see Fraiberger and Sundararajan, 2015), using data from the ride-sharing platform Getaround,[18] concludes that "ride-sharing empowers lower-income populations, both as consumers of low-cost services and as workers on the platform" (as cited in ILO, 2018a, p. 7). These platforms frequently release their own data to report about their role in "empowering entrepreneurship" and "creating new jobs". (see for example Airbnb's positive economic impact in cities around the world, [19] 2019).

However, in *The Internet is Not the Answer*, Andrew Keen uses Uber "as an example of the exploitation of the openness of the Internet to take control of existing industries" (as cited in Muzii, 2018b, p. 17). In their recent research, Ince and Hall (2017) claim that the universally positive idea of sharing has "acted as a smokescreen for sharing-focused businesses to undertake various strategies of capital accumulation that impact negatively on their clients, workers and broader economic environments" (p. 3). Various authors and scholars (see section 2.5) also criticized this business model with regards to "social safety net of workers, the rating system, the trust in the digital environment and, in general, the sort of regulation necessary regarding working conditions, taxation, local laws, consumer/user protection, privacy, discrimination, information asymmetries, etc." (Papadimitropoulos, n.d., p. 6). Scholz (2016) states that the benefits of platform capitalism for consumers, owners, and stockholders are apparent, but "the value added for vulnerable workers and the long-term value for consumers are unclear at best" (p. 5).

[18]www.getaround.com
[19] www.airbnb.co.in/economic-impact

Another major criticism of Uber-like platforms is that because workers aren't technically and legally employees, but are instead independent contractors of these companies, "they don't enjoy the security and benefits of traditional jobs" (Manjoo, 2015). Choudary claims that "while labour platforms can create new opportunities for workers that lead to worker empowerment, some business model choices can also inadvertently result in poor working conditions which, if sustained, can result in worker exploitation" (ILO, 2018a, p. 8). He also describes and analyses how some factors, "particularly the centralization of power and rewards in the hands of the platform's owner, can contribute to undesirable terms and conditions of work for platform workers" (p. 1). He states that to understand whether a labour platform is likely to exploit or empower workers, "it is essential to understand the factors that determine the distribution of power between the platform and the worker, and the power distribution between workers and consumers" (p. 10). In the ILO report (2018a), he proposes a framework for understanding "worker exploitation", which comprises five elements that are influenced by platform design. He believes that the presence of these characteristics "indicates the propensity for the platforms to contribute to worker exploitation", and also that in order to better understand the various facets of worker empowerment and exploitation, we first need to assess the platform's impact on the following aspects (p. 9):

1. Removal of free agency
2. Reduced bargaining power and rights
3. Domination, or making workers subservient to the platform
4. Increasing dependence of workers on the platform
5. Fairness in allocation of risks and rewards across the ecosystem

According to Choudary, digital labour platforms that exhibit one or more of the five characteristics above are likely to exploit workers, instead of empowering them.

Building mostly on those concerns, in order to evaluate and test the findings of theoretical explorations discussed within the scope of my research, I carried out a qualitative survey on the working conditions of professional translation practitioners residing continuously in Turkey and working on/for digital labour platforms. This survey made it possible for my research to explore some of the key potential concerns for digital labour platforms that have accelerated the trend towards flexible, project-based employment in the form of uberization of work, or in our case uberization of translation. The survey aimed to answer one question in particular: How do Uber-like digital labour platforms impact professional translation practitioners in the era of cognitive capitalism? The next section presents the methodology of the survey and analyzes its results.

3.2.2 Analysis of survey results

In order to collect data about the working conditions of professional translation practitioners working on/for digital labour platforms, a qualitative survey was conducted. The survey was filled out by 70 respondents 18 years of age and older who identified themselves as translation professionals performing translation related work through at least one digital platform for pay in the four months preceding the survey.

The survey was limited to professional translation practitioners who continuously reside in Turkey and work in the language industry. The main target group of the survey was professional translation practitioners who perform

translation-related tasks using digital labour platforms operating in Turkey, and produce bilingual, text-based translation in a specialized domain destined for public consumption for which the translator is paid.

The survey questions were prepared after analyzing similar research studies conducted with professional translation practitioners (e.g. UK Translator Survey Final Report by European Commission, the CIOL and the ITI, 2016) and digital workers (e.g. ILO, 2018 and Harmon, E., & Silberman, M. S., 2018). In addition to the questions designed for the scope of this survey, some of the questions in the survey were reformulated from previous researches and have already been asked to various knowledge workers. Asking similar questions in this study game me the opportunity to better understand and report on the similarities and differences in the overall and specific views of the digital workers. The questions were formulated to collect information in two separate tracks. The first group of questions were designed to elicit and define the professional profile of the respondents, and the second focused on how digital labour platforms impacted their working conditions. It combined both open-ended and multiple-choice questions with predefined answers offering respondents the opportunity to choose and rank among several options or use a scale ranging from “very satisfied” to “very dissatisfied” or “strongly agree” to “strongly disagree”. These questions included space for the respondent to elaborate on their answer. A pilot test with a focus group in the early stages of survey design process was also conducted in order to better evaluate how people respond to the overall questionnaire and specific questions.

Participation in the survey was voluntary and anonymous. Respondents were engaged by spreading information about the survey with (i) snow-ball techniques through translation-related social media groups, and (ii) by identifying digital workers on various digital platforms active in Turkey (Proz.com,

Smartcat.com, Hızlıceviri.com, Bionluk, Protranslate.com, Upwork.com, etc.) and establishing direct contact with them via email. Therefore, the survey was posted on these digital platforms and information about the survey was communicated to registered users on these platforms by email. The link to the survey was also advertised on specialized groups for freelancers in the Republic of Turkey.

Conducting this survey made it possible to investigate and analyze some of the key potential digital labour concerns in the language industry and to provide a base for future research that studies these platforms where some of the above-mentioned concerns are most likely to occur.

1. Professional profiles of the survey participants

The survey focused specifically on the working conditions of professional translation practitioners residing continuously in Turkey. These translation professionals try to find translation related jobs posted by translation agencies and direct clients from Turkey and abroad through digital labour platforms. As shown in Figure 1, most of the survey participants (77.1%) defined their employment status as “freelancer” working for translation agencies and direct clients, and this type of work is not classified legally as an employment relationship, which means that the working conditions of these “freelancers” remain outside the scope of labour regulation. Others have a fixed salary inside/outside of translation industry but are performing translation activities as a freelancer in their spare time.

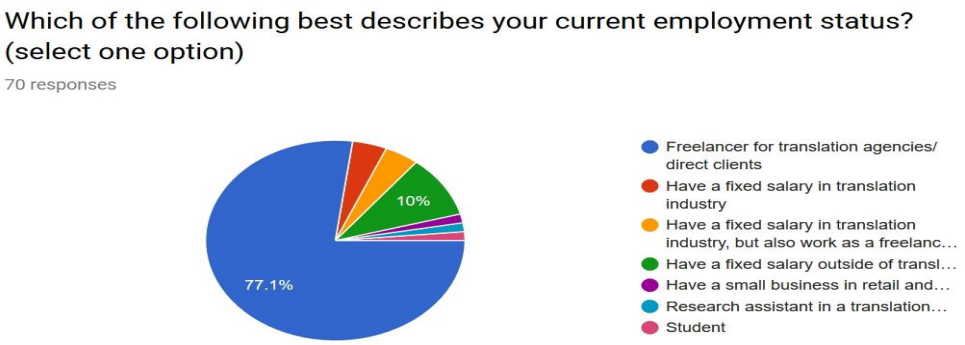

Fig. 1. Employment status

The ages of the participants varied between 20 years of age to 77 years of age. Their experiences in the language industry ranged from 1 year to 20 years. 55 people out of 70 respondents answered the question about their educational background: more than half of them have a diploma in translation, more than a quarter (29.1%) have a bachelor's degree in which translation was a significant component of study, and around a quarter (25.7%) are continuing their studies at the moment. The educational background of the other survey participants ranged widely and does not exhibit any prominent pattern.

As shown in Figure 2 below, the majority of respondents (78.6%) described their main working role as translator.

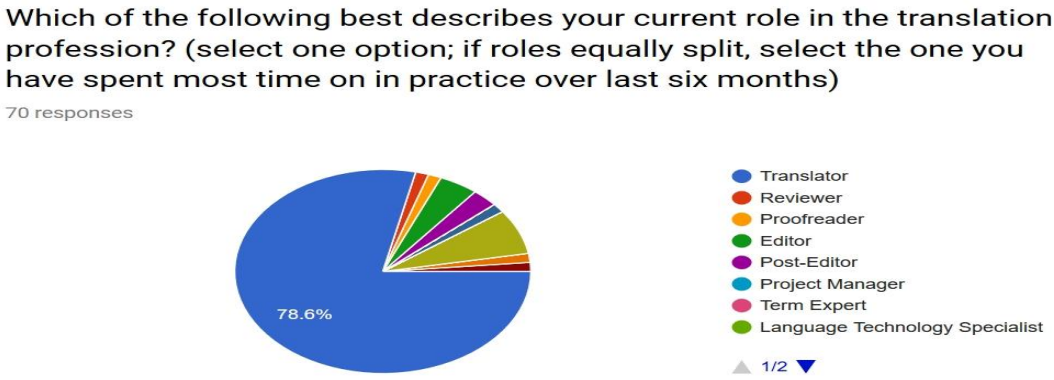

Fig. 2. Main working roles

Figure 3 shows that apart from being a translator, respondents also outlined a variety of other roles undertaken across their translation careers. These included being a proofreader (61.4%), editor (44.3%), reviewer (40%), post-editor (27.1%), interpreter (22.9%), transcreator (20%) and project manager (12.9%).

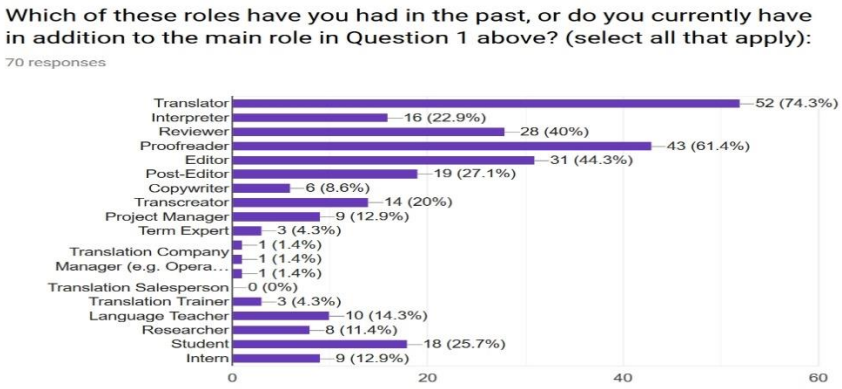

Fig. 3. Other translation related roles

Figure 4 shows that most of the survey participants perform translation (98.6%), proofreading (61.4%) and editing (57.1%) tasks on the digital platforms. Apart from these regular translation related tasks, some new tasks such as MT post-editing, transcreation, transcription, quality assurance, copywriting, project management are also performed on the digital labour platforms.

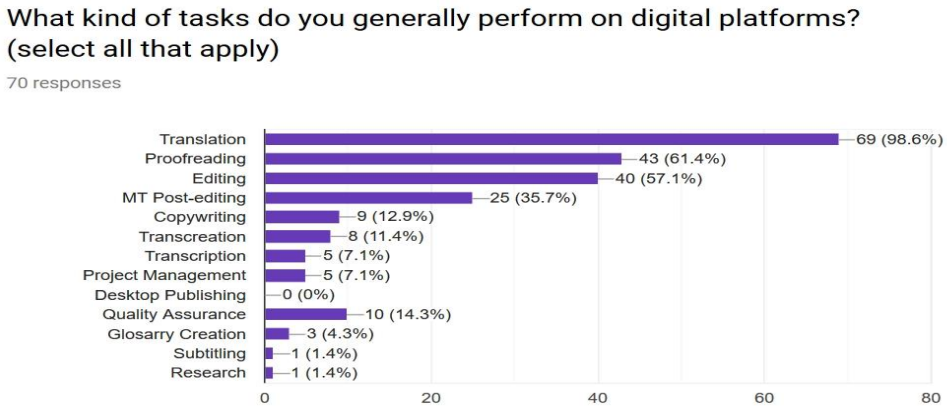

Fig. 4. Tasks performed on the digital platforms

72.9% of the respondents noted that they would like to keep working on digital platforms indefinitely while 15.7% indicated that they will continue working on these platforms until they find another job.

2. Reasons for working on/for digital labour platforms for translation and the level of income

Performing translation related tasks on digital labour platforms is not a new endeavor for many respondents as more than half of them (75.7%) have worked on these platforms for more than a year. 35.7% of survey participants have one to three years of experience on platform work. 24.3% can be considered inexperienced platform workers with less than one year of platform work experience.

The main reasons why translation practitioners work on digital labour platforms is to have more control and flexibility over their job (68.6%), and to work with clients abroad and earn foreign currency (57.1%). 54.3% prefer to work from home, and 37.1% do it to earn money while studying. Other reasons included the possibility of making more money through online work than in the offline economy (31.4%), and finding and working with direct clients (38.6%), or doing this work because they had difficulties finding standard employment (27.1%).

As shown in Figure 5, more than half (50.7%) of participants noted that they have platform work earnings as their primary source of income to meet their basic needs. 23.2% stated that it is not essential but an important component of their budgets, while 21.7% indicated it is nice to have, but they could live comfortably without it. One participant preferred not to answer this question.

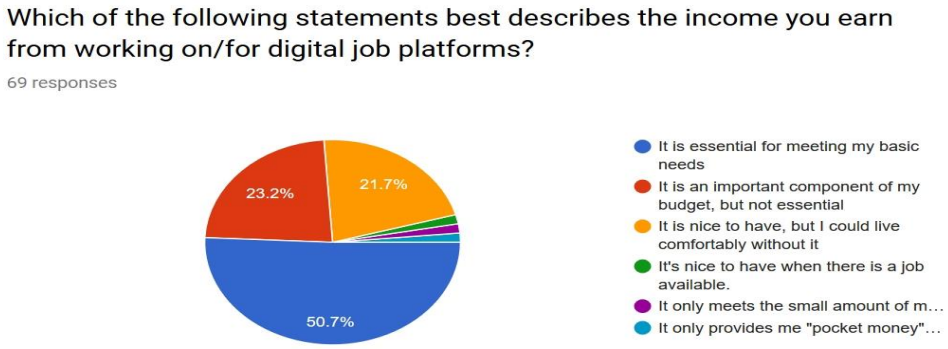

Fig. 5. Importance of income earned from digital platforms

Figure 6 illustrates that more than half of the respondents (54.2% including amounts on "others" section) earn an average of up to 500 USD monthly from the translation profession in general and 15.7% indicated they earn 500-1000 USD monthly. Only 22.9% of them earn more than 1000 USD (including 11.4% between 1000-1500 USD, and 11.5% more than 1500 USD).

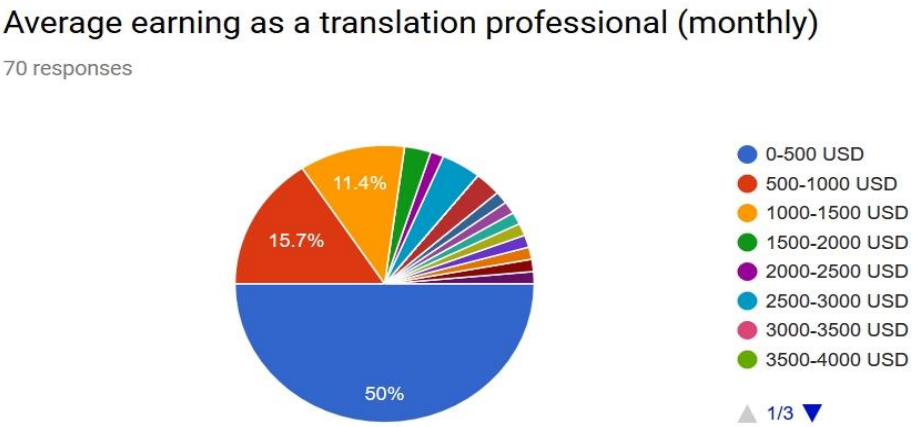

Fig. 6. Monthly earnings as a translation professional

As it can be seen in Figure 7, respondents were also asked to note their weekly earnings from work on digital labour platforms. Three of the respondents did not reply to this question and 82.1% out of 67 respondents stated that they earn up to 250 USD in a typical week from digital platforms.

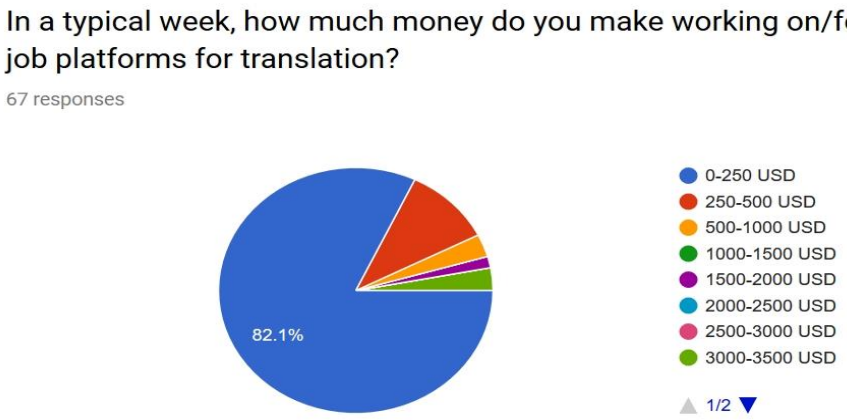

Fig. 7. Weekly earnings from digital platforms

Figure 8 demonstrates that with regard to their level of satisfaction from their digital platform earnings, only 20% of the respondents are satisfied (including 11.4% satisfied + 8.6% very satisfied) with their monthly income, compared with 41.4% who indicated they were no satisfied (including 31.4% dissatisfied + 10% very dissatisfied), and 34.3% neither satisfied nor dissatisfied.

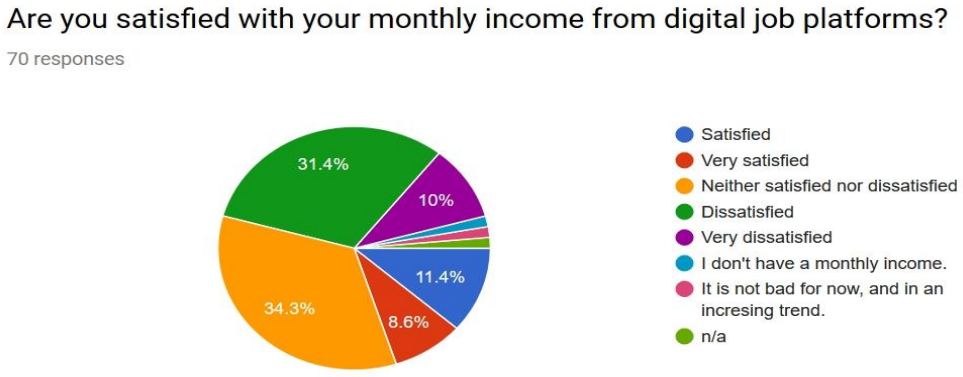

Fig. 8. Satisfaction with monthly income from platform

Working as a freelancer, 72.8% of the survey respondents do not feel financially stable and secure (Figure 9). Additionally, 65.7% of them expressed that they are not able to save for retirement.

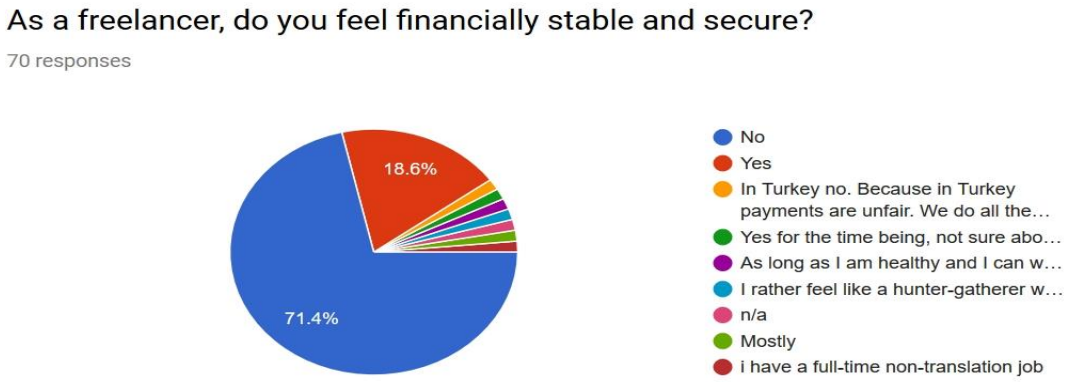

Fig. 9. Financial stability and security

According to survey participants, lack of income stability, minimum wage and job security, long and unpredictable waiting period for new work, and inconsistent duration of tasks are among the most significant disadvantages of working on/for digital labour platforms.

From the survey results, it can be said that even if the platform work is an essential or a secondary source of income for most of them, a large number of survey respondents (69.9% earn up to 1000 USD/Month including 54.2% up to 500 USD/Month) still reported income below the poverty line for a four-person family in 2019[20] defined by Türk-İş (July, 2019) Additionally, as opposed to the gross salaries of waged workers, earnings from freelance work do not include compensation for social security contributions for retirement, and freelance workers are not paid when they are sick and when they take annual leave. Their work does not allow them to take paid holidays, and they are responsible for the costs of procurement and

[20] According to calculations made by the Turkish Confederation of Labour Unions (Türk-İş), the poverty line for a four-person family including in July is 1180 USD (6759, 73 TL), the "starvation line" is 366 USD (2.075,24 TL). Türk-İş defines the starvation line as the minimum spending for a healthy diet, and this line indicates the minimum amount of money required to save a four-member family from starvation. The monthly surveys conducted by Türk-İş also reflect the price changes of basic necessities on family budgets. The amount for the poverty line concerns the minimum spending for the cost of living including the costs of food, rent, transportation, electricity, fuel, water, clothing, education, health etc.

maintenance of their required equipment (pc, internet, software licenses, office equipment, electricity, etc.). It also seems the unstable weekly earnings from digital platforms are inadequate to make any significant contribution to improve some of their basic humanitarian and professional needs.

3. Working hours and work-life balance

Figure 10 shows that many translation practitioners who work on/for digital platforms may feel under pressure to be constantly available due to short reaction times. 60% of the respondents (including 31.4% strongly agree + 28.6% agree) think the response time of jobs posted on digital platforms are generally too short, which means that they have to be on-call at all times.

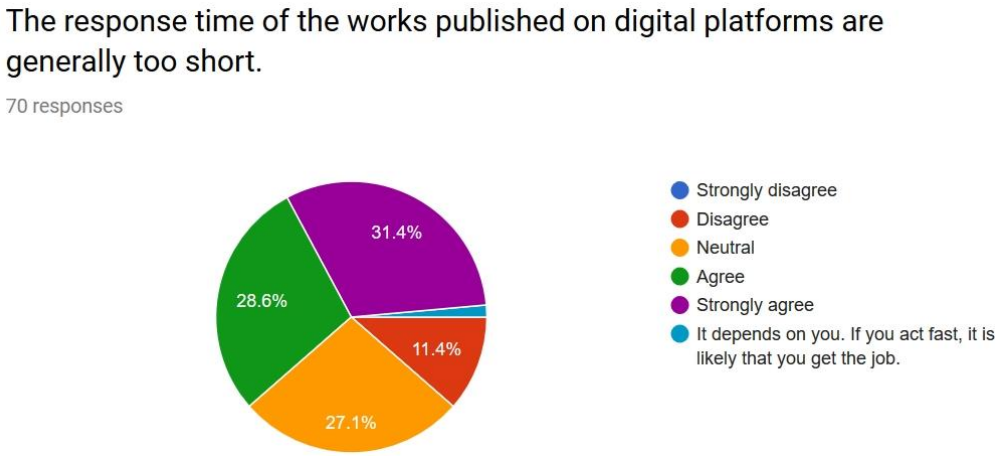

Fig. 10. Short response time

Additionally, as it can be deduced from Figure 11, out of 69 respondents only 13% don't need to work more than 8 hours a day (13% always, 34.8% usually and 34.8% a couple of times). One participant preferred not to answer this question.

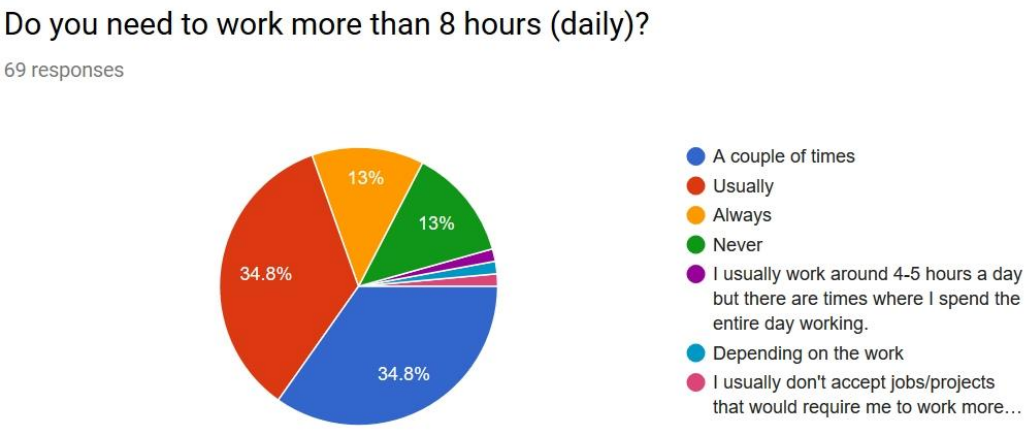

Fig. 11. Daily work more than 8 hours

And Figure 12 demonstrates that only 5.7% of the survey respondents don't need to work on weekends (52.9% usually, 11.4% always and 28.6% a couple of times).

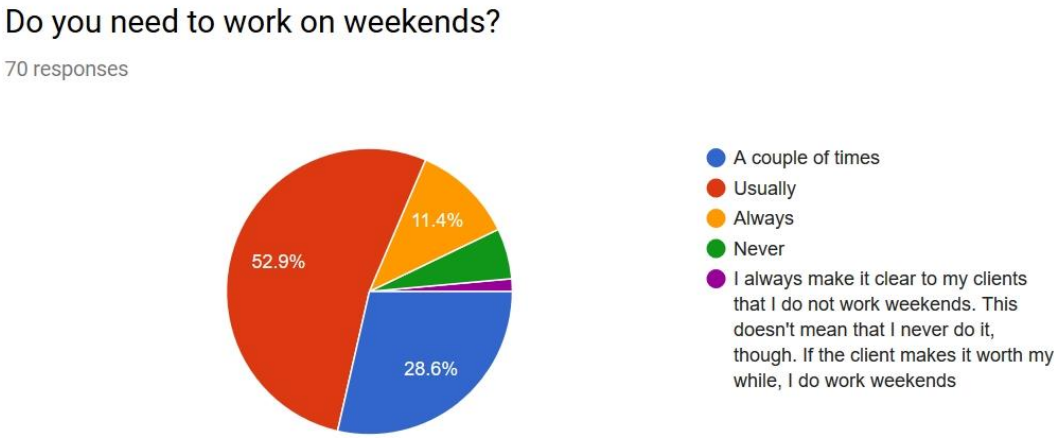

Fig. 12. Working on weekends

This feeling they have that they must be available at all times on digital platforms and work long hours might blur the line between private and professional life, and disrupt social engagements and personal time.

Respondents were also asked whether they are able to take leave or holiday time whenever they want. While many of the respondents stated that they enjoy

working on digital platforms for the freedom, flexibility and control over their work that it provides, and many envision it as the possibility to work from any place and any time, only a quarter of them stated that they have no problems planning their holidays. When asked why it is difficult to take a leave or go on holiday while working on/for digital platforms, many of the respondents (82.35%) noted that they do not want to take prolonged time off as they do not wish to lose their customers. Also, most of the respondents (88.23%) stated that temporary non-responsiveness would result in missing out on opportunities to earn money. 79.41% indicated that they need to be constantly available because of the short reaction times on digital platforms. And as Figure 13 shows, working as freelancer, out of 68 respondents 45.6% noted that they could not afford to take off for 4 weeks in a year (the period that largely corresponds to the legal length of the annual leave in the Republic of Turkey). Two participants skipped this question.

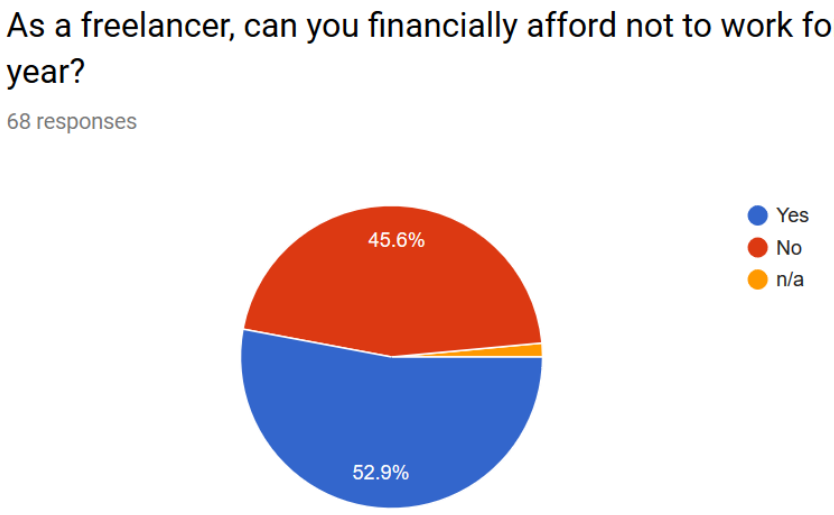

Fig. 13. Taking time off for four weeks in a year

Another reason for not taking leave or going on a holiday is that temporary non-responsiveness would damage their online reputation and affect their ability to attract

new work in the future (58.82%). Also, the need to earn and the degree of dependence on platform earnings are some of the main structural factors that contribute to the unstable nature of the work-life balance on digital platforms.

Figure 14 demonstrates that 72.9% of the participants (including 40% agree + 32.9 strongly agree) think there is not enough work, and they do not find enough well-paying tasks on their platforms.

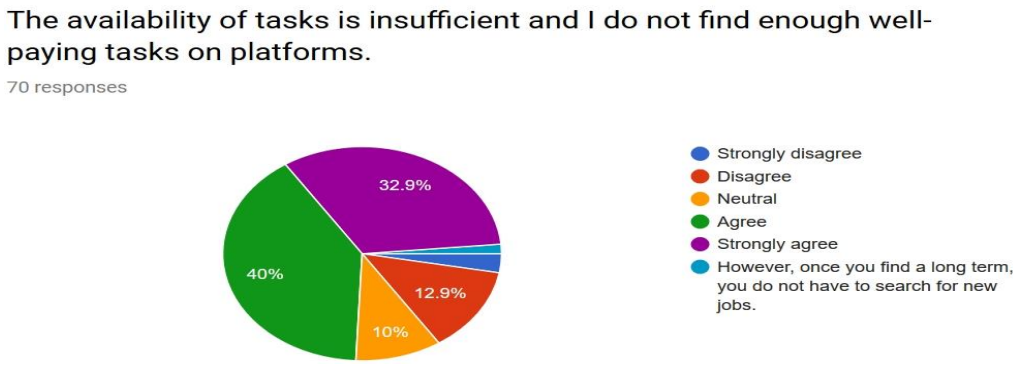

Fig. 14. Availability of tasks on platforms

67.1% stated (including 37.1% agree + 30% strongly agree) that the insufficient work volume makes them search for tasks on various platforms (Figure 15).

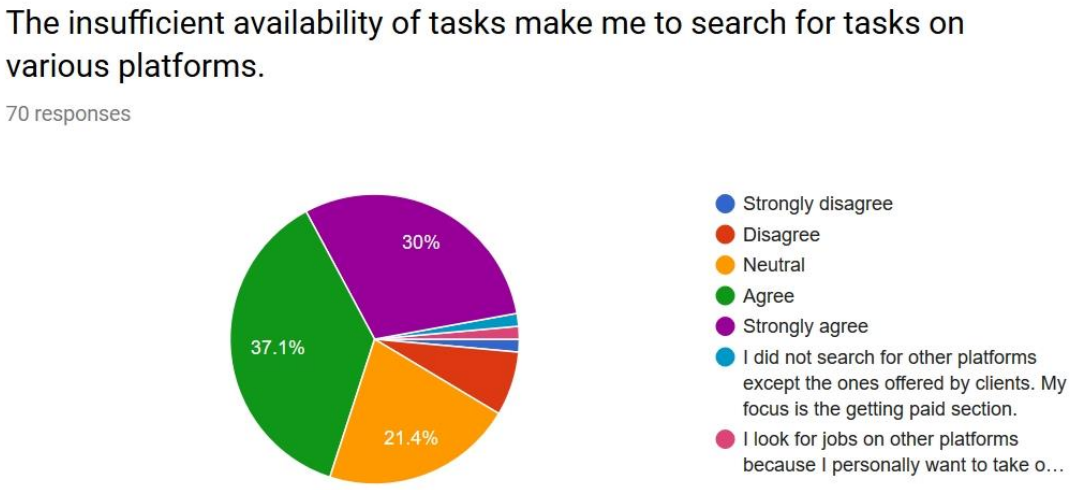

Fig. 15. Insufficient work volume on platforms

As Figure 16 illustrates, half of the respondents (including 28.6% agree + 21.4% strongly agree) think that while working on/for platforms, they spend a considerable amount of time searching for well-paying tasks, performing unpaid test translations, earning new qualifications, and researching clients to mitigate fraud.

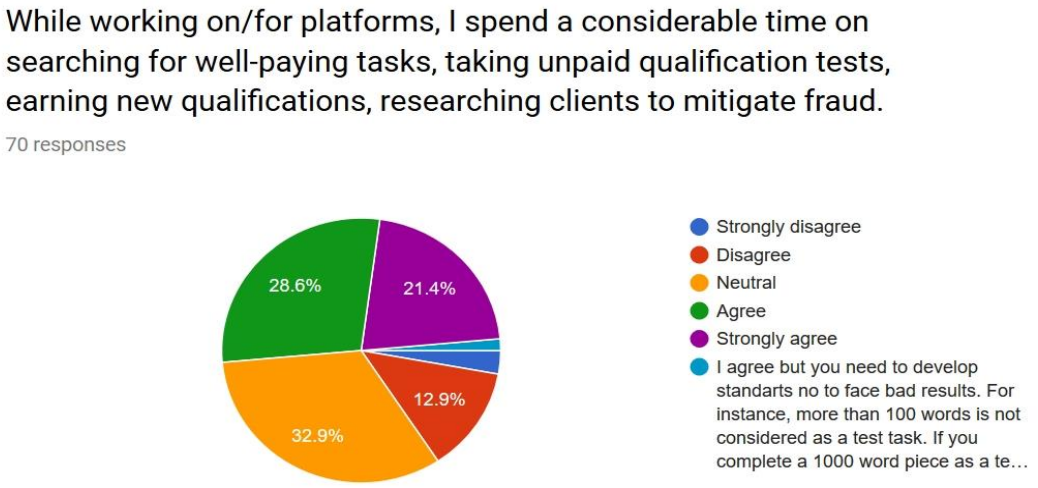

Fig. 16. Unpaid activities

In contrast to wage employment, there is no compensation for these activities. Because their activities and income on digital platforms are neither continuous, nor guaranteed, this situation often results in low overall earnings, long working hours, significant income variability and poor job stability. Figure 17 shows that many of the survey respondents (81.4% including 45.7% strongly agree + 35.7 agree) also believe that the prevailing competitive atmosphere on platforms results in an overall reduction in rates, which makes it necessary for those who depend on these earnings to work long hours.

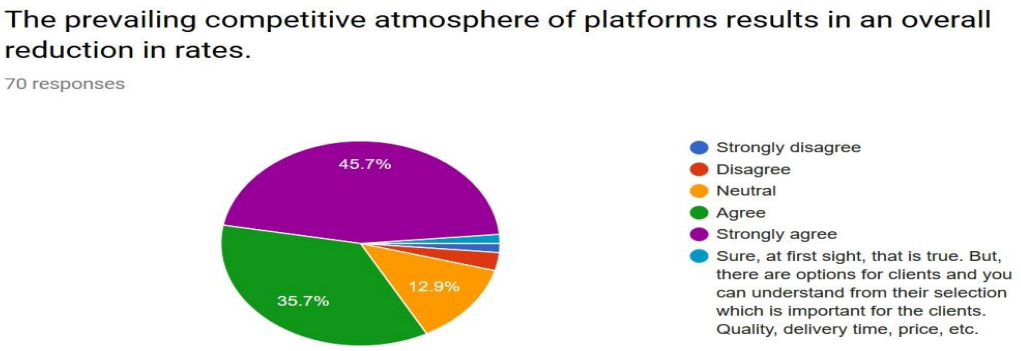

Fig. 17. Competitive atmosphere on platforms

The survey results demonstrate that most of the respondents are putting a great deal of effort into earning a living (working more than 8 hours during the week, having to work on weekends, not taking (paid) holidays, etc.), and are mentally preoccupied with their tasks and the rewards they are missing out on when they are not working for any reason (holidays, illness, stress, leisure, etc.). Due to the feast-and-famine nature of work volume, the long working hours and unstable work-life balance inherent to digital platforms, translation practitioners may experience psycho-social health hazards. In addition, as Figure 18 illustrates 80.1% of the survey participants feel social and professional isolation in some degrees (18.6% always + 32.9% usually + 28.6% seldom) as their work in the digital world entails inconsistent work relationships without face-to-face interaction.

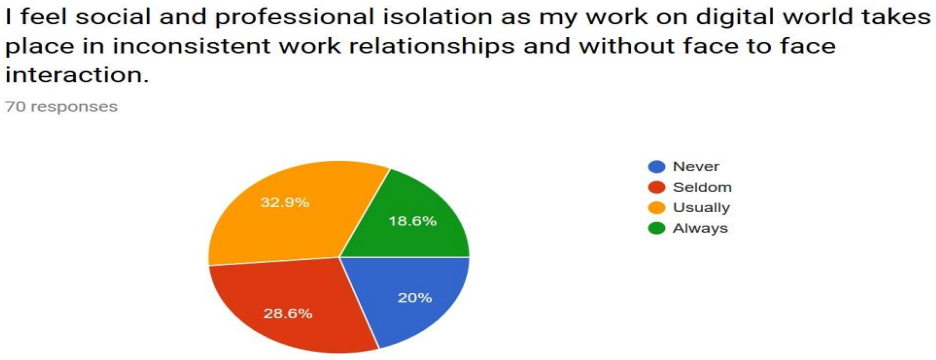

Fig. 18. Social and professional isolation

In theory, with a functioning internet connection and computer, translation practitioners who work on digital labour platforms can perform their work wherever, whenever, for whom and on whatever tasks, for as much or little as they want. However, in practice, the availability of work and the translation practitioner's reputation on digital platforms (which depends again on their availability) largely determines what tasks a digital worker can access on many platforms. It appears from the survey results that platform workers often work when and on what their clients demand. It is, therefore, debatable whether digital labour platforms actually provide the work-life balance that is an expected advantage of the digital platform economy.

4. Removal of free agency

Choudary (ILO, 2018a) believes that free agency is central to empowerment and entrepreneurship. However, he states that by removing free agency, "platforms take power away from workers, making it more likely that workers' interests may be disregarded in favor of an efficient market on the platform, or even to directly profit the platform" (p. 9). In the report, he notes that "information asymmetry between platforms and workers limits free agency for workers by preventing them from accessing information that would help them choose profitable interactions on the platform" (p. 10). The following results from the survey illustrate "how a platform may create an information asymmetry between itself and the worker in order to exert greater control over the worker, often removing free agency and disempowering the worker" (p. 12).

Because of the direct worker-client interactions that they intend to provide, digital labour platforms are often expected to allow professional translation

practitioners to bypass some intermediaries and obtain more direct access to the demands from international direct clients. This would make it possible for translation buyers and translation providers to be able to connect and do business directly without translation agencies in the middle. As noted before, this expectation is also obvious from the survey results: Many of the survey participants prefer to work with direct clients from abroad and earn foreign currency. Being positioned closer to end-clients could, in theory, allow professional translation practitioners to earn more, be in direct contact with their clients/commissioners, perform higher value-added services, learn more about their client's needs and develop corresponding skills and capabilities. However, intermediaries who use geographic location, networks, and other advantages (such as capital, technology, etc.) usually mediate between translation buyers and translation providers, and a significant part of the value of trade in terms of earnings is retained by these intermediaries, not by the producers themselves. This is also obvious from the monthly earnings of the respondents (68.5% of the survey respondents earn up to 1000 USD/Month).

Even if disintermediation is happening at some level, the survey findings suggest that digital labour platforms for translation have already created new forms of intermediation which result in limited free agency for the digital workers. Figure 19 demonstrates that 67.1% of the survey respondents mostly work with local (31.4%) and global (35.7%) translation agencies on digital labour platforms.

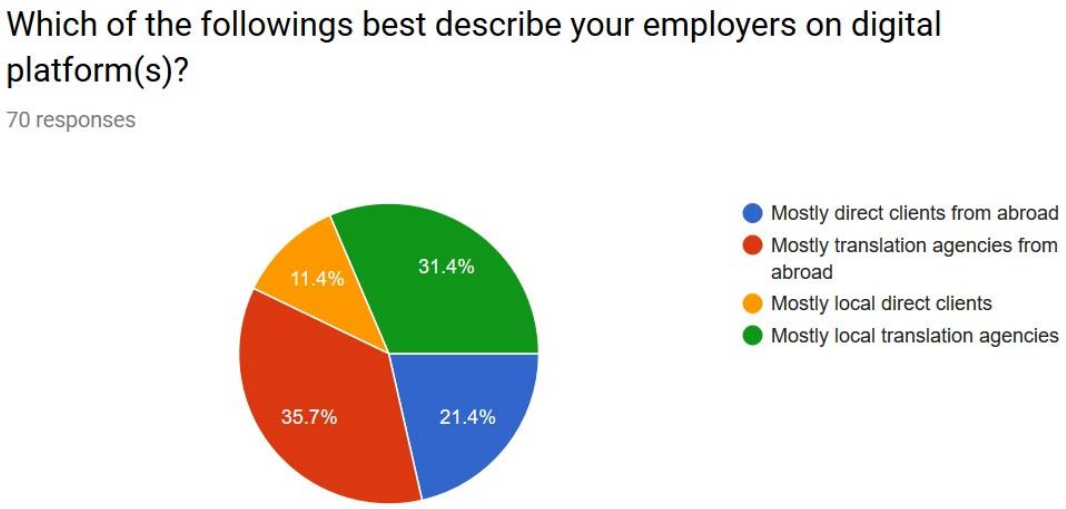

Fig. 19. Employers on digital platforms

This suggests that, in many cases, the relatively direct connection between the direct client and the worker is only temporary. For example, digital labour platforms such as Lionbridge GeoWorkz, Proz.com, Smartcat, Unbabel, etc. have lots of translation agencies on their platforms, and these translation agencies have a competitive advantage in attracting clients. They use that advantage to position themselves between the end-client and professional translation practitioner delivering the actual work. Local translation agencies in particular use these digital marketplaces to find online work, and generally pass these jobs to translation practitioners they have hired from the local labour market at lower prices. For translation practitioners, this kind of intermediation merely results in a new configuration of indirect production networks as explained in section 3.1.1.

Even though in theory there are lots of potential benefits that can be derived from digital platforms to facilitate disintermediated connections between professional translation practitioners and end-clients, professional translation practitioners working on/for digital labour platforms have again ended up with less direct contact with their end-clients. This creates an information asymmetry in many

cases, where professional translation practitioners are mostly unable to directly access information about their tasks, unsure of the true nature of their tasks, or how their work will be put to use by end-clients. In short, they remain unaware of the intended purpose of the work they do.

5. Reduced bargaining power and rights

In the ILO report, Choudary (ILO, 2018a) argues that "if a platform's design and policies take bargaining power and rights away from the worker, the worker is more likely to be exploited" (p. 9). According to Choudary, workers are likely to have less bargaining power "when the potential worker base is large and when workers are more easily substituted" (p. 14). For instance, platforms such as Amazon Mechanical Turk, Postmates and FoodPanda may "find it easier to expand the network of workers rather than manage the concerns of existing workers" (p. 15). A striking characteristic of platform-mediated labour standardization – or what could arguably be described as the extreme commodification of labour – as reported by Choudary, "is the enhanced substitutability of workers, even for high-value work" (p. 15). Hence, in the case of commodified, low-skilled and even high-value services, "the power balance shifts significantly away from workers" (p. 14). Choudary states that this is already being observed among retail workers:

> Some retail management technologies require store workers to input information about customer preferences to give shoppers a highly personalized experience when they return, and to support colleagues serving them. However, by externalizing this information, these systems make retail workers more substitutable and reduce their wage bargaining power. (p. 14)

In this manner, says Choudary (2018a), "new data ingestion technologies can reduce the power of workers by making them more substitutable. The more standardized the

work, the further the balance of power shifts towards consumers and away from workers" (p. 15).

Since the organizational and employment principles of digital labour platforms depend mostly on their on-demand character, there has to be a large pool of providers and clients to guarantee efficient matching of supply and demand. However, for professional translation practitioners, there is fierce local and global competition, and the availability of work is highly uncertain on these platforms. As shown previously in Figure 14 and 15 respectively, 72.9% of the respondents complained about the inadequate work volume on these platforms, and 67.1% said that they need to spend a significant amount of time searching for well-paying tasks on various platforms.

Digital labour platforms for translation aim to delocalize and globalize the work to allow more people who want to sell their language abilities access to the translation process. This way translation practitioners can sell their translation related services to whoever is willing to pay the most for it in a global marketplace where everyone is looking for work regardless of the location. This, in theory, should allow translation practitioners to go beyond the boundaries of their local markets, reduce the bargaining power of employers, and give them a higher price for their labour. However, survey findings suggest that while working on/for digital labour platforms provides some new job opportunities, the intense competition created by the sheer number of freelancers on the platforms limits the financial gains for most translation practitioners. 81.4% of the respondents think that the prevailing competitive atmosphere on these platforms results in an overall reduction in rates (see Fig.17). As digital labour platforms can significantly expand the pool of potential workers available to employers, the fierce competition between digital workers seeking

income opportunities through these platforms often results in underbidding practices. The lower bargaining power within a highly competitive environment makes translation practitioners more likely to accept jobs with lower pay and less stability.

Additionally, with the rise of alternative employment practices and non-standard arrangements in digital labour platforms, collective bargaining power has declined as well. As seen in Figure 20, out of 68 respondents 76.5% of the them indicated that working on/for platforms, they don't have the right to organize and collectively negotiate with employers or platform operators for improved rights and working conditions. Two participants skipped this question.

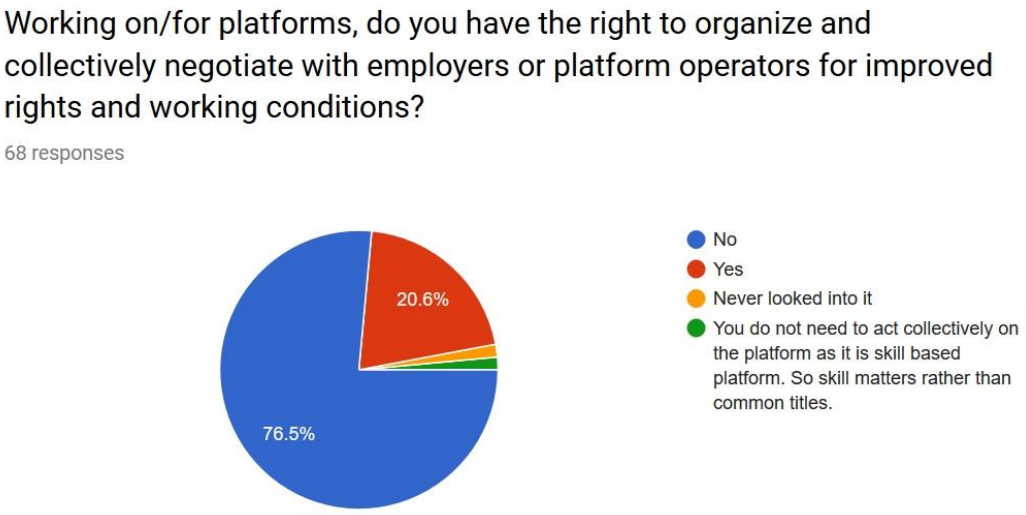

Fig. 20. Collective bargaining power

Collective bargaining rights and agreements are especially important with regard to workplace issues because they can create the mechanisms by which platform workers can organize their collective "voice" in the digital workplace and raise their concerns. By establishing collective bargaining agreements, the parties can negotiate pay, working hours, minimum wage and other working conditions such as decent

compensation for performed work and the well-being of the workers and their families.

6. Increasing dependence of workers on the platform

As Figure 21 illustrates, out of 68 survey respondents, 63.2% expressed that they are not able to export (in .csv or excel format, etc.) a complete human- and machine-readable work and reputation history at any time from the platform. Two participants of the survey preferred not to reply this question.

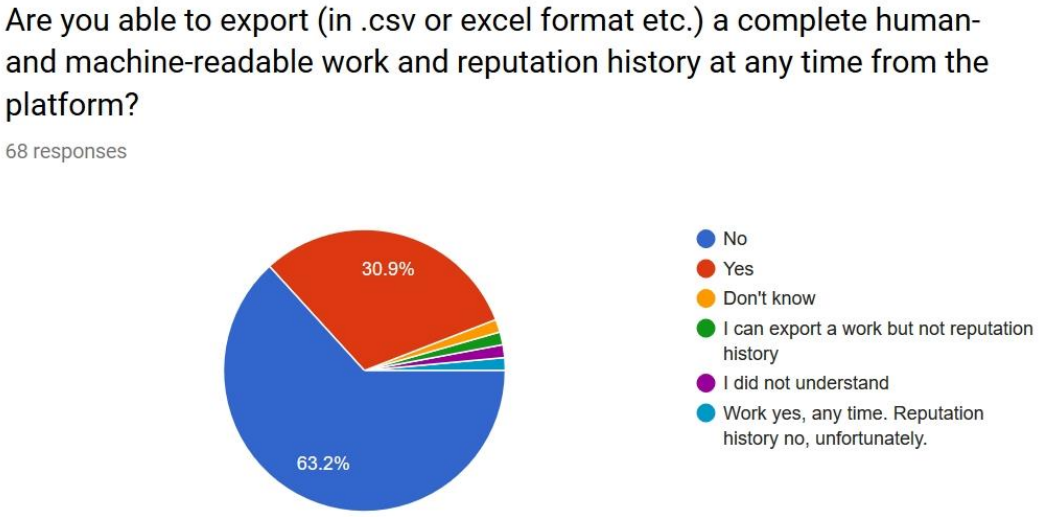

Fig. 21. Exporting work and reputation history

According to Choudary (ILO, 2018a), lack of reputation portability may also reduce a worker's ability to find non-platform work. For example;

> a recent university graduate may work on a platform like Amazon Mechanical Turk for a few years, but the lack of a formal employer relationship coupled with an inability to showcase his or her platform reputation through some formal mechanism like a letter or certificate, may in time reduce their employability in more traditional jobs. The inability to transfer or display records of their past labour, their reputation or the client relationships built on the platform, prevents workers from investing in a career that is independent of the platform (p. 27).

Choudary (ILO, 2018a) claims that "if a platform's design decisions make workers dependent on the platform, effectively locking them in – for example by making it difficult for them to switch to other platforms – the workers are more susceptible to being exploited by the platform" (p. 9). He argues that in order to increase multihoming costs for workers, "today's platforms limit worker mobility and choice by preventing workers from moving their reputation data to other platforms (p. 40):

> While this helps platforms stay competitive and benefit from early mover advantages, it leaves the worker more dependent on the platform, thereby increasing the likelihood that the platform may exploit a worker without the risk that he or she will leave. If the worker were to move to a new platform, they would have to invest time, effort, and money in building their reputation from scratch. In this manner, platforms effectively control a worker's career, not just the allocation of their next job. (p. 27)

7. Fair allocation of risks and rewards across the ecosystem

Fair allocation of risks and rewards across the ecosystem is also an important aspect of the overall platform labour landscape. However, feedback loops may "increase inequality within the workforce, often arbitrarily rewarding a chosen few while exploiting the majority" (ILO, 2018a, p. 28). Choudary states that "a platform that does not allocate risks and rewards fairly across the ecosystem may exploit workers who are forced to take on higher risks or who are not rewarded sufficiently" (ILO, 2018a, p. 9). Labour platforms, according to him, use reputation systems to guarantee trust in the market and minimize market failure. They also use reputation "as a means to retain highly skilled workers" (p. 28). However, this also reinforces dependence on the platform. Moreover, "the use of reputation systems predicated on punishment, rather than reward, will exploit workers rather than empower them" (p. 28). Choudary asserts that "the rating systems may also encourage unfairness towards

specific workers owing to biases that consumers express based on a worker's appearance or ethnicity" (p. 27).

The vast majority of translation practitioners that work on/for digital platforms highly value their ratings and reviews and online reputation. This is mostly because a good reputation rating and review make their profile more visible, which can translate into a larger number of tasks at higher rates. After a translation practitioner delivers her/his services, the client can rate and/or review specific and/or general aspects of the service such as overall quality and compliance with deadlines. Figure 22 shows that 60.9% of the respondents indicated that their clients can review, rate, or evaluate their work on the platform. One of the participants did not prefer to reply this question.

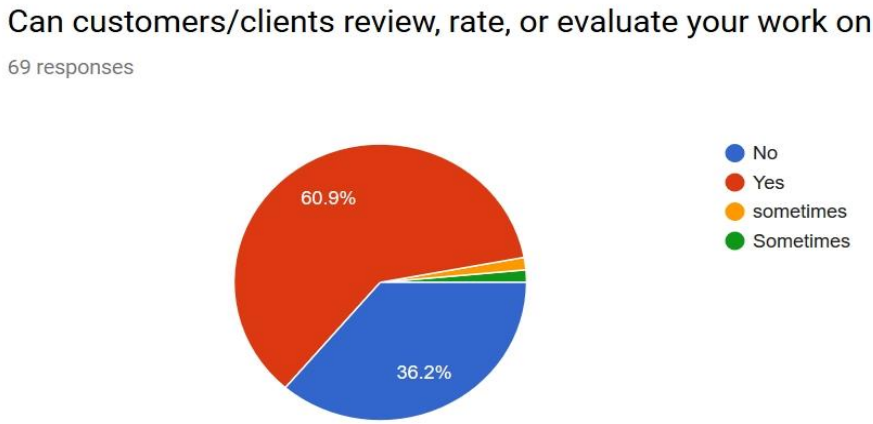

Fig. 22. Review and rate by client

42.6% of the respondents believe that clients should give good reasons for leaving negative ratings or evaluations on platforms. However, Figure 23 indicates that out of 68 survey respondents only 19.1% of the respondents can contest ratings or evaluations of their work through official platform channels if they think the rating and/or review is wrong or unfair. Two participants chose not to answer this question.

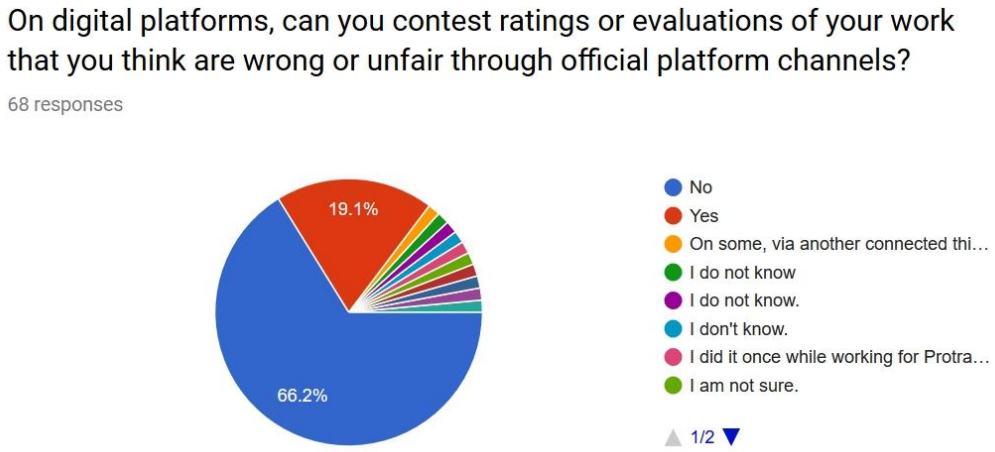

Fig. 23. Contesting through official platform channels

Yet, according to Figure 24, over half of the respondents (50.7%) expressed that they are not able to review, rate, or evaluate their clients on the platforms that they work on/for. Three participants skipped this question.

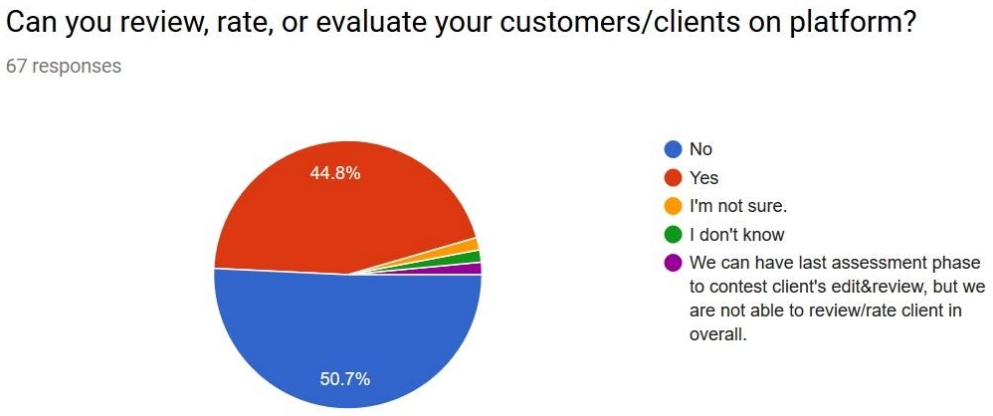

Fig. 24. Review and rate by translation practitioner

The seemingly arbitrary 1- to 5-star rating mechanism which is mediated by the use of customer reviews and ratings without providing a rationale can lead to control over worker performance, which is a common practice on digital platforms. Cockayne noted that “ratings can function as a method to impose discipline and

control over people's behavior and can serve to ensure that the worker's behavior aligns with what the rating requires" (as cited in Eurofond, 2018, p. 4). Similarly, van Doorn claims that client ratings have become "a major decentralized and scalable management technique that puts the onus of quality control entirely with the clients, thereby creating a generalized culture in which service providers are continually pushing to self-optimize and cater to the customer's every whim" (as cited in Eurofond, 2018, p. 4).

The ILO report (ILO, 2016) also notes that the performance of digital workers is constantly monitored through reviews and ratings given by clients and customers. The platform operators apply this method mostly to sustain customer satisfaction and improve competitiveness; however, "it also has significant implications for people's ability to work or earn in the future since workers can be excluded from the online platforms or prevented from gaining access to better-paying jobs on the basis of these ratings" (p. 39).

60.3% of the respondents stated that on digital platforms, they do not have access to enough information about their potential clients. Different levels of access to information on digital platforms also results in clients having access to more information on translation practitioners than the other way around. Most of the digital platforms maintain translation practitioners' ratings (such as completed jobs, quality, timely delivery, etc.) so that clients can hire the ones who have higher rates from prior completed tasks. However, in most cases, there is no equivalent mechanism for translation practitioners to access information about their potential clients that could help them assess whether they are reliable, prompt payers, respectful, or how they communicate.

8. Data collection, protection and privacy

Digital labour platforms collect a lot of their users' personal data (e.g. location, payment details, address, resumes and personal details) and linguistic data (e.g. translation memories and termbases). For example, the linguistic data from translation practitioners, e.g. multilingual language repositories, are collected and stored on the platform servers, and they can be used (intentionally or unintentionally) for internal purposes, sold to third parties or shared with third parties via API connections.

As most of the digital platforms with a CAT Tool environment are connected to publicly available MT providers (such as Google Translate, Microsoft Bing Translator, Yandex Translate, etc.) via an API, there can be "data leakage risks" on these platforms. Vashee (2017) reports that there is a risk that these publicly-available machine translation APIs store every single word, phrase, segment, and sentence that is sent to them, which can create serious data security breaches of privileged and confidential information. Therefore, the use of a digital platform that has integrated API access to publicly available MT systems can undermine corporate privacy and expose high-value confidential data to anyone who knows how to use a search engine or has basic hacking skills. Faes (2017) states that:

> A few searches by Slator[21] uncovered an astonishing variety of sensitive information that is freely accessible, ranging from a physician's email exchange with a global pharmaceutical company on tax matters, late payment notices, a staff performance report of a global investment bank, and termination letters. In all instances, full names, emails, phone numbers, and other highly sensitive data were revealed.

Besides, as shown in Figure 25, a considerable proportion of the survey participants (77.9%) indicated in the survey that while working on digital platforms, they seldom

[21]Slator.com is a website that publishes news and insights on translation and language technology markets.

(47.1%), usually (27.9%) and always (2.9%) translate/edit creative works that should be protected with copyright regulations.

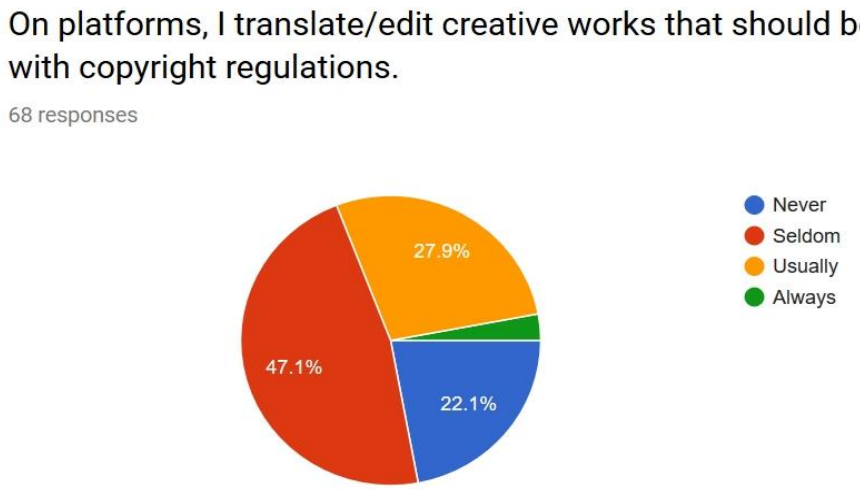

Fig. 25. Translating/editing creative works

As discussed in section 3.1.2, translation practitioners are already translating significant amounts of copyright protected content, and there are not enough mechanisms in the language industry to protect translation practitioners' copyrights and to equally distribute recursive revenues gained from repetitive use of translations. As data and databases become increasingly important for digital platforms, and as there will be new types of content that require more creativity (see also TAUS, 2017 and 2018), massive copyright infringements are most likely to continue on these digital labour platforms.

CHAPTER 4

CONCLUSION

4.1 Summary and discussion

This research study engages in a critical analysis of commercial translation and professional translation practitioners in the era of cognitive capitalism. Within the limits of this study, I explored the increasing importance of the new role of the knowledge labour (Fuchs, 2011) being produced by translation practitioners in the era of cognitive capitalism (Moulier-Boutang, 2008/2011), and more specifically, its relationship with the transformations occurring in the language industry, especially after advances in technologies such as the Internet, machine translation (MT), translation memory (TM) and digital labour platforms.

By analyzing industry reports prepared by TAUS (2017 and 2018) and ILO (2018a), and by conducting a qualitative survey with 70 professional translation practitioners in the Republic of Turkey, the data suggests that as long as indirect production networks, one-sided copyright regime and devaluation of the skills and outputs of translation practitioners continue, the current technological "hype" that we have seen in the language industry will not improve the role and position of professional translation practitioners. Rather, professional translation practitioners will see their roles, positions and working conditions re-arranged and re-organized in accordance with the production methods and workflows utilized in the era of cognitive capitalism.

Chapter 2 introduced the theoretical and conceptual framework of the thesis. In order to investigate the data more explicitly and effectively, the basic principles and motivations that currently drive translation activities were clarified, and an

explanation was given for what commercial translation and professional translation practitioner mean for this study. The concepts associated with the combination of technology and translation, e.g. TM, MT and the Internet were discussed in this section as well. Then, the theory of "cognitive capitalism" was introduced by discussing some basic arguments and concepts used in the thesis. Specific arguments of The Cognitive Capitalism Theory were used to help analyze how "the mode of production" and "the capitalist relations of production" (Moulier-Boutang, 2008/2011) are changing in the language industry. In particular, terms such as "platform capitalism" and "uberization of work" facilitate a more detailed examination of the role and position of commercial translation and its practitioners in the era of cognitive capitalism with regard to global advances in primarily software technologies, thus making it possible to analyze some of the most significant consequences for the field of professional translation.

Chapter 3 explained how Cognitive Capitalism Theory and platform capitalism is connected with the language industry by giving an overview of the current technological transformation and the evolution of commercial translation and professional translation practitioners in the era of cognitive capitalism. Then, based on previous studies, the thesis explored how this transformation has led to an indirect regulation of production networks, created one-sided intellectual property and data ownership practices, and devaluated the skills and outputs of professional translation practitioners. Based on TAUS reports (2017 and 2018), I demonstrated how the current milestone marked by the introduction of AI-powered neural machine translation (NMT) technology and digital labour platforms might influence the language industry, its practices and practitioners. Based on TAUS reports, this new transformation process, powered mostly by advances in AI systems and machine

translation, is expected to change or re-shape such phenomena as (i) what is translated and how, (ii) the who of translation and (iii) the business model of translation. Then, I introduced the term "uberization of translation" within the context of "platform capitalism", since this "uberization of translation" seems to be one of most recent manifestations of the rearrangement and reorganization process in language industry in the era of cognitive capitalism. Then, based on a qualitative survey conducted as part of this research, the study outlined some strong symptoms which indicate that instead of empowering them, the "uberization of translation" via digital labour platforms will pose new risks with regards to status of employment, work-life balance, adequate income, social security, free agency, bargaining power and rights, dependence on platform, fair allocation of risks and rewards across the ecosystem, and data collection, protection and privacy.

The theoretical exploration and survey results show that the digital transformation brought about by the platforms reproduce most of the negative effects of offline work, and "the only difference between the offline and the online world of work is the technological intermediation" (ILO, 2018c). The same features of work on digital platforms, including indirect production networks, one-sided copyright regime and devaluation of skills and outputs, have already been experienced by professional translation practitioners for many years, and these new developments are providing ominous indications that they will affect the working conditions of professional translation practitioners in adverse ways.

In the era of cognitive capitalism, "the desire to connect geographically disparate clients and workers is not one that will go away and digital platforms are central nodes of control and extraction" (Graham et al, 2017, p. 158). It seems platforms will continue to play a critical role in organizing relationships between

clients who need to complete certain tasks and workers who need an income. By highlighting some key concerns about the working conditions of professional translation practitioners within the context of platform capitalism and the uberization of translation, the study attempted to emphasize that when new technologies are being introduced into the professional field of translation activity, a focus on structural issues is also needed. It's important because, although industry reports indicate significant growth with the introduction of new technologies (see CSA, 2016 and 2019), these developments have not been matched by improvements in working conditions. Graham et al. (2017) state that:

> If we accept that practices of work in the capitalist world system have always been characterised by exploitation and power imbalances between labour and capital, then it seems odd to think that there was even a suggestion that digital mediations of work would do anything other than amplify those processes (p. 153).

Therefore, two important questions remain about the digitalization of labour: "Are other types of organizations possible?" and "what would greater democratic control over the production and utilization of surplus look like?". Trying to answer these questions, Graham et al. (2017, p. 158). remark that:

> Just as there have previously been both consumer- and worker-led pressures to transact with cooperative building societies and cooperative supermarkets instead of privately held banks and shops, there could similarly be movements to work with cooperatively managed platforms (see, for instance, the pioneering work done by Scholtz, 2016 and 2017, in this area).

In an effort to avoid the neoliberal dominance of economism, techno-solutionism and techno-determinism, the importance of movements like platform cooperativism (Scholz, 2016) and open translation (Open Translation, 2011) also needs to be highlighted as an alternative model that has been inspiring a growing number of

people to create and apply similar models in various areas of life, from education to humanitarian activism. As Kyrou, Moulier-Boutang and Stiegler (2016) state, "rather than the two opposing and yet complimentary nightmares that are the integral uberisation of society and the sovereignist protection of the capitalism of yesteryear", translation practitioners have the opportunity and means to establish digital platforms in the form of "platform cooperatives," the basic principles of which are outlined by Scholz (2016) in his article *Platform Cooperativism: Challenging the Corporate Sharing Economy*. In order to optimize the well-being, productivity and effectiveness of translation practitioners, improve collaboration between human-translation practitioners and computer-integrated translation technologies, and finally empower professional translation practitioners and democratize participation of all shareholders, this study offers a "libre software"[22] in which "the users (both individually and collectively) control the program and what it does for them" (GNU Project-Free Software Foundation, 2019). Even though it requires more research and convincing field applications, the theoretical grounds for such a new "sharing economy model" are already provided by Scholz's study (2016), and the practical grounds have emerged due to the efforts of platforms that are already operating in online environments (see Open Translation, 2011). By applying the notions and lessons of the open (source) business models to the translation field, a number of collaborative and open source translation projects have already been launched around the world (such as Omega-T, TraduXio, Translate-5, OpenTM2, Moses, Apertium, OpenLogos, etc.). That said, "because of the important place of translation and its

[22] The GNU Project sometimes calls "free software" "libre software," borrowing the French or Spanish word for "free" as in freedom, to show they do not mean the software is gratis. When users don't control the program, they call it a "non-free" or "proprietary" program. They claim that "the non-free program controls the users, and the developer controls the program; this makes the program an instrument of unjust power".

potential for social development and access to knowledge among other goals" (Sadek, 2018, p. 370), more needs to be done. In this sense, Gaafar Sadek's arguments on "translation and openness" (2018, Chapter 9) can give us some important insights when thinking about the "necessity" and "timeliness" of such endeavors as "Open Translation" in the field of translation.

In short, together with the Internet, the MT and TM technologies and the corporate digital labour platforms discussed within the scope of this study, free software, open source code, collaborative and cooperative digital platforms and distributed ledger technology (DLT)[23] have already become some of the most important technological developments and might help transform the language industry, its practices and practitioners. It is important to note that this study is not the story of a struggle between "good guys" and "bad guys"; rather, it is a theoretical exercise illustrated with certain industry applications, and does not claim that "there is suddenly an easy answer to complex social, political, cultural, legal and economic issues". It is also generally agreed that "large monolithic tools are not the right course for the future", and "a small, distributed set of tools that work well together is the recommended path for better supporting Open Translation efforts" (Open Translation, 2011, p. 19). While most of the aforementioned features are available in various proprietary and open source/free tools, there are not currently enough[24] platform cooperatives for professional translation practitioners to advance the socialization and democratization of the networked productive forces and thereby

[23]DLT is a decentralized system for recording transactions with mechanisms for processing, validating and authorizing transactions that are then recorded on an immutable ledger. Blockchain is one implementation of DLT. It is also the underlying technology powering cryptocurrencies such as Bitcoin and Ether.

[24] There is only one translation cooperative listed in the directory of platform.coop, namely Guerilla Translations, a P2P translation collective and cooperative (see www.platform.coop/directory and www.guerrillatranslation.org)

create new potential for cognition, communication and co-operation as well as better working conditions for all of the shareholders in the language industry.

4.2 Concluding remarks

Even if the recent advances in language technologies have undeniably provided insights to better understand and improve the relationship between human, translation and technology, they require much more research and investigation, both theoretical and experimental, to understand and define their limits, strengths and weaknesses. In this sense, the present study can be viewed as one of many attempts to contribute to the literature of critical study regarding language technologies, and it calls for further research on (professional) translation practitioners not only in light of their cultural role, but also their economic significance as producer, consumer and importantly as data provider in the era of cognitive capitalism. This research presented here suggests that larger and more comprehensive studies with a larger and more diverse sample consisting of translation practitioners from around the globe are needed for detailed investigation of how the era of cognitive capitalism is impacting them, to raise awareness in the community and encourage it to take effective measures to protect its own interests. What is still needed is more detailed study on the TM, MT and digital labour platforms where these fundamental translation technologies are being commercialized, and further research into who creates them, who captures them, "how flows are being reconfigured and who benefits from those reconfigurations, and about whether we see sustainable or dependent local linkages, knowledge spillovers, and impacts on local economies and communities" (Graham et al., 2017, p. 152).

REFERENCES

Abdallah, K., and Koskinen, K. (2007). Managing trust: Translating and the network economy. *Meta: Journal Des Traducteurs*, *52*(4), 673. http://doi.org/10.7202/017692ar

Airbnb's positive economic impact in cities around the world. (2019, March 15). Retrieved from https://www.airbnb.co.in/economic-impact

Alonso, E., and Calvo, E. (2015). Developing a blueprint for a technology-mediated approach to translation studies. *Meta: Journal Des Traducteurs*, *60*(1), 135. http://doi.org/10.7202/1032403ar

Arvidsson, A. and Peitersen, N. (2013). *The ethical economy: Rebuilding value after the crisis*. New York, NY: Columbia University Press.

Aufheben (2006). *Keep on smiling: Questions on immaterial labour*. Retrieved from https://libcom.org/files/Keep%20on%20Smiling%20-%20questions%20on%20immaterial%20labour.pdf (last accessed July 13, 2019).

Bowker, L. (2005). Productivity vs quality? A pilot study on the impact of translation memory systems. *Localisation Focus - The International Journal of Localisation, 4*(1), 13-20. Retrieved from https://www.localisation.ie/resources/publications/2005/201

Byrne, J. (2012). *Scientific and technical translation explained*. Manchester: Saint Jerome Publishing.

Cohen, M. J. (2017). *The future of consumer society: Prospects for sustainability in the new economy* (1st ed.). New York, NY, USA: Oxford University Press. doi:10.1093/acprof:oso/9780198768555.001.0001

Cronin, M. (2003). *Translation and globalization.* London: Routledge.

Cronin, M. (2013). *Translation in the digital age*. London: Routledge.

CSA (Common Sense Advisory). (2016). Global market research firm common sense advisory finds post-edited machine translation (PEMT) among fastest-growing segments of the language industry. [Web log post]. Retrieved from https://csa-research.com/More/Media/Press-Releases/ArticleID/16/Global-Market-Research-Firm-Common-Sense-Advisory-Finds-Post-edited-Machine-Translation-PEMT-Among-Fastest-growing-Segments-of-the-Language-Industry

CSA (Common Sense Advisory). (2019). Global Market for Outsourced Translation and Interpreting Services and Technology to Reach US$49.60 Billion in 2019. CSA Research. [Web log post]. Retrieved 5 August 2019, from https://csa-research.com/More/Media/Press-Releases/ArticleID/546/Global-Market-for-Outsourced-Translation-and-Interpreting-Services-and-Technology-to-Reach-US-49-60-Billion-in-2019

Doherty, S. (2016). The impact of translation technologies on the process and product of translation. *International Journal of Communication, 10*, 947–969. Retrieved from https://ijoc.org/index.php/ijoc/article/view/3499/1573

Dunne, K. (2012). The industrialization of translation: Causes, consequences and challenges. *Translation Spaces, 1*(1), 143-168. doi: 10.1075/ts.1.07dun

Dragsted, B. (2006). Computer-aided translation as a distributed cognitive task. *Pragmatics and Cognition, 14*(2), 443-464. doi: 10.1075/pc.14.2.17dra

Ehrensberger-Dow, M. and Massey, G. (2014a). *Translators and machines: Working together*. Retrieved from https://www.researchgate.net/publication/272493291_Translators_and_machines_Working_together

Ehrensberger-Dow, M. and Massey, G. (2014b). Cognitive ergonomic issues in professional translation. In J. W. Schwieter & A. Ferreira (Eds), *The development of translation competence: Theories and methodologies from psycholinguistics and cognitive science* (pp. 58-86). United Kingdom: Cambridge Scholars Publishing.

Ehrensberger-Dow, M., Hunziker Heeb, A., Massey, G., Meidert, U., Meyer, A., Neumann, S. and Becker, H. (2015). *An international survey of the ergonomics of professional translation*. Retrieved from: https://www.zhaw.ch/storage/linguistik/forschung/uebersetzungswissenschaft/ergotr ns-survey-report-en.pdf

Ehrensberger-Dow, M. and Hunziker Heeb, A. (2016). Investigating the ergonomics of a technologized translation workplace. In Ricardo Muñoz Martín (Ed), *Reembedding translation process research* (pp. 69-88). Amsterdam: John Benjamins. doi: 10.1075/btl.128.04ehr

Ehrensberger-Dow, M., and O'Brien, S. (2015). Ergonomics of the translation workplace:potential for cognitive friction. *Translation Spaces*, *4*(1), 98–118. doi:10.1075/ts.4.1.05ehr

Eurofond. (2018). *Platform work: Types and implications for work and employment–Literature review*. Retrieved from: https://www.eurofound.europa.eu/sites/default/files/wpef18004.pdf

Faes, F. (2015, December 29). The elusive uberization of translation. *Slator*. Retrieved from https://slator.com/technology/the-elusive-uberization-of-translation/ (last accessed March 9, 2019)

Faes, F. (2017, September 7). Translate.com exposes highly sensitive information in massive privacy breach. *Slator*. Retrieved from https://slator.com/technology/translate-com-exposes-highly-sensitive-information-massive-privacy-breach/ (last accessed May 22, 2019)

Feng, E. (2016, January 13). *Why translation is uberizable*. [Web log post]. Retrieved from https://blog.stepes.com/why-translation-is-uberizable/ (last accessed March 9, 2019)

Fraiberger, S. and Sundararajan, A. (2015). *Peer-to-peer rental markets in the sharing economy*. Working Paper No. 19, Stern School of Business. New York: New York University

Fuchs, C. (2011). Cognitive capitalism or informational capitalism? The role of class in the information economy. In M. Peters and E. Bulut (Eds), *Cognitive capitalism, education and digital labor* (pp. 75-119). New York: Peter Lang. Retrieved from http://fuchs.uti.at/wp-content/uploads/cognitivecapitalism.pdf

Fuchs, C. (2016). Legal struggles in the age of uber-capitalism: Are uber-drivers workers or self-employed? [Web log post]. Retrieved from https://www.huffingtonpost.co.uk/christian-fuchs1/legal-struggles-in-the-ag_b_12720298.html?guccounter=1 (last accessed July 7, 2019)

Fuchs, C. (2017). *Social media: A critical introduction* (2nd ed.). London: Sage Publications.

GALA (2018). Translation and localization industry facts and data. [Web log post]. Retrieved from https://www.gala-global.org/industry/industry-facts-and-data (last accessed July 7, 2019)

Gentzler, E. (2001). *Contemporary translation theories*. Clevedon: Multilingual Matters.

GNU Project-Free Software Foundation. (2019). *What is free software?* Retrieved from https://www.gnu.org/philosophy/free-sw.html.en

Grace, K., Salvatier, J., Dafoe, A., Zhang, B., and Evans, O. (2018). Viewpoint: When will AI exceed human performance? Evidence from AI experts. *Journal of Artificial Intelligence Research, (62)*, 729–754. doi:/10.1613/jair.1.11222

Graham, M., Hjorth, I., and Lehdonvirta, V. (2017). Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods. *Transfer: European Review of Labour and Research, 23*(2), 135–162. doi:10.1177/1024258916687250

Hardt, M. and Negri, A. (2000). *Empire*. Cambridge, MA: Harvard University Press.

Hardt, M. and Negri, A. (2004). *Multitude*. New York: Penguin.

Harmon, E., and Silberman, M. S. (2018). Rating Working Conditions on Digital Labor Platforms. *Computer Supported Cooperative Work (CSCW)*,*27*(3-6), 1275-1324. doi:10.1007/s10606-018-9313-5

Holz-Mänttäri, J. (1984). *Translatorisches handeln. theorie und methode*, Helsinki, Suomalainen tiedeakatemia.

ILO (International Labour Organization). (2016). *Non-standard employment around the world: Understanding challenges, shaping prospects*. Geneva: International Labour Office. Retrieved from https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_534326~2.pdf

ILO (International Labour Organization). (2018a). *The architecture of digital labour platforms: Policy recommendations on platform design for worker well-being*. Geneva: ILO Publications. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_630603.pdf

ILO (International Labour Organization). (2018b) *Digital labour platforms and the future of work: Towards decent work in the online world*. Geneva: International Labour Office. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_645337.pdf

ILO (International Labour Organization). (2018c). *Work on digital labour platforms in Ukraine: Issues and policy perspectives*. Geneva: International Labour Office. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_635370.pdf

Ince, A., and Hall, S. (2017). (Eds) *Sharing economies in times of crisis: practices, politics and p*ossibilities (1st ed.). Routledge Frontiers of Political Economy. London and New York: Routledge. doi:10.4324/9781315660646

Jeon, H. (2018). *Knowledge and contemporary capitalism in light of Marx's value theory* (PhD Thesis). SOAS University of London.

Josseliani, K. (2018, November 14). Is there a future for uberized or on-demand translation services? [Web log post]. Retrieved from https://janusww.com/publications/future-uberized-demand-translation-services/ (last accessed March 9, 2019)

Katz, M. (2017). Welcome to the era of the AI coworker. *Wired*. Retrieved from https://www.wired.com/story/welcome-to-the-era-of-the-ai-coworker/

Kenny, D. (2012). *The ethics of machine translation*. Retrieved from http://doras.dcu.ie/17606/1/The_Ethics_of_Machine_Translation_pre-final_version.pdf

Kenny, D., and Doherty, S. (2014). Statistical machine translation in the translation curriculum: overcoming obstacles and empowering translators. *The Interpreter and Translator Trainer*, *8*(2), 276–294. doi:10.1080/1750399x.2014.936112

Ketzan, E. (2007). Rebuilding babel: Copyright and the future of machine translation online. *Tulane Journal of Technology & Intellectual Property*. Spring 2007. Retrieved from https://ssrn.com/abstract=940041

Kyrou, A., Moulier-Boutang, Y., and Stiegler, B. (2016). Stop à l'uberisation de la société !. (S. Kinsley, Trans.) [Web log post]. Retrieved from https://www.liberation.fr/debats/2016/04/10/stop-a-l-uberisation-de-la-societe_1445229

Langley, P., and Leyshon, A. (2016). Platform capitalism: The intermediation and capitalization of digital economic circulation. *Finance and Society*, *3*(1), 11–31. doi:10.2218/finsoc.v3i1.1936

LaZooz. (2019, March 7). Retrieved from http://lazooz.org/

Littau, K. (2011). First steps towards a media history of translation. *Translation Studies*, *4*(3), 261-281. doi:10.1080/14781700.2011.589651

Littau, K. (2015). Translation and the materialities of communication. *Translation Studies*, *9*(1), 82–96. doi:10.1080/14781700.2015.1063449

Lobo, S. (2014, March 9). Sharing economy wie bei uberist plattform-kapitalismus. *Spiegel Online*. Retrieved from www.spiegel.de (last accessed July 14, 2019)

Loconomics (2019, March 7). Retrieved from https://loconomics.com/pages/about/

Lommel, A. (2016). Global market research firm common sense advisory finds post-edited machine translation (PEMT) among fastest-growing segments of the language industry. Retrieved from https://csa-research.com/More/Media/Press Releases/ArticleID/16/Global-Market-Research-Firm-Common-Sense-Advisory-Finds-Post-edited-Machine-Translation-PEMT-Among-Fastest-growing-Segments-of-the-Language-Industry

Manjoo, F. (2015). Uber's business model could change your work. *New York Times*. Retrieved from https://www.nytimes.com/2015/01/29/technology/personaltech/uber-a-rising-business-model.html?_r=0

Massey, G. and Ehrensberger-Dow, M. (2011). Technical and instrumental competence in the translator's workplace: Using process research to identify educational and ergonomic needs. *ILCEA Traduction et Ergonomie 2011*(14), 1-14. Retrieved from https://journals.openedition.org/ilcea/1060

Moorkens, J. (2017). Under pressure: translation in times of austerity. *Perspectives*, *25*(3), 464-477. doi: 10.1080/0907676x.2017.1285331

Moulier Boutang, Y. (2010). Cognitive capitalism and education: New frontiers (P. Bonin, Trans.). In B. de Bary (ed.), *Traces 5: Universities in Translation: The Mental Labour of Globalization* (pp. 317-330). Hong Kong: Hong Kong University Press. Retrieved from https://academictrap.files.wordpress.com/2015/02/boutang-cognitive-capitalism.pdf

Moulier-Boutang, Y. (2008/2011). *Cognitive capitalism* (E. Emery, Trans.). Cambridge: Polity Press. (Translation published in 2011).

Muzii, L. (2018a). Against copyright. [Web log post]. Retrieved from http://www.s-quid.it/en/copyright/

Muzii, L. (2018b). *Upstream.* Independently e-published.

Negri, A. (2008). *Reflections on empire* (E. Emery, Trans.). Cambridge: Polity.

O'Brien, S. (2012). Translation as human–computer interaction. *Translation Spaces*, *1*(1), 101-122. doi: 10.1075/ts.1.05obr

O'Hagan, M. (2016). Massively open translation: Unpacking the relationship between technology and translation in the 21st century. *International Journal of Communication*, *10*(0), 18. Retrieved from http://ijoc.org/index.php/ijoc/article/view/3507

Olohan, M. (2011). Translators and translation technology: The dance of agency. *Translation Studies*, *4*(3), 342-357. doi /10.1080/14781700.2011

Olohan, M. (2017). Technology, translation and society: A constructivist, critical theory approach. *Target, Special Issue: Translation In Times Of Technocapitalism*, *29*(2), 264-283. doi: 10.1075/target.29.2.04olo

Open Translation. (2011). *Open translation tools*. Retrieved from https://booki.flossmanuals.net/_booki/open-translation-tools/open-translation-tools.pdf

Oram, A. (ed.) (2001). *Peer-to-Peer: Harnessing the power of disruptive technologies*. Sebastopol: O'Reilly.

O'Reilly, T. (2018). What is Web 2.0: Design patterns and business models for the next generation of software. [Web log post]. Retrieved from http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html

Papadimitropoulos, V. (n.d.). Platform capitalism, platform cooperativism and the commons. Retrieved from https://www.academia.edu/34952696/Platform_Capitalism_Platform_Cooperativism_and_the_Commons (last accessed March 8, 2019)

Patil, P. (2015). *Critique of cognitive capitalism: A political economy of knowledge-based Internet industries.* (MS by research in Exact Humanities). Center for Exact Humanities International Institute of Information Technology Hyderabad- 500 032, INDIA. Retrieved from https://www.semanticscholar.org/paper/Critique-of-cognitive-capitalism-%3A-A-political-of-Patil-Singh/8e2a0eb7695d75da173b34d21dc36ca32dc9e8ab?navId=references

Prahalad, C.K., and Ramaswamy, V. (2004). *The future of competition: Co-creating unique value with customers*. Cambridge, MA: Harvard Business School Press.

Prensky, M. (October, 2001). Digital natives, digital Immigrants. *On the Horizon 9*(5). MCB University Press. Retrieved from: https://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf

Reiss, K. and H. J. Vermeer (1984). *Grundlegung einer allgemeinen Translationstheorie*, Tübingen, Niemeyer.

Ritzer, G. and Jurgenson, N. (2010). Production, consumption, prosumption: The nature of capitalism in the age of the digital 'prosumer'. *Journal of Consumer Culture, 10*(13): 13-36.

Robinson, D. (1991). *The translator's turn*. Baltimore, MD, and London: Johns Hopkins University Press.

Sadek, G. (2012). *Translation rights for a global tec-knowledgized society – A social policy perspective* (PhD Thesis Proposal). Retrieved March 15, 2019, from https://www.academia.edu/26000446/PhD_Thesis_Proposal_Translation_Rights_for_a_Global_Tec-knowledgized_Society_A_Social_Policy_Perspective.

Sadek, G. (2018). *Translation: Rights and agency, A public policy perspective for knowledge, technology and globalization* (PhD Thesis). Retrieved from https://ruor.uottawa.ca/bitstream/10393/37362/1/Sadek_Gaafar_2018_thesis.pdf

Scholz, T. (2014, December 5). Platform cooperativism vs. the sharing economy. *Medium*. Retrieved from https://medium.com/@trebors/platform-cooperativism-vs-the-sharing-economy-2ea737f1b5ad (last accessed July 14, 2019)

Scholz, T. (2016). *Platform cooperativism, challenging the corporate sharing economy* (1st ed.). New York: Rosa Luxemburg Stiftung. Retrieved from https://rosaluxspba.org/wp-content/uploads/2016/06/scholz_platformcooperativism_2016.pdf

Scholz, T. and Schneider N., (Eds.) (2017). *Ours to hack and to own: The rise of platform cooperativism, a new vision for the future of work and a fairer Internet*. New York: OR Books.

Shoshan, O. (2018). Neural MT and blockchain are about to radically transform the translation market. *Slator*. Retrieved from https://slator.com/sponsored-content/neural-mt-and-blockchain-are-about-to-radically-transform-the translation-market/

Simeoni, D. (1995). Translating and studying translation: The view from the agent. *Meta: Journal Des Traducteurs*, *40*(3), 445. doi: 10.7202/004146ar

Smith, R. (2009). *Copyright issues in translation memory ownership*. Retrieved from http://www.mt-archive.info/05/Aslib-2009-Smith.pdf

Srnicek, N. (2017) *Platform capitalism*. Oxford: Polity Press.

Şahin, M. (2013a). Using MT post-editing for translator training. *Tralogy*, *II*(6). Retrieved from http://lodel.irevues.inist.fr/tralogy/index.php?id=255

Şahin, M. (2013b). Technology in translator training: The case of Turkey. *Hacettepe University Journal of Faculty of Letters 30*(2), 173-190.

Şahin, M. (2016). Translation technologies for a less commonly translated language: Promises and challenges. *Translatologia, 1*(1). Retrieved from http://www.translatologia.ukf.sk/2017/01/translation-technologies-for-a-less-commonly-translated-language-promises-and-challenges/

TAUS. (2017). *The translation industry in 2022*. Amsterdam: TAUS. Retrieved from https://www.taus.net/think-tank/reports/event-reports/the-translation-industry-in-2022

TAUS. (2018). *Translators in the algorithmic age*. Amsterdam: TAUS. Retrieved from https://www.taus.net/think-tank/reports/event-reports/translators-in-the-algorithmic-age

Thomke, S. (2003). *Experimentation matters: Unlocking the potential of new technologies for innovation*. Cambridge, MA: Harvard Business School Press.

Torres Hostench, O. & Ramon Biau Gil, J. & Cid-Leal, P. & Martin Mor, A. & Mesa Lao, B. & Orozco-Jutorán, M. & Sanchez Gijón, P. (2010). TRACE: Measuring the impact of CAT tools on translated texts. In Maria-L. Gea-Valor, Isabel Garcia-Izquierdo, and Maria J. Esteve (Eds), *Linguistic and Translation Studies in Scientific Communication* (pp. 255-276). Bern: Peter Lang.

Türk-İş. (July, 2019). Dört kişilik ailenin açlık ve yoksulluk sınırı (TL/Ay). *TÜRK-İŞ haber bülteni.* Retrieved from http://www.turkis.org.tr/TEMMUZ-2019-ACLIK-ve-YOKSULLUK-SINIRI-d268748

Tymoczko, M. (2007). *Enlarging translation, empowering translators*. Manchester, UK: St. Jerome Pub.

European Commission, the CIOL and the ITI. (2016). 2016 *UK translator survey: final report.* London, UK: European Commission. Retrieved 20 May 2019, from https://ec.europa.eu/unitedkingdom/education/languages/2016-survey-of-translators-based-in-UK_en

van der Meer, J. (2013, January 16). *Clarifying copyright on translation data*. Retrieved from https://www.taus.net/think-tank/articles/translate-articles/clarifying-copyright-on-translation-data

van der Meer, J. (2018, October 30). Fixing the translation ecosystem. [Web log] Retrieved from http://blog.taus.net/fixing-the-translation-ecosystem (last accessed July 14, 2019)

van Dijck, J. (2009). Users like you? Theorizing agency in user-generated content. *Media, Culture & Society, 31*(1), 41-58. doi: 10.1177/0163443708098245

van Dijck, J. (2013). *The culture of connectivity: A critical history of social media.* Oxford: Oxford University Press.

Vashee, K. (2017, September 17). Data security risks with generic and free machine translation. Medium. Retrieved from https://itnext.io/data-security-risks-with-generic-and-free-machine-translation-d0ce53596815 (last accessed July 14, 2019)

Venuti, L. (1998). *The scandals of translation: Towards an ethics of difference*. London/New York, Routledge.

Vercellone, C. (2005). *The hypothesis of cognitive capitalism*. Paper presented at the Towards a Cosmopolitan Marxism, Historical Materialism Annual Conference, 4-6 November, Birkbeck College and SOAS, London, United Kingdom. <halshs-00273641>. Retrieved from https://halshs.archives-ouvertes.fr/file/index/docid/273641/filename/The_hypothesis_of_Cognitive_Capitalismhall.pdf

Vercellone, C (2007). From formal subsumption to general intellect: Elements for a Marxist reading of the thesis of cognitive capitalism. *Historical Materialism*, 15 (1), 13-36. doi: 10.1163/156920607X171681. halshs-00263661

Vercellone, C. and Lucarelli, S. (2013). The thesis of cognitive capitalism. New research perspectives: An introduction. *Knowledge Cultures, 1*, 15-27.

von Flotow, L. (1997) *Gender and translation: Feminist approaches explained,* Manchester: St Jerome Press.

Wolf, M., and Fukari, A. (2007). *Constructing a sociology of translation*. Amsterdam; Philadelphia: J. Benjamins.