# ANALYZING CAUSES OF YOUTH UNEMPLOYMENT IN DIGITALIZED ASTANA THROUGH ACTOR-NETWORK THEORY

by

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**Abstract**

This thesis examines the causes of youth unemployment and inadequate employment in Astana through the framework of Actor-Network Theory (ANT) and theoretical works such as Cyborg Theory and Entanglement Theory. The research aims to map out the employment network of Astana to identify the main destabilizing factors in order to provide policy recommendations. In order to highlight critical actants in the network and their constant interactions with each-other the data from the government supported "JOLTAP" project, which surveyed 19,760 residents, will be utilized. Digitalization stands as the most important actor in the network that has significantly reshaped social reality. The thesis also examines the role of social norms, gender dynamics, and financial burdens, including high levels of youth indebtedness and the impact of frozen bank accounts on job opportunities. Through qualitative and quantitative analyses, the study argues for targeted policy interventions, such as integrating short-term vocational courses, promoting digital literacy, flexitime and industrialization. By applying ANT the research aims to provide a comprehensive understanding of youth employment challenges in a digitalized urban context. Such an approach accentuates the complexity of youth unemployment or inadequate employment as well as the need for comprehensive policy decisions that are focused on the expansion of capabilities.

# CHAPTER 1: INTRODUCTION TO THE YOUTH UNEMPLOYMENT ASTANA: CONTEXT, TOOLS, THEORETICAL FRAMEWORK

## 1.1 SOCIO-ECONOMIC AND DEMOGRAPHIC CONTEXT

Kazakhstan, due to its unique post-Soviet demographic and economic situation with the heavy reliance on oil reserves, could be an interesting case study of youth unemployment during the age of digitalization for policymakers around the globe. The high prevalence of hydrocarbons in the export statistics reveals its petro-state position and a lack of economic diversification (Azretbergenova & Syzdykova, 2020, p. 159). The shift from manufacturing to services has been a significant trend in many economies, leading to reduced employment opportunities in the manufacturing sector (Author and Dorn, 2013). This lack of diversification not only affects the job market but also intersects with Kazakhstan's demographic trends, including a high birth rate of 19.5 per 1000 population or 388.4 thousand children born in 2023 (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, 2024). This is especially important since Kazakhstan's demographic trends mirror those of developing countries, with high birth rates and rapid urbanization contributing to overpopulation concerns (United Nations Population Fund, 2020). Third, there is an ever-increasing migratory trend from rural places to urban centers, namely, into four city magnets: Astana, Almaty, Shymkent, and Atyrau (Iskakova et al., 2023). This is another global trend since globalization has led to increased labor mobility, resulting in significant urban migration patterns worldwide (Castles & Miller, 2014). Fourth, there is high coverage of the population by digital technologies and social media, as statistical data reveal that the Internet penetration rate was at 80% in the year 2020 (Oralova, 2022). Digitalisation quickly transformed key sectors of the Kazakhstani economy, such as banking and business (OECD, 2023). For instance, the rapid adoption of digital services is evident in Kaspi Bank's mobile

application, which now has 13 million users (Kaspi.kz, 2024). Based upon this statistical data, we can see that Kazakhstan could be described in terms of rapid digitalization, mass migration to cities, youth bulge in demographics, lack of economic diversification, and service economy. While these characteristics are present throughout Kazakhstan, they are particularly acute in Astana, given its role as the capital. Thus, in order to understand the impact of overpopulation, mass migration, and, most importantly, digitalization, Astana stands as an interesting research field.

As a phenomenon observed worldwide, rapid urban migration transforms the social, political, and economic dynamics within major cities (Castles et al., 2014). Astana is no exception, with its population nearly doubling from 778 thousand in 2013 to 1.4 million in 2024 (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, 2024). This highlights an unprecedented growth for Kazakhstan. Astana is not only a rapidly growing city, but it is also a city of youth. In 2023, 440 thousand out of the total population consisted of youth under 35 years, while the average age of Astana residents is 30 years (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, 2024). This shows that Astana's population is mostly increasing due to the influx of young internal migrants and high birth rates. Such an increase could create substantial pressure on the city's infrastructure and job market. Addressing these pressures is critical for sustainable development in the future, most importantly, the issue of unemployment. Overall, overpopulation and rapid urbanization are some of the major structural factors that are affecting unemployment in the city.

Challenges that go hand in hand with unemployment affect all age demographics; however, the damage caused by youth unemployment could be more devastating to society at large, not only due to the higher probability of a crime surge but also because of the long-term psychological and generational damage it can cause (Bell & Blacnflower, 2011). For instance, economists like

Bell and Blanchflower have noted that unemployment at a young age could cause permanent "scarring," which hinders the chances of stable employment in the future (2010). In other words, ignoring the issue of young unemployment today could contribute to mass unemployment or "chronic" one in the future due to its impact on mental health. As mentioned earlier, the bulk of the population in Astana is young people; thus, due to the serious implications of youth unemployment, it is of dire importance to pay attention to this field, especially in the era of rapid urbanization and digitalization.

According to official statistics, there are 31 thousand unemployed citizens in Astana as of today, while the number of NEET youth (Not in Employment, Education, or Training) is 24 thousand, which is around 5.9% of the total youth population (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, 2024). Despite that, at first, it might seem to look like benign statistics - but there are several complexities behind it. First, there are serious doubts about the methodological aspects behind these statistics. However, it should be noted that the tracking and classification problem related to unemployment is not unique to Kazakhstan. This issue of lacking analytical and methodological tools of grasping unemployment is the global issue that could be found in countries like Hungary (Micklewright & Nagy, 2010). First, it is difficult to properly assess the current number of actual Astana residents due to pendulum migration. Pendulum migration is the constant back and forth flow of commuters into the city from the rural parts and outskirts (Voloshyna, 2015). In addition, government data is collected based on the official entry of address registrations, which does not take into account people who do not wish or have the ability to register on the city premises. The same principle of data collection is applied to the unemployed. For instance, to be counted as unemployed a citizen has to register as unemployed on the official portal enbek.kz or at a career center (Республика Казахстан, 2023). Often, there might not be enough incentive for citizens to do

so, or they might not be well-informed about the opportunities that the status of officially unemployed opens up. For instance, among the JOLTAP project participants that in the personal survey claimed to be unemployed only 13% were also officially registered in the government databases (JOLTAP Project, 2024).

Current statistics do not reflect the factual data on the ground, not only due to the imperfections of the methodology of data collection but also because of the outdated definition of unemployment. The ILO has also suggested the need for updated methodologies due to the issue that traditional definitions of unemployment may not capture the full extent of labor underutilization forms (International Labour Organization, 2022). Thus, it is important to discuss the next issue with the official statistics, which is the very definition of the concept. What constitutes a definition of unemployment? Is it a total lack of any work or income? How much should an individual work every day to be considered as being employed? Experts in the field of work relationships from the International Labour Organization encourage us to look into the issue of unemployment not merely through the prism of lack of work but rather to supplement it with other forms of labor underutilization, such as inadequate pay, short and unstable hours, the mismatch between the skills and labor market, etc. (International Labour Organization, 2008). In this thesis, as we will explore through individual life journeys as well as based upon surveys of the "JOLTAP" project, it would be argued that current statistics of unemployment not only underreports the issue but also mask the greater problem of the working class in the form of inadequate employment. To tackle the problem, one must have specific knowledge and analytical data. However, in the case of general and youth unemployment, it seems there is no precise source except for the limited governmental statistical data. This is why, in order to get a better understanding of the issue of youth unemployment in Astana, it is important to choose qualitative data over quantitative.

The rapid advancement of technology suggests we may be entering an era where the traditional career scenario – where an individual joins a firm and works there until retirement – is no longer feasible. As British economist Guy Standing argues, we are witnessing the emergence of a new social class – the precariat (2014). Traditional employment was often considered a source of stability. However, nowadays the labor market is shifting towards dominance of precarious employment that is characterized by temporary arrangements and agreements between the employer and employees. (Standing, 2014). Standing argues that digitalisation and the rise of the service economy contributed to this developing situation (2011). In other words, the nature of employment could be transforming faster than our conceptual tools, creating a gap between the job market and the academic literature.

If the rise of the service economy could be a catalyst behind the precarious employment it is important to examine the economic structure of the city. According to Astana Invest, only 9% of the gross regional domestic product (GRDP) is attributed to manufacturing, 27% to trade, while the remaining is taken up either by services or government (Astana Invest, 2022). This distribution highlights a significant lean towards service-oriented employment. GRDP is not an accurate way of determining available jobs. However, it demonstrates the lack of manufacturing in the economic structure of Astana. Such lack of industrialization could lead to considerable job losses among low-skilled workers and inequality (Acemoglu & Restrepo, 2020). One might argue that since Astana is the city where the government is concentrated, there are plentiful jobs in governmental or quasi-governmental sectors. However, first of all, such positions require specific qualifications; second, there are limited open vacancies. For instance, during the preliminary data collections (May of 2024) on the "Enbek" employment platform that was created by the Ministry of Labor and Social Protection, there were 77 job openings in Astana for the government sector, of which none for positions less than C-O-4 (chief

specialist). As we see from the lack of manufacturing and government vacancies, it could be argued that the predominance of service sector jobs shapes the employment landscape for Astana's growing youth population since this sector provides most of the jobs that do not require any working experience or qualifications. As noted in Kalleberg's study on the American job market, the rise of the service economy is often linked with an increase in the precariousness of employment (2009). This trend raises concerns about the quality of employment opportunities. However, it should be noted that the above-mentioned characteristics are often a feature of low-skilled service positions. Yet, considering that the service sector takes up the majority of economic activity in Astana, it is safe to assume that the market is saturated not by high-skilled service job positions but by contrasts with taxi drivers, delivery services, waiters, cashiers, consultants, etc. The job market's skew towards such roles indicates a broader trend. Based on the above-mentioned paragraphs, we have established a general demographic picture of Astana: it is undergoing rapid urbanization that outpaces the infrastructural and economic possibilities, and the population consists mostly of youth who are employed in the service economy. This demographic and economic overview sets the stage for further analysis of employment trends and challenges in Astana.

Discussing any aspects of life in Astana inevitably leads to the subject of internal migration, which is behind its rapid population growth. This influx has dramatically reshaped the city. In fact, it is safe to assume that it is a city of migrants, considering that the native population of Astana comprises only 20%, given that in 1996, there were only 270 thousand people living there before it became the capital (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, 2024). The migration patterns are constant, in 2022 alone, 30 thousand people relocated to Astana, while in 2023, 50 thousand people migrated (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan,

2024). As noted by Iskakova et al., Astana, along with Almaty, Shymkent, and Atyrau, are the major magnets for migrants, while other regions see a steady decline (2023). The predominance of rural-to-urban migration is of special interest to this thesis. As noted by Bekenova, young internal migrants are more prone to unemployment or low-paying service jobs due to the lack of qualifications (2022. In order to develop efficient employment policies, there has to be also a better understanding of migration patterns and motivations.

Overall, this section establishes the socio-economic and demographic context Astana for the further research. 1) There is a lack of analytical and statistical tools at the government level in Kazakhstan that could deeply investigate the issue of youth unemployment and inadequate employment. 2) The city's population is growing rapidly, especially its youth, due to the migration flows. 3) There is a heavy emphasis on the service-oriented economy and lack of manufacturing. 4) As a capital city, it is at the forefront of societal, economic, and political changes associated with digitalization. Based on this, it is clear why Astana is the primary research location based on the above-mentioned factors. However, this section has not touched on a primary factor that would be at the center of the narration, which is the issue of digitalization.

In the following section, in order to better understand some of these intertwined issues from a theoretical perspective in social science, we will be applying the ANT framework, the Cyborg theory by Haraway, and the entanglements theory by Hodder to better understand this issue of digitalization. These frameworks could provide a comprehensive understanding of the interplay between digital technologies, migration patterns, and employment trends among young people in Astana.

## 1.2 ANT FRAMEWORK

Actor-network theory (ANT) was proposed by social theorist scholars such as Bruno Latour, Michel Callon, and John Law in the late 20th century; ANT challenges traditional sociological approaches by emphasizing the symmetry between human and non-human actors in the construction of social realities. Instead of viewing society as composed of fixed structures or institutions, ANT sees it as a dynamic network of interactions where both human and non-human entities play crucial roles (Latour, 2005). In other words, instead of treating social context as static, Latour argues that it is a product of networks, where the agency of both human and non-human actors in shaping social reality (Latour, 2005). This perspective suggests that elements we might not usually consider as significant, such as technology, are important in shaping human interactions and experiences. Latour introduces the concept of entanglements to describe how these relationships are interconnected, making it difficult to separate where one relationship ends and another begins (Latour, 2005). This challenges traditional distinctions between humans and non-humans, while also showcasing that social reality could be perceived as a complex web of interconnections**.** Three main concepts compose the ANT framework: 1) actors, 2) networks and assemblages, 3) translation. Actors (or actants) are both human and non-human entities that participate in networks. This includes individuals, organizations, technologies, and any other entities that influence or are influenced within the network (Latour, 2005). Anything can act within the network, showing that even non-human entities have agency (Latour, 2005). ANT suggests that society is made up of networks of relationships. These networks form through interactions between actors who keep negotiating, aligning interests, and stabilizing connections (Latour, 2005). This shows that social structures are fluid by nature. Finally, social-technology scholar Callon, further expands our understanding of the ANT framework by the introduction of the concept called translation, which is the process through

which actors form a stable network. According to Callon, translation can be divided into four parts: problematization, interest, enrollment, and mobilization (Silva 2014). These steps represent the process of network formation and stabilization.

This theoretical approach allows us to dissect the issue of youth inadequate employment in Astana. Here is the following plan for the thesis work: 1) Identifying actors and networks that are formed around our primary research focus: digitalized migrant youth of Astana that is inadequately employed. These actors might include digitalization, social norms, debts, government, employment initiatives, and platforms. 2) Identifying destabilizing factors that bar the network from stabilization, such as frozen bank accounts due to the debts that limit employment opportunities. 3) Proposing policy recommendations that could stabilize this network.

One of the most distinctive aspects of ANT is its treatment of non-human actors. ANT recognizes the significant role that non-human entities (such as technologies, objects, and infrastructures) play in shaping social dynamics. This research aim to map out main actors in the youth employment network in Astana with the application of ANT. The previously mentioned service economy, high rates of urbanization, and government initiative could all be attributed to participants in the network that revolves around digitalized migrant youth of Astana who are inadequately employed. For instance, in the context of digitalized migrant youth, smartphones and digital platforms are crucial non-human actors that mediate interactions, provide access to information, and influence social outcomes. Social media platforms like Facebook, Instagram, and TikTok are not just communication tools but active participants that shape social interactions and influence social norms. In chapter 5 based on the results of interviews and quantitative data, these actors and networks will be mapped out in detail. For the theory chapter, it would be more efficient to look into the issue of digital and human interaction.

However, there also has to be a consideration of the limitations of such a theoretical framework. The most critical limitation of the ANT framework is that it does not offer a normative stance but rather embraces the multiplicity of technologies and tools to gain a glimpse of truth (Law, 2009). Such a lack of normative stance on the one hand does not offer us straightforward answers and most importantly solutions to the issues that could be identified throughout the analysis. Yet, social realities and human nature are usually complex enough, that there cannot be a single theoretical framework that could satisfy all the questions.

Overall, ANT provides us with a holistic view that captures the complexity of social networks, including both human and non-human actors. However, ANT has been criticized despite its practical orientation about the lack of it. In order to solve this issue based on the example of the "JOLTAP" project in Astana, the practical side will be explored further. ANT, especially in the case of digitalization, could be supplemented with two other theories: 1) the Cyborg Theory by Haraway and 2) the Entanglements and Dependency theory of Hodder.

## 1.3. CYBORG THEORY

With the application of ANT theory in the case of youth of Astana it would be evident that there is a heavy immersion into a digital field. The digital world and social world are intersected producing not only a tightly woven network but also the one that changes both of these actors. It could be argued that social media content changes based on the preferences of users. There could be a further argument that the digital world also changes human beings themselves – creating a new type of human. Cyborg Theory by Donna Haraway provides a valuable framework to explore this integration. Haraway's concept of the cyborg, which is a being that is at the same time is composed of a human and a machine, could provide us with useful theoretical framework at examining the ways how technology reshapes human experiences in digitalized social realities (Haraway, 1985). In other words, through prism of cyborgs we can better understand how digital technologies are impacting digitalized migrant youth's employment opportunities and interactions with broader society. In the next chapter, we will delve into Cyborg Theory and its relevance to our study, complementing the insights gained from ANT with a focus on the human-technology nexus.

Cyborg Theory challenges traditional boundaries between human and machine, organic and inorganic, by suggesting that modern identities are increasingly hybrid and interconnected with technology (Haraway, 1985). Haraway describes the cyborg as a "cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction" (Haraway, 1985). This perspective could be also applied to the experiences of digitalized migrant youth in Astana, whose lives are deeply integrated with digital platforms. Haraway's Cyborg Theory accentuates on the irrelevance of traditional dichotomies and divisions such as professional and personal lives, which is particularly important in the context of invasive digitalization (Haraway, 1985). For example, the boundary between work and leisure becomes

blurred as youth engage with social media platforms that simultaneously offer job opportunities and social interaction (Haraway, 1985). Similarly, the distinction between private and public spheres is eroded as personal devices like smartphones serve both personal and professional functions (Haraway, 1985).

In the context of the thesis, applying Cyborg Theory allows us to view digitalized migrant youth not merely as individuals using technology, but as entities whose identities and social realities are co-constructed by their interactions with technology. This theoretical lens helps us understand how digital platforms and social media are not just tools but active participants in shaping employment landscapes and social norms. Combination of ANT and Cyborg Theory allows us to better understand the digitized migrant youth in Astana. With the help of ANT it is possible to map out the network of youth unemployment, while Cyborg Theory could provide further insights how two actants in the form of digitalization and youth co-interact and reshape each other. Together, these theories offer a comprehensive framework for analyzing the complex dynamics of digitalized youth employment.

In order to better articulate how strong the link between humans and digital technologies is in 21st century Astana it would be beneficial to introduce the concept of “Homo Digitalis”. Building on the insights of Cyborg Theory and Actor-Network Theory (ANT), the concept of "Homo Digitalis" describes a new type of human being whose existence is deeply intertwined with digital technologies. Homo Digitalis represents individuals who are continuously connected to the digital world, where both human and non-human actors (actants) participate in dynamic networks that shape their social realities. Homo Digitalis is characterized by constant connectivity, reliance on digital information, and a seamless integration of online and offline experiences (Stoicescu, 2015). According to ANT, these individuals exist within networks composed of both human actors (such as digitalized migrant youth) and non-human actors (such as smartphones and digital platforms), which

continuously interact and co-construct social realities (Latour, 2005). Haraway's Cyborg Theory complements this by highlighting how these interactions blur the boundaries between human and machine. For digitalized migrant youth in Astana, being Homo Digitalis means living in a world where digital platforms are crucial not only for accessing job opportunities, but that allows building wider social networks and identities. These youth are part of a complex web of relationships where digital technologies influence social outcomes**.** This concept helps us understand the unique challenges and opportunities faced by this demographic in a rapidly digitalizing society. Moreover, this helps us to identify our primary research participants – Homo Digitalis. For this thesis, it would be argued that the transition from Homo Sapiens to Homo Digitalis is the process that is integral to any social issue that arises in the modern age. In the future, it could be argued that with the introduction of AI, this boundary between humans and non-humans (AI) will blur to even higher extremes, considering the fast pace of AI development and its invasive nature. However, this is a topic for future research.

## 1.4. ENTANGLEMENTS AND DEPENDENCY THEORY

For now, in order to solidify links between the digital world and Kazakh youth it is beneficial to include Hodder's concept of entanglements and dependency. Hodder's theory offers us yet another theoretical lens that allows further examination of the mutual dependencies between humans and material objects. He argues that such dependencies are not one-way but instead are complex entanglements, which transforms both humans and objects (2012). Hodder's theory accentuates the complex yet reciprocal relationships between humans and the material world. Human culture and its change are deeply dependent on material objects and technologies (Hodder, 2012). It could be argued that this aligns closely with the experiences of digitalized migrant youth in Astana, whose lives are deeply linked with digital technologies.

Hodder's theory argues that the human-technology relationship is not a mere dependency but are entanglements where both parties co-evolve and transform each other. For instance, smartphones and digital platforms are not just tools for the youth, they instead actively reshape the social world, employment opportunities, and identities of young migrants in Astana (Hodder, 2012). In addition, the ways in which young people use these technologies influence the development of such technologies. For instance, based on the feedback of young users employment platform administration might decide to include new features to their websites. In the context of digitalized migrant youth in Astana, Hodder's theory helps us explore how digital technologies and social norms are mutually constitutive. It allows us to examine how the use of social media and digital platforms impacts cultural expectations and behaviors among youth, while also accentuating on how social norms and changes could influence the direction of digitalization (Hodder, 2012). Hodder's theory could allow for a more nuanced understanding of the mutual dependencies between Astana's youth and the digital technologies. This theory complements the insights from ANT and Cyborg Theory, which could offer a more holistic view

of the employment network. These three theories in the synthesis provide us with the following picture: 1) ANT identifies the digital realm and youth as being in the everchanging, dynamic assemblages 2) this assemblage is strong enough to create a new social identity – that of a cyborg, which was brought upon 3) finally, this relationship makes both parties dependent on each other. Cyborg cannot exist outside the digital world, while the digital world is empty without any humans in it. Smartphones and other digital devices have become central tools for accessing information, connecting with peers, and navigating the hurdles of urban living. Moreover, the reliance on digital technologies may exacerbate existing inequalities, as those without adequate access to or proficiency in these technologies may find themselves at a disadvantage. Addressing these challenges requires a nuanced understanding of the digital landscape and targeted interventions to support digital inclusion and literacy. Overall, by synthesizing these three theoretical frameworks it is revealed that digital and human worlds are interconnected to the extremes of dependency.

## 1.5. EXAMPLE OF PREMIGRATORY EXPOSURE

Let us closely examine the interconnection of these theories on the issue of migration since, in Astana, the majority of the population shares the experience of migrating. Some sources claim that a significant portion of Astana's residents have relocated from other regions, with nearly 38% originating from different parts of Kazakhstan (Eurasian Research Institute, 2021). However, this number could be higher. Understanding the premigratory exposure to digitalization and the dominant ideology through the integrated lens of Actor-Network Theory (ANT), Cyborg Theory, and Hodder's Entanglements and Dependency Theory reveals the complex network of relationships that precede the decision to migrate. These frameworks allow us to dissect the myriad interactions and influences that shape young migrants' perceptions and decisions, particularly in the context of youth in Astana. If we consider youth unemployment as an even larger network, it is crucial to understand the initial entanglement that occurs even before migrants decide to settle in Astana. Pre-migratory exposure to images of Astana through digital platforms serves as a significant non-human actor in this network.

Digital platforms significantly shape migration decisions, as potential migrants utilize online resources well before relocating (Preiss, 2022). In other words, social media and digital technologies serve as important non-human actors in the network of youth unemployment well before the decision to migrate into the city via impact on the perceptions and aspirations of young migrants. Digital media often transform migration narratives with idealized pictures and messages (Dekker & Engbersen, 2012). Additionally, the social media content is not merely formed by bloggers but there is also an impact of official Kazakhstani ideology in regards to the Astana. From the outset, after proclaiming independence, social stability, and economic development were pillars of the official ideological narrative (Mkrtchyan, 2017). Astana played the role of a pearl in the Steppe and as the legacy of the first President (Mkrtchyan,

2017). The symbolic significance of landmarks like the Baiterek Tower has been ingrained in the minds of the Independence generation through educational institutions. The architecture of Astana was also constructed to convey this message of progress (Mkrtchyan, 2017).In other words, the architecture also impacts the human perceptions and social reality. While the power of architectural messages are further facilitated via social media (Obi et al., 2021). Such an amplification of official narrative via digital means reinforces the city's allure to the young migrants. The EXPO, Bayterek Tower, and skyscrapers are all intended to convey the message of social stability and progress brought by the rule of the first president. Such images are further disseminated via social media, which makes the allure of Astana's modernity even more compelling. Young individuals from rural areas and smaller towns often feel compelled to migrate to urban centers (Eurasian Research Institute, 2021). The visual and ideological appeal of Astana acts as a magnet for the young migrants.

Digital technology exacerbates the positive imagery of Astana by accentuating aspects such as modern infrastructure and economic opportunities. In other words, digital platforms are not mere tools for disseminating information but active participants in reshaping the perception of young Kazakhstani citizens about Astana. The construction of such complex infrastructure as digital platforms, as well as content about Astana, involves thousands of human participants, which underlines the complexity of such an initial entanglement. In addition, the role of government workers, who tirelessly create messages and images of Astana that align with the dominant ideology, adds another layer to this complex network. These thousands of actors in ministries of education, information, and social development, as well as Astana's Akimat, persistently shape the image of the capital as a symbol of progress and prosperity, which further influences the perceptions of young Kazakhstani citizens. As these digital and ideological processes intersect, they create a complex web of influences that impact the decision-making processes

of potential migrants. Such an entanglement of human and non-human actors illustrates the ANT perspective that social reality is constructed by interactions within a network. Moreover, a nuanced look at the issue of migration, supplemented with the aspirations-capabilities framework by De Haas, shows us that the decision to move is an outcome of a multitude of influences and advises against simplifying it to a mere response to economic opportunities and financial hardships. Media narratives can shape perceptions of the capital as an ideal destination. The decision to migrate is also significantly influenced by personal aspirations like a drive for higher quality of life or education (De Haas, 2021: 18). These aspirations add layers to the decision-making process (ibid.). It is also important to consider that digital platforms and the ideology do not exist in the void. In reality, these actors are interconnected with each other to the same degree as they are not isolated from other factors in this pre-migratory entanglement, such as economic aspirations, personal ambitions, social networks, or pressures. Overall, by "untying and dissecting" pre-migratory entanglements, we gain a glimpse at how ANT could explain broader concepts in an even more complex web of networks in relation to youth unemployment.

Moreover, not only on the example of premigratory media exposure, it is revealed that migrants are lured into Astana by imagery produced by the complex network that consists of official ideology and positive imagery through social media, but also their existence and fast integration into the society is enabled by digitalization. The digital tools such as navigation apps or online banking facilitate the integration of migrants into the city life (UNDP, 2021). They help migrants to navigate through the new city's environment. In other words, digital technologies play important role not only in attracting migrants into the city via imagery but also they help for their integration into new environment via enhancement of their capabilities. Migrants' reliance on these digital tools demonstrates us the cyborg identity, where technology becomes an extension of the human self. The integration of such digital tools into the lives

of Astana's young migrants and consecutive dependencies highlight the formation of cyborg identity, which blurs the lines between humans and machines (Haraway, 1985). Digital technologies allow the Astana's youth to navigate through the city, access required services, and engage with family and friends. These as noted previously highlights the formed dependency that provides a better understanding of entangled relationships between migrants and technology. These tools not only shape human behavior and experiences, but also co-evolve. Overall, this example of premigratory exposure not only illustrates how these three theories together produce a powerful analysis framework but also finalizes this research's participants: Homo Digitalis that migrated to Astana and ended up in a precarious position.

## 1.6. LABOR MARKET SEGMENTATION

ANT framework that is supplemented with Cyborg theory and Dependency theory could provide us with the critical understanding of the relationships between the various actors in the wider network of employment. However, in order to better understand the power relations between the actors in the labor market it is important to add further insights from the labor market segmentation theory. Labor market segmentation theory states that the labor market is not holistic and often is divided into sub-markets creating two distinct ones: primary and secondary (Reich, Gordon, & Edwards, 1973). The primary market is characterized by stable jobs, functioning career ladders, skills acquisition on the site, and satisfactory wages (Reich, Gordon, & Edwards, 1973). The secondary market on the other hand shows high turn–over rates, low wages, and lack of growth and stability (Reich, Gordon, & Edwards, 1973). Often minority groups due to the historic processes that support capitalist hegemony are confined to the secondary markets (Reich, Gordon, & Edwards, 1973).

The characteristics of the above mentioned secondary labor market often corresponds with the manual labor positions in the service sectors. As noted in the introduction in Kazakhstan as in any other country due to the rise of technology the new type of class – that is precariat – is rising, which is the term coined by the British economist Guy Standing (2014). If the implications of the labor market segmentation is applicable to the case of Kazakhstan, then during the further analysis it is expected that minority groups by age, gender, health status that are youth, old, disabled, and women could be experiencing serious challenges in the labor market. Unfortunately, due to the limits of the study the role of race and ethnicity could not be monitored through this study. Overall, it is expected that introduction of the labor market segmentation theory could enrich the study by also addressing the limitation of ANT framework in relation to the identification of social power dynamics.

# CHAPTER 2: MAPPING OUT DESTABILIZING AND STABILIZING FACTORS

## 2.1. INTRODUCTION TO THE “JOLTAP” DATABASE

Following an exploration of the theoretical framework of this study, it is important now to apply it to real life. In order to do so in this study the "JOLTAP" project’s database will be integrated. "JOLTAP" project is an initiative by an Akimat of Astana that was launched in May 2023 to combat youth unemployment through short-term courses, government support measures, and enhancement of digital and other expertise among its target population (Department of Internal Policy of Astana city, 2024). Due to its positive preliminary results, the government of Kazakhstan decided to further develop this project in other major cities such as Shymkent, Aktobe, Almaty, and Karagandy (PrimeMinister. kHz, 2024). This study leverages data from this project, which includes information from 19,760 Astana residents. Including the findings from the JOLTAP project in this thesis is crucial since it is a unique undertaking against youth unemployment in Astana. In addition, 19.7 thousand entries make it quite a substantial database that covers 1.3% of the city's population. Such a sample size allows us to have a wider representation of different demographic groups.

The project, due to its complex aims, has been divided into different stages that include 1) identification (data collection) of the target audience, 2) establishment of trust via consultations, 3) organization of short-term courses, and 4) the outreach work with the employers. The initial aim of the project was according to the fund members making a first contact. In September 2023 as part of the project 10 "Barshaga Mumkindik" *(opportunities for everyone)* consultation centers were established in the populous zones of the city. In the span of a year, 19.7 thousand citizens were surveyed. As the locations of consultation centers were different from each other, the dataset could be described as being random.

How and what was acquired as part of these surveys? Consultation centers offered consultations in three distinct areas: 1) government support measures and additional digital help, 2) offered short-term courses, and 3) direct vacancies from major hiring companies. First and foremost, each government support measure has its own legibility criteria that take into account a wide array of aspects of life. In order to provide consultation on the eligibility of a citizen to the government support measures, consultants need to ask an array of personal questions. Before the beginning of the data collection process, each respondent signs an agreement to share data. During the process, which takes up to 15-20 minutes, citizens were surveyed on 70-80 personal questions that were related to the general demographics, earnings, debts, housing, skills, education, etc. Considering that questions are related to a wide array of life aspects, the lenses of ANT could offer a general overview of such raw data.

There are, in total 19, 760 digital surveys completed. 10100 are youth under 35 (51%), 9 660 are people over 35 (49%). In this study, we will focus mostly on the youth. However, the presence of data on other demographics is important since it helps to establish a comparative edge. The minimum age is 16, and the maximum age is 87. 14 247 were women, while 5 489 respondents were men. For the database itself, from the 19.7 thousand people at the start of the surveys, 12 122 (61) were unemployed, 5 740 (30%) had a job, and 1 810 (10%) worked for themselves or had a business. As our primary focus is unemployed youth in this dataset, we shall be primarily looking at them. In this dataset, 10 100 respondents younger or equal to 35 have mentioned their labor status: 6 320 (63%) were unemployed, 2 898 (29%) had a job, and 835 (8%) worked for themselves or had a business. If, according to the official statistics, there are 24 thousand NEET youth in Astana, then the project has successfully covered one-fourth of it. However, once again, the official statistics should be taken with doubt due to the imperfections of governmental statistics that count as unemployed only citizens that have proactively obtained such a status as

noted previously based on the "JOLTAP" project data. Only 13% of the unemployed have been registered officially.

In addition, there are data on the migration *(city of origin, year of migration)*, outreach tools, social status *(marriage, kids, disability, social vulnerability),* education *(level, specialization)*, employment *(current status, place of work, previous experience, skills, years of unemployment, barriers in employment)*, earnings *(individually and as family unit)*, spendings *(debts, are bank accounts frozen)*, housing *(spendings, forms of ownership)* and readiness to relocate.

However, the data collected during the realization of the "JOLTAP" project has to be taken with a grain of salt. For instance, there is a notable gender imbalance in the dataset. The are specific socio-cultural factors that are contributing to the overrepresentation of females, which will be discussed later in the thesis. However, there are more obvious reasons for such discrepancies that lie in the project itself. First, overall, due to the Soviet legacy, it is difficult to conduct sociological work in Kazakhstan since the population shows great distrust towards opinion collection. Considering that the project was framed as being an initiative by the Akimat of Astana, this leaves out a considerable portion of the population that does not trust the government. Second, the surveys are essential for completion in order to get into the ecosystem of the project, which includes government support measures, short-term courses, and direction into vacancies. Thus, only people motivated by these have shared their data. Finally, everything except for the name and identification number is taken orally. So, in order to seem more legible, citizens might lie about specific parts of their lives. However, considering that there are 19.7 thousand entries overall, this sample provides us with a solid representation of Astana's population. Such a comprehensive number of respondents which covers 1.3% – makes the dataset a unique source for further analysis.

## 2.2. DIGITALIZATION AS A MAJOR FACTOR

First and foremost, it is important to establish actors who are involved in the network of inadequate employment of digitized migrant youth in Astana. Digitalization, as previously illustrated, serves as a powerful tool that attracts migrants by strengthening their aspirations via ideologically driven imagery while also enabling and furthering their capabilities. The last bit deserves a comprehensive analysis. In this thesis, based on the ANT framework, it would be argued that each actor not only exists in the constant negotiation process with the existing network but also has the potential to both stabilize and destabilize the network. This chapter will analyze how the introduction of digital technologies stabilizes the system by offering employment opportunities and education while also further destabilizing it via the availability of online debts and digital inequality.

The "JOLTAP" dataset could also be described in the term that respondents are highly digitalized to the extent that the term "Homo Digitalis" could be applicable. The dataset contains information not just on the unemployed but also on people who are highly interconnected to the networks created by their digital tools. As soon as a citizen enters a consultation center, they are asked to sign an agreement to share their personal information. Afterward, primary information on age and names is taken from their documents. In case documents are absent, citizens show their documents via the Kaspi super app or Egov mobile. Only this showcases two ways in which human agency is extended via digital means.

First, these people found their way to the consultation centers also via digital media. 15.5 thousand respondents have given answers on the outreach tools that led them to consultation centers. 30% noted Instagram, TikTok, and YouTube as the primary tools. While other people were attracted to consultation centers via word of mouth (24.78%), some were attracted by the appearance of consultation centers (15%), and consultants also actively engaged in attracting

respondents (20%). Interestingly, these statistics on the outreach sources do not change even when the age filter is applied except for the outliers like senior citizens. Overall, this shows us two important trends. First and foremost, digital means are indeed an important channel for information dissemination. One-third of all respondents found their way to consultation centers via the Internet. As consultation centers offer job listings, government support measures, and short-term courses, this information is shared on social media. Thus, for one-third of the audience, interconnections between the digital and human realms are important to get relevant information that helps with orientation in the labor market.

All of the respondents needed to use their phones to receive invitations, get relevant information on WhatsApp, and show their digital documents. This shows additionally the importance of digital tools in navigating labor challenges for the unemployed population. This also reveals the additional ways how people can interact with existing governmental and business initiatives via the digital means. If examined through the ANT framework, we could see that digital media *(phones or laptops that have access to the Internet)* have both stabilizing and destabilizing effects on the network of youth unemployment in Astana. As noted by the Russian doctor of psychology Ryaguzova, via digital means, Homo Digitalis expands its agency and its internal self (2021, p. 323). Indeed, the digital media for the "Homo Digitalis" enhances agency by spreading information and expanding the ways in which residents can interact with existing infrastructures. On the other hand, there is a significant risk of digital inequality. As we have observed from the dataset, one-third of the population was attracted to the project by online means, while having a phone was a demand for all of them. This, in turn, might leave out people who do not have phones or are not digitized, as well as other residents. As noted previously by Hodder's Dependency theory, humans and material things create an interconnected network of dependencies (2012). One of the interview

participants noted, “I can’t imagine losing my phone – my life and everything is there.” As digital technology depends on human use, humans are being limited by their use. Individuals who do not have phones might be limited from opportunities that facilitate the growth of other members of the job market. This, in turn, could be backed by the idea of the “digital divide,” where the Internet serves as a magnifier for existing inequalities in the offline world by providing those with access to material goods even greater access, while marginalized groups are provided with lesser opportunities and higher risks of increased competition (Van Deursen, Helsper, Eynon, & van Dijk, 2017, p. 470). Overall, based on the initial description of the “JOLTAP” dataset, it could be concluded that digitalization is a major factor shaping the capacity of the unemployed to navigate through the hurdles of the labor market that are constricted by structural issues. More on the impact of digitalization based on the case study of employment platforms will be discussed in the later chapters.

## 2.3. VOICES OF UNEMPLOYED

As the primary focus of this thesis is understanding the underlying reasons behind unemployment, the single most important question that was asked during the "JOLTAP" project surveys is → what are the barriers to employment?

Below are two tables with answers from 6 thousand unemployed citizens and 3 thousand from exclusively young unemployed Astana residents.

**Figure 1. 6,369 responses from unemployed people aged 16-63**

| Barrier | Number | % |
|---|---|---|
| Difficulty answering | 2,599 | 37.68% |
| Caring for a relative or child | 1,151 | 16.69% |
| Lack of skills or education | 904 | 13.11% |
| Lack of work experience | 760 | 11.02% |
| Health issues | 407 | 6.39% |
| I don't know what current vacancies are available | 314 | 4.93% |
| Discriminatory age | 286 | 4.15% |
| Location does not fit | 285 | 4.13% |
| Language barrier | 95 | 1.38% |
| Lack of effort/desire to find a job | 59 | 0.86% |

**Figure 2. 3,305 responses from unemployed people aged 16-35**

| Barrier | Number | % |
|---|---|---|

| | | |
|---|---|---|
| Difficulty answering | 1,308 | 36.39% |
| Caring for a relative or child | 606 | 18.86% |
| Lack of skills or education | 605 | 18.83% |
| Lack of work experience | 577 | 16.05% |
| I don't know what current vacancies are available | 187 | 5.66% |
| Location does not fit | 135 | 3.76% |
| Health issues | 93 | 2.59% |
| Language barrier | 45 | 1.25% |
| Lack of effort/desire to find a job | 37 | 1.12% |

When comparing both datasets, it can be observed that among the youth and general demographics, answers in relation to the unemployment barriers are similar in percentages. However, youth do not experience the issue of ageism and health issues as often as the older demographics. In addition, lack of skills and work experience is a problem for a greater portion of youth compared to older demographics by 5% *(11% and 13% against 16% and 18%)*. However, it should be noted that this was a closed question with variants to choose from. Thus, we do not know the reason behind unemployment for 36% of respondents.

Before further discussion of reason behind youth unemployment it is important to acknowledge the older population and citizens with disabilities. Unfortunately, these groups of citizens are outside the scope of this research. Both groups face considerable challenges in the labor market due to the limited job opportunities (OECD, 2017). Employers often perceive the costs associated with accommodating employees with disabilities as outweighing the benefits,

leading to a scarcity of high-quality job listings for this group (OECD, 2017). In fact, on the Head Hunter platform, there are 10 thousand job listings, and out of them, only 274 have a filter that allows the recruitment of disabled people (HeadHunter, 2024). Out of 274 job listings, approximately 20% are for the position of couriers (HeadHunter, 2024). In the “World Report on Disability,” unemployment particularly was highlighted as one of the growing concerns for the disabled since it increases the economic exclusion and poverty rates among these groups (2011). The findings from the above-mentioned employment platform show that the problem persists.

Ageism remains a pervasive yet underreported issue in Kazakhstan's labor market (OECD, 2017), as highlighted by several respondents. A female respondent over 35 years old reported difficulties securing employment as a cashier or consultant due to employers' preference for younger candidates (Interview with the respondent). It is a silent problem since Astana is the city of youth *(average age is 30 y.o.)*, and problems of older strata are often ignored. This trend is particularly evident in service sector positions that demand face-to-face interaction, intensive physical labor, and additional training (OECD, 2017). The “JOLTAP” project, as mentioned earlier, offers courses on 15 professions that could be obtained in the span of a few weeks. 0There is an age limit of 35 years for digital professions, while in manual professions, this limit is for baristas and welders. Based on the interview with the project representatives, it was revealed that since their short-term courses are based on the standards and demands of local employers, they have to abide by the age restrictions. For instance, coffeehouses in Astana often do not even consider people older than 30 years old since the job is physically demanding *(12 hours standing)* and requires constant face-to-face interaction. Overall, there are significant barriers in the job market of Astana for the disabled and elderly, which also proves the points highlighted by the labor market segmentation theory.

## 2.4. GENDER AND TRADITIONAL FAMILY

After the comparative analysis between the older demographics and youth it is important to consider the gender paradigm.

**Figure 3. 3,305 responses from unemployed people aged 16-35 through the gender lenses**

| **Barrier** | **Females** *(number)* | **%** | **Males** *(number)* | **%** |
|---|---|---|---|---|
| Difficulty answering | 904 | 35.26% | 404 | 39.22% |
| **Caring for a relative or child** | 599 | 23.36% | 7 | 0.68% |
| Lack of skills or education | 369 | 14.39% | 236 | 22.91% |
| Lack of work experience | 386 | 15.05% | 191 | 18.54% |
| I don't know what current vacancies are available | 104 | 4.06% | 83 | 8.86% |
| Location does not fit | 103 | 4.02% | 32 | 3.11% |
| Health issues | 46 | 1.79% | 47 | 4.56% |
| Language barrier | 31 | 1.21% | 14 | 1.36% |
| Lack of effort/desire to find a job | 26 | 1.02% | 15 | 1.46% |
| **Total** | **Females:** | **2,368** | **Males:** | **937** |

One of the major outliers that could be observed when comparing young males' and females' responses is that "caring for a relative or child" is

exclusively chosen by females. In Kazakhstan, caregiving responsibilities, particularly for children and elderly relatives, predominantly fall on women, which could be contributing to their unemployment rates (Yanovskaya et al., 2020). The prevailing gender roles in Kazakhstan render women more susceptible to unemployment or inadequate employment (Meurs et al., 2021). Not taking into account that employers might discriminate against newlywed women due to the anticipation of maternity leave. This data shows that for a quarter of unemployed women, the biggest barrier is their families. There are individuals that are looking after the elderly and disabled. However, the majority of respondents noted that it is childcare. Based upon observations of "JOLTAP" project members, the most vulnerable categories of women with children are: 1) large families *(4 or more children)*, 2) families with disabled children or children, 3) single-mother families, and nuclear families without extensive relative networks. These circumstances increase the resources required for childcare, thereby limiting women's employment opportunities (Yanovskaya et al., 2020).

In addition, as the below table showcases, women in Kazakhstan tend to marry earlier than men. The majority of women are wed between 18-24 years, which is the exact time for the university degree acquisition and initial job hunt, which corresponds with the data from the European Institute for Asian Studies (2020).

**Figure 4. Marriages in Kazakhstan for 2023.**

| Age Group | Number of Women | Number of Men |
|---|---|---|
| 18 to 19 years | 16,453 | 2,481 |
| 20 to 24 years | 50,528 | 35,503 |
| 25 to 29 years | 24,765 | 41,207 |
| 30 to 34 years | 14,448 | 21,379 |

| | | |
|---|---|---|
| 35 to 39 years | 9,182 | 11,473 |
| 40 to 44 years | 5,256 | 6,456 |
| 45 to 49 years | 3,151 | 3,888 |
| **Total:** | **123,783** | **122,387** |

*(Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, 2024)*

The gender aspect of digitized unemployed youth is another essential factor to consider while conducting an ANT analysis. When combined with Donna Haraway's critical insights, especially her concepts of the cyborg, material-semiotic, and the implosion of binaries, ANT allows for a more nuanced understanding of how these gendered dynamics are constructed (Johnson, 2020). In ANT, both human and non-human entities are treated as actors within a network, each contributing to the stabilization or destabilization of that network. Gender roles in Kazakh society function as powerful non-human actors that shape the behaviors of human actors, such as employers. These roles perpetuate a stable network by reinforcing the expectation that women should prioritize family responsibilities over professional development. However, this stability comes at the cost of women's economic participation and independence. Yet, the choice of childcare instead (not parallel to) allows women to invest additional time in skills development given a chance. As in the "JOLTAP" project, both males and females can acquire skills free of charge. This could explain the earlier noted discrepancy in the gender data (72% of participants are females). As childcare does not require constant presence, this allows for women to learn new skills, compensating for their lack of economic participation.

Overall, Haraway's framework accentuates that gender roles are not abstract constructs but instead are deeply embedded to the social reality (Haraway, 1985). Gender roles create a material-semiotic network where the

material and the semiotic aspects such as cultural expectations reinforce each other, which might considerably limit women's employment opportunities. Through the cyborg metaphor, Haraway challenges traditional binaries, such as the division between work and family (Haraway, 1985). In the employment network, the boundaries between work and family are fluid (Johnson, 2020). This is especially true for women who must navigate both spheres simultaneously. This dual role can destabilize the network, challenging the simplistic separation of work and family and pushing the system to accommodate more complex identities (Johnson, 2020). In this way, Haraway's cyborg becomes a metaphor for women's experiences in the labor market, where they are expected at the personal cost to merge their professional and familial roles (Haraway, 1985).

Finally, these findings also support the labor market segmentation theory that illustrates that social power dynamics often translate into disparity in the labor market. Due to historical and cultural factors as shown in these study women are particularly vulnerable in the employment network. However, there has to be independent studies that highlight the extent to which women in Kazakhstan are confined to the secondary labor market.

Addressing gendered employment barriers requires deliberate intervention to transform the network. Most importantly, there should be a set of policy interventions, such as the promotion of flexible work arrangements; during the observation of 424 seamstresses that concluded "JOLTAP" short-term courses, 25% of them noted during the surveys that they could not find employment that accommodates their need for flexible hours. Even returning a child from kindergarten could become a significant problem for working mothers. Overall, such an intervention could create new opportunities for women to participate fully in the labor market**.**

## 2.5. EDUCATION

After the care for family members, the second and third most noted reasons behind unemployment are the lack of skills and of work experience. Combined these two factors constitute 34% answers out of 3,305 responses from unemployed people aged 16-35.

**Figure 5. 3,336 responses from unemployed people aged 16-35 through the education lenses**

| Education level | Total number | Lack of skills | Lack of work experience |
|---|---|---|---|
| College degree | 1,525 | 139 (8,59%) | 257 (15,8%) |
| Vocational training | 1,034 | 158 (14,09%) | 160 (14,27%) |
| Secondary school | 351 | 124 (30,54%) | 64 (15,76%) |
| Students *(both college and vocational)* | 426 | 187 (38,72%) | 107 (22,15%) |

It is interesting, though, that 45% of unemployed youth have a college degree, 30% have some vocational training certificate, and only 10% decided not to pursue any education after secondary school. This indicates an "elite overproduction" pattern, where the supply of educated individuals surpasses the labor market's demand, which could further destabilize the socio-political situation (Turchin, 2013). In other words, labor demand does not meet labor supply. The data shows that even among the respondents with higher education the lack of skills or experience could serve as a destabilizing barrier. This means that local educational institutions are not providing the relevant skills, which does not contribute to the stabilization of employment network. Normally, having a college degree or vocational training should act as a stabilizer in the job market. These credentials are supposed to show that someone is ready to

work and has the necessary skills. In a well-functioning system, these qualifications would help job seekers find work easily. Since having certifications or formal qualifications should align job seekers with what the job market needs.

Despite the potential for education to stabilize, the reality is that many people with degrees still lack the necessary skills. Another issue is the lack of work experience reported by those who are educated but unemployed. Employers often are not ready to invest additional resources to teach the rookie when it is more convenient to hire an experienced employee (Korgan et al., 2022). As noted previously, many respondents, despite their degrees, note the lack of skills and work experience as a barrier for employment.

In addition, having any type of university degree serves as a demotivational factor that bars individuals from seeking employment in other sectors or outside their given profession. During the one-on-one interviews, it was revealed that individuals with degrees shy away from linear employment due to the fear of “uyat.” Uyat is the Kazakh local cultural concept of shame - for many university graduates, it is shameful to work in manual labor. Overall, the idea of "elite overproduction" fits well with ANT; it shows a misalignment between what the education system is producing and what the job market actually needs. When there are more highly educated people than there are jobs that require those qualifications, the system becomes unbalanced. This leads to increased competition for a few available positions, leaving many overqualified candidates without suitable jobs.

There has to be once again an institutional intervention in order to stabilize the system. Schools and universities need to work more closely with industries. This connection can help education act as a more reliable bridge to employment. Also, adding more real-world experience to educational programs can help give students the experience that employers are looking for. This way, graduates won’t just have degrees—they’ll have practical skills, too. Also,

standard timings for professional acquisition should be reconsidered since fixed two to five years for universities, and vocational training centers are not suitable for the fast-paced environment of post-industrial society.

In the mentioned earlier “JOLTAP” project, the same principles were applied to the organization of short-term courses. 20 digital and manual professions were chosen that align with the following rules: a) curriculum is based upon actual standards and demands of employers, b) focus on the practical skill acquisition through real-life operations, c) minimization of theory, d) possibility to complete in the shortest amount of time. Once again, it is important for the government, educational institutions, and businesses to work closely in order to stabilize the current labor market. In the later chapters, as part of the policy proposal, the experience of the “JOLTAP” project will be further discussed in the following chapters.

## 2.6. FINANCIAL BURDEN AND POVERTY.

When looking closely at Figure 1 it is evident that a major cluster of unemployed youth did not specify or refused to answer the reasons for leaving a previous working place – 1,308 (36.39%) respondents. This might also be due to the format of question being closed. 15.32% or 695 respondents noted that they were not satisfied with their salaries (JOLTAP, 2024).

**Figure 6. 4,381 responses from unemployed people aged 16-35**

| Combined Reason for Leaving | Number | Percentage |
|---|---|---|
| Due to family circumstances | 1918 | 43.83% |
| Unsatisfactory salary | 695 | 15.32% |
| Due to relocation | 570 | 12.57% |
| Uncomfortable work schedule | 341 | 7.82% |
| Health | 249 | 5.49% |
| Other | 608 | 13.88% |

Salary satisfaction might be one of the reasons behind the inadequate employment in Astana among the youth, which will be discussed later. If the popular job listing platforms are observed, then it is especially evident that for people without skills or experience, it is challenging to set foot in the industry. Expert in the field of the Kazakhstani labor market, as Alshanskaya calls it a “first workplace trap” (2024). Indeed, if we conduct the analysis of existing employment platforms like Headhunter, out of 10 570 job listings, only 2 460 are available for people without any job experience. Out of this portion, 1352 (54%) are paying less than 300 thousand tenge. On the Enbek work platform, there are 5,860 job listings, out of which 760 are for people without skills and experience. Only 683 paid higher than 200 thousand tenge and only 120 higher than 300 thousand tenge. Considering even the modest government statistics of

31 thousand unemployed in Astana, it is clear that job demand does not match the supply. Not only the quality of job listings but even their quantity might be dubious.

Housing costs, indebtedness, and inflation are the three major destabilizing factors that might affect the network. If we take the age of youth from 18 to 28, then based on the "JOLTAP" project survey data, there are only 13% of migrant youth that either have their own flats or mortgage (out of 2060 respondents) while expanding it to 18 to 35 age brackets then the percentage of homeowners will rise up to 24% (out of 4800 respondents) (JOLTAP Project, 2024). It is evident that a large portion of young Astana citizens do not own any house (mortgage or paid). "JOLTAP" project surveys revealed that youth, on average, spend 100 thousand tenge on rent, while in most cases, renting with other people (JOLTAP Project, 2024). This sum of 100 thousand tenge estimate is also voiced by the interview participants in the article published in Open Democracy (2021). Thus, rent serves as a destabilizing factor since the high cost of living relative to local earnings puts an additional strain on the youth of Astana.

Currently, it is substantially easy to get a loan via microloan services or another banking app. In addition to this, most microloan services tend to have much higher interest due to the higher risks. Such ease of acquiring loans and the high interest could be one of the catalysts for the high indebtedness of the population. For instance, some sources indicated that in 2021, more than 7 million out of 9 million economically active citizens had debts ranging on average between 2-3 thousand dollars (Open Democracy, 2021). Now, this number might be closer to 8.4 million individuals, according to the officials (Zakon.kz, 2024). This data is backed by the findings collected during the "JOLTAP" project surveys among 5200 individuals aged between 18 and 35. It was revealed that 70% (3640) of them had debts with average monthly payments of 80 thousand tenge (JOLTAP Project, 2024). Among them, not all

live with relatives or have home ownership. 40% of those 3640 indebted individuals had to pay rent upon their monthly debt payments, which amounted to their monthly expenses of approximately 200 thousand tenge. Overall, debts demotivate job seekers since the perceived wages go even lower if accounted for by debt repayments. In the case of lack of home ownership, the starting 200 thousand tenge wages become inadequate for survival.

In addition, out of 4200 respondents, 11% (508) noted that they have frozen bank accounts due to the failure to repay their debts in a timely manner (JOLTAP Project, 2024). According to officials, the number of borrowers who have missed more than 90 days on their payments now exceeds 1.5 mln out of 8.4 mln of all people with debts (Zakon.kz, 2024). This creates a severe financial strain since frozen bank accounts bar individuals from job-seeking. Based on interviews with the HR company, it was revealed that frozen accounts pose several issues (JOLTAP Project, 2024). First, some employers are not willing to avoid this restriction (JOLTAP Project, 2024). Second, job seekers themselves do not have the capacity nor will they repay these debts (JOLTAP Project, 2024). Third, as a result, these people search for jobs that pay unofficially by cash on a daily basis, take gigs, or use unofficial banking applications such as Simply and Prosper Pay (JOLTAP Project, 2024). Later, one of the respondents of a qualitative interview confirmed the hurdles of job search while having a frozen bank account – one of them also related to the concept of “uyat” since individuals might feel pressure from wider society due to indebtedness. Previous research has indicated that the concept of uyat bears significant pressure on the Kazakhs, even if it comes to the issue of health during the pandemic (Caron & Orlov, 2022). Overall, this example of frozen assets shows us how ANT could be applied to the issue of employment. The destabilization of one factor in the system tends to impact the whole network negatively. However, the network of employment is also in a constant state of change, adapting to the new challenges. The digital wallets and other digital

ways of escaping the limits imposed by institutions also show us the enhanced capacities of Homo Digitalis. As this example returns us to the topic of digitalization, let us review the next important part of the research – employment platforms.

It is important to introduce Amartya Sen's view on the issue of poverty to better understand how financial burdens and the resulting economic constraints destabilize the employment network in Astana. Sen's capabilities approach reframes poverty not just as a lack of income but as a deprivation of basic freedoms and opportunities that enable individuals to lead lives they value (Sen, 1999). In this context, debt, housing costs, and low wages are not just financial hardships—they fundamentally limit people's ability to function as effective agents.

According to Sen, poverty constrains individuals by restricting their capabilities (1999). This framework is particularly relevant to the youth unemployment crisis in Astana, where many are trapped not just by low income but by a lack of access to essential resources like affordable housing and education. The burden of debt creates additional pressures on the individual entrapped by poverty. High-interest microloans and the freezing of bank accounts limit the financial freedom of individuals. In addition, the mismatch of the skills deepens the issue at hand. As noted previously, many individuals with educational degrees deem it "uyat" to work in the sphere associated with manual or low-paying positions. This aligns with Sen's argument that income alone does not determine a person's quality of life or their ability to participate in economic activities— it is more about capabilities and human desires that are limited by the system.

Further, housing insecurity exacerbates this problem. The majority of young people in Astana face high rent costs. Such immediate financial strain decreases the individuals' ability to seek better employment, instead entrapping in the cycle of low-wage jobs or informal work. Such economic situation in

other words limits their freedom to choose better job opportunities and capabilities to lead a meaningful life.

Moreover, the capabilities approach helps us understand how financial instability and poverty impact agency—the ability of individuals to make choices and pursue careers that they find fulfilling. In Astana, as debts and housing costs rise, many are pushed into a form of economic survival mode, where their choices are severely constrained by financial pressures. For example, those with frozen bank accounts are often left with no choice but to take informal or gig work. Overall, financial burden and poverty serve as a destabilizing factor within the Actor-Network Theory (ANT) framework because they limit the effective participation of individuals in the labor market. The destabilization affects the entire network — from job seekers who are unable to afford the resources necessary to improve their employability to employers who struggle to find candidates willing and able to take on stable employment. This creates a system where precarious employment, high turnover, and informal work dominate.

Addressing these financial burdens, therefore, requires more than just improving wages. Sen argues that merely financial help and increasing income is not enough and policymakers need to focus on expanding freedoms and capabilities (Sen, 1998) like providing affordable housing and free or low-cost education and training programs – so that individuals would gain the tools and opportunities necessary to fully engage with and contribute to the labor market. Such expansion of capabilities could be a base for a formation of an inclusive and fair employment network. In summary, Amartya Sen's capabilities approach enriches the analysis of financial burden and poverty as destabilizing factors in the employment network. Addressing the issue of poverty requires policies that are not mere cash ingestion but rather that focus on expanding capabilities as short-term courses, housing, etc.

## 2.7. SOCIAL NETWORKS

Professional networks present an alternative for the digital youth searching for employment. For Kazakhstani citizens, the most widespread messengers are Whatsapp and Telegram (Tuleev et al., 2024). For instance, in Astana, there are chats that are specifically aimed at finding waiters, baristas, and digital marketing specialists. These chats connect thousands of individuals into a wider group that reinforces their search for employment. For instance, one of the specifics of a “JOLTAP” project revolves around the creation of such professional chats for individuals who have completed their short-term courses. Individuals eagerly share their life stories and advice on employment (JOLTAP Project, 2024). Such professional chats offers young individuals not only jpn opportunities but also a place where they can share experiences or even frustrations with the job market. However, accessing such chats and groups could be challenging for people without any previous contact with the sphere. Thus, it is also important to not only support cultivation of such chats but also an information on where to find them.

Except for professional communities, it is also important to note other types of social connections – which are family, relatives, and friends. Often, the inadequately employed youth of the Astana family could also play a stabilizing and destabilizing factor. As noted previously, it is observed the low levels of homeownership among the “JOLTAP” project survey participants. Such personal connections stabilize the system by offering material help during times of distress and helping with employment. This helps to stabilize the socio-economic situation and prevent mass protests. This is the key to understanding how inadequately employed youth stabilize themselves financially.

However, such social networks also could have a destabilizing impact on the system. As noted previously, many women are barred from participating in the labor market due to family responsibilities. In addition, there are individuals

who either lack such supportive communities, which puts them in a disadvantaged position in the labor market. Even worse, such social networks could become a liability, as in the cases of young people who send money to their relatives who are not from Astana. Such additional expenses put individuals in a more vulnerable position. This obligation creates additional financial pressure, especially when the cost of living is already high. While digital platforms make it easier to send money across distances, this convenience can deepen the entanglement between the individual and their family obligations, as noted in Hodder's concept of entanglements. The resulting economic strain can limit young people's ability to invest in their own career advancement, such as acquiring new skills or pursuing higher-paying job opportunities.

This perspective also could be placed upon the framework of Actor-Network Theory (ANT). In this context, families and social networks act as both stabilizing and destabilizing forces within the employment network of Astana's youth. Their stabilizing role emerges from the material support and informal job connections they provide. Yet, their destabilizing role surfaces when these relationships place additional economic demands on young workers as in the form of remittances.

The concepts of dependency and Cyborg Theory further enriches this analysis. Digital tools have become central to how youth manage their familial relationships, such as through remittance apps or constant communication with relatives via social media. This constant digital connection creates a form of cyborg identity where humans via machines maintain the social ties that are independent of geography. Thus, to fully understand the employment challenges faced by Astana's youth, it is necessary to recognize the dual impact of social networks. They form an intricate web that supports or could entrap individuals within a network of dependencies.

## 2.8. EMPLOYMENT PLATFORMS

This brings us to the following section – employment search. Digital technologies through the facilitation of information dissemination have profoundly changed this sector of migrant's lives. In Kazakhstan, mainly HeadHunter, Olx, and Enbek.kz platforms are employed by young people during the process of job search. In the modern world, to secure employment or advance in the career ladder it is often essential to navigate digital platforms and technologies (Mamykova, Nadirbayeva, & Zhaidarova, 2023). In other words, digital literacy is becoming a cornerstone for successful search of employment or further financial development. Digital literacy according to the American Library Association is the set of skills that allows individuals "to use information and communication technologies to find, understand, evaluate, create and communicate digital information" (American Library Association, 2013, p. 1). Moreover, digital work search has taken over the traditional ways of searching for the employee via advertisements in newspapers or through networking. For instance, a study conducted by Kuhn and Mansour based on the dataset collected throughout the years of 2005 - 2008 also highlights that job seekers that use digital platforms and Internet in general are 25% more successful (2014). Considering the much higher rates of internet penetration in 2024 it could be argued that such findings not only remain true but also that job seeking platform became more dominant in the labor market. It could be further argued, based on Hodder's entanglement theory, that humans and employment platforms have entered into a dependent relationship. It is difficult to imagine a job market in any developed country without these platforms. Furthermore, it is essential to understand that this network, entirely created by digital means, hosts various actors: youth migrants in search of jobs, competitors for the same position, the host of the platform, the platform itself, digital technology to access these platforms (smartphones, laptops, Internet, electricity), digital literacy, social acceptance of employment platforms, and most importantly

employers. Based on the identification of these actors that are involved in the creation of the employment platform network, it could be further facilitated by the application of the translation part of the ANT framework to understand the successful scenario. 1) due to unemployment; job seekers visit digital platforms as a potential solution (problematization), 2) digital platforms engage job seekers by offering various job listings, tools for CV creation, and direct communication channels with employers (interessement). Job seekers create profiles, upload CVs, and apply for jobs (enrollment). Employers post job listings and use the platform to find suitable candidates. Successful matches between job seekers and employers stabilize the network (mobilization).

Previously the concept of Homo Digitalis has been established; let us look closely into different actors in this network. The success of the job search on platforms could be determined by the digital literacy, as well as the availability of digital infrastructure (Karaoglu, Hargittai, & Nguyen, 2022). Not all migrant youth have equal access to digital technologies or the skills needed to use them effectively, which indicates that digital divide could be a destabilizing factor. It is of great importance to address the issue of digital divide to ensure that all youth can equally benefit from the digital opportunities. This requires targeted interventions on the part of government, business and non-governmental organizations.

Continuing on the digital literacy issue, the system could be destabilized if users, in this case, migrant youth, despite having access to all of the necessary infrastructure, lack job-hunting skills that were illustrated in the translation part of ANT analysis. This revolves around three parts: 1) finding a platform and vacancy, 2) communicating with the employer and presenting a CV, and 3) collecting all the necessary documentation. As noted by the qualitative interview participant: “Making a CV takes too much time, and on top of it, I have nothing to note.” During the interview with HR from the confectionary store chain, it was revealed that most job seekers come without a ready CV.

Moreover, according to her, 30%-40% of job seekers do not come back with all the necessary documentation after an initial interview. Thus, it is essential, first and foremost, to popularize job-seeking platforms. The government should take a leading role in the job search to eliminate the issue of unemployment. There is also a government initiative as an Enbek platform that hosts vacancies. In addition, non-profit organizations have also launched initiatives in Astana as a "JOLTAP" project. One of the core principles of the project is fighting the causes of unemployment. There was a launch of a Telegram channel and bot that hosts vacancies from popular chains. Users can access the HR-s directly via WhatsApp through this digital ecosystem. There is also an automatic helper for creating CVs. Thus, this illustrates that there has to be a micro-level and face-to-face interaction with the individuals struggling with unemployment.

The effectiveness of employment platforms also greatly depends on the availability of jobs. As mentioned previously, based on official statistics, there are 31 thousand unemployed citizens in Astana. However, a quick search through the Headhunter platforms revealed 9 thousand vacancies, while under the filter of no prior experience, there were only 2 thousand vacancies left. On the governmental website of Enbek, there are 11 thousand vacancies that do not ask for prior experience; however, only 300 are willing to pay wages higher than 200 thousand tenge. This shows two issues: 1) not all Astana employers and vacancies are present on the platforms, and 2) most of the jobs do not provide adequate employment. Considering, as mentioned previously, young people are paying an average of 100 thousand tenges (while sharing a room) wages that are less than 200 thousand tenges, this illustrates a structural and systematic problem of inefficient use of labor resources. Thus, it is important to work on wage negotiation, and there needs to be centralized work on the concentration of vacancies on the free and government-led platforms. For instance, in the case of "JOLTAP," the search for employers is done manually and based on the needs of unemployed citizens. Once again, there needs to be

closer cooperation between businesses, governments, and social movements in order to quell this issue.

As part of the "JOLTAP" project, a Telegram channel with job listings and the website "JUMYSTAP.kz" was launched. Since this is a non-governmental Kazakhstani initiative, the data from the website could be used for further analysis. It was launched on the 3rd of August, 2024. Currently, it hosts 8.4 thousand registered users. Out of them, 1.2 thousand are employed by Astana. There are currently 1.5 thousand job listings that were manually collected by the "JOLTAP" project members. Users on the platform so far have clicked the button "reach out" 4.5 thousand times. Such statistics could be a basis for further analysis.

| Sphere | Job listings | Av. salary | Clicks |
|---|---|---|---|
| **Catering (waiter, cook)** | *206 (13.1%)* | *209 440 тг.* | *431 – 9.46%* |
| **Trade (salesperson, cashier)** | ***398** (25.3%)* | *212 738 тг.* | ***1224 – 26.87%*** |
| **Services (loader, cleaner)** | *375 (23.8%)* | *164 664 тг.* | *649 – 14.24%* |
| *Industry and construction (welder, operator)* | ***147** (9.35%)* | *321 991 тг.* | *232 – 5.09%* |
| *Office work (manager, operator)* | ***248** (15.78%)* | *262 450 тг.* | *889 – 19.51%* |
| **Digital (designer, SMM, targeting)** | ***70** (4.45%)* | *149 000 тг.* | *762 - 16.73%* |
| **Sewing (seamstresses)** | ***48** (3.05%)* | *159 160 тг.* | *179 - 3.93%* |
| **Transport (driver, courier)** | ***80** (5.09%)* | *292 562 тг.* | *190 - 4.17%* |
| | 1 572 | 226 671 тг. | 4 556 |

This initial statistics shows us that the number of times users click "reach out" depends on the sphere of the job listings. The office jobs and digital gigs

have proven to be more popular among job seekers compared to jobs that are focused on manual work. Especially in the manufacturing sector there is a visible lack of interest among the job seekers.

In other words, there is a disparity in the labor market of Astana, which shows a substantial but undefined number of unemployed people with diplomas as well as there is a lack of laborers in the spheres with manual work. As it was stated previously there are structural economic reasons behind such a process as lack of industrial capacities and low wages.

As stated previously, based on the data from the GRDP of Astana, it was stated the city hosts mostly jobs in services, retail, and catering, which is also reflected in the statistics from the platform since the majority of job listings on the platform are from these sectors of the economy. However, based on the interviews with the HR managers in these sectors, it is revealed that there is a persistent problem of high and volatile staff turnover. As stated by HR managers, people who come to interviews are not ready and are hesitant to pay to collect all the necessary documentation. Often, people do not show up on the interview days without any prior explanation. Since many job seekers in Astana have migrated to the city from different regions, there are also instances of "instant quitting" when an individual migrates back to his home region.

These points might be subjective since HR managers are not ready to admit inefficiencies and problems to which they might be contributing as well. However, high staff turnover rates are traditional for these spheres around the world as well. One of the main contributing factors to such behavior could lie in the modest salaries and the ease of entry. Statistics from the platform also back this claim as these sectors provide payment of around 200 thousand tenge. The conflict between the classes starts here since the employer often pays based on the presumed income generated by the employee or other business-related expenses, while for the job seekers, demand for higher salaries is dictated by inflation, debts, and housing costs. Thus, these sectors often provide a lot of

low-paying jobs with high staff turnover, which also constitutes inadequate usage of labor resources, considering that more than 60% of self-proclaimed unemployed people have university degrees or diplomas.

Employment platforms themselves are self-contained systems that are perfect for the limited ANT analysis. Employment platforms like JUMYSTAP are composed of a network of human and non-human actors that interact to either stabilize or destabilize the system, particularly in the context of inadequate employment driven by the predominance of service sector jobs. Human actors are job seekers, employers, and platform administration, while non-human actors are the platform itself, vacancy listings, regulations on the platform, and social networks. Each of the listed actors has the potential either to stabilize or destabilize the system. Wider structural issues, such as the predominance of low-quality service sector jobs, also translate into poor-quality vacancies, which in turn compromise the whole network. Let us look into each actor and component of the system individually.

First and foremost, if the platform itself works as planned, provides support in both local languages, and has relevant vacancies, and a functioning search engine, then this could have a stabilizing effect on the system itself. Indeed, compared to the pre-digital age, it is considerably easier to find and search for vacancies as well, and the number of job seekers has risen considerably. If previously only offline means of attracting job seekers were prevalent nowadays, some companies might receive hundreds of CVs in a matter of a few days. In other words, due to the employment platforms nowadays, it is much easier to find a job opening. However, the competition has also risen considerably. Since this is a global factor, it is difficult to assess the role of such platforms on employment networks. However, it could be argued that a website that is technically well thought out has an overall stabilizing effect on the system, while technical problems and bugs could be a deterrent and a destabilizing factor. Thus, regulations and standards are needed to govern and

look through such platforms. Yet, not everything solely depends on the technical functionality of a website. More often, other human actors are a more prominent factor determining the output of the employment network.

For instance, not all employers are diligent on their part due to the power-holding positions. Ghost vacancy listings could be common for platforms that lack moderation and control. Based on the observation on the JUMYSTAP platform, there are two main reasons for ghost vacancies. In some limited cases, vacancies are open in order to collect data on potential candidates or to form a database to streamline the process of employment in the future. There are also cases of unprofessional behavior on the part of the people who post non-existent job listings. HR managers could also selectively choose whom to answer and whom to ignore. Silence, on the other side, could be a substantially frustrating factor for job seekers. In other words, unprofessional behavior on the part of HR managers also constitutes a problem that destabilizes the system.

Yet job seekers also, as noted previously, could ignore the HR managers and miss appointed meetings, which further destabilizes the system. Another issue with job seekers is the lack of digital skills and skills for job hunting. Therefore, it is of utmost importance to battle digital illiteracy in order to establish a path for sustainable development. The lack of job hunting skills could be also another persistent issue, which includes communication skills, creation of CVs, and working with the employment platforms. The lack of job hunting skills on the part of job seekers destabilizes the job market as well as frustrates employers. Such frustration contributes to the reluctance of employers to engage with such employment platforms leading to the further destabilization.

In order to foster accountability on both sides, employment platforms could implement additional features and strengthen moderation. For example, an implementation of a rating system in employment platforms could be the way to fight ghost vacancies and nurture more professional communication

since it would allow for both parties to leave reviews that would be visible for a wider public. Additionally, there could be implemented features that facilitate the efficiency of HR-managers, such as interview calendars, which could improve the stability of the employment network.

Overall, digital employment platforms like JUMYSTAP are not just passive parts of digital infrastructure, instead they are active actants that directly transform the labor market. The functional capabilities of such websites, their convenience for both job seekers and employers define whether such a platform could stabilize the employment network or on the contrary destabilize it. By addressing issues such as ghost vacancies and increasing accountability, employment platforms can become a more efficient tool in reducing youth unemployment in Astana.

## 2.9. GIG ECONOMY

Another issue that is related to employment platforms is digital platforms, which provide gig jobs such as taxis, couriers, operation line workers, etc., and are on the rise in Kazakhstan (Insebayeva & Beyssembayev, 2023). These gig platforms deserve further research on their own since it is a substantial factor in interacting with and reshaping the employment network. On the one hand, these platforms stabilize the network by providing additional jobs while considering the structural problems in the labor market of Astana. They are particularly effective in attracting workers who might otherwise struggle to find stable employment, especially given the limited alignment between labor supply and demand (Insebayeva & Beyssembayev, 2023). For many workers, the gig work appeals due to its flexibility and the potential for independence (World Bank, 2023). As Insebayeva notes, gig platforms often present themselves as a solution to the inefficiencies of traditional labor markets (2023). Workers are drawn by the promise of a flexible schedule and the ability to earn without the constraints of formal employment structures (Insebayeva & Beyssembayev, 2023). This can be particularly valuable in a rapidly urbanizing environment like Astana, where new migrants and young job seekers may find traditional employment pathways difficult to access. However, as the market for gig work has grown, so too have the challenges associated with it. Insebayeva highlights several critical issues, such as the imperfections of platform algorithms and the mismatch between worker expectations and the actual benefits provided by these digital platforms (2024). These discrepancies can destabilize the employment network by creating conditions of uncertainty for workers, whose earnings and job availability are often determined by unpredictable algorithms.

Moreover, the regulatory framework surrounding gig work in Kazakhstan remains insufficiently developed, which has allowed gig companies to ignore many of the obligations traditionally expected of employers. As a result, gig workers are often classified as independent contractors, which means they miss

out on benefits such as health insurance, paid leave, and job security (Insebayeva & Beyssembayev, 2023). This practice has led to a transformation in labor relations, with stable employment increasingly being replaced by temporary contracts and short-term gigs, resulting in a precarious and unstable position for many workers within the broader labor market.

The concept of "fictitious freedoms" that Insebayeva (2024) introduces is particularly relevant here. Despite that gig work often is positioned as allowing a greater freedom, in reality many gig workers could find themselves trapped in low-skilled roles with limited career opportunities. This once again shows that perceived autonomy of gig work masks the underlying precariousness and lack of protection (Insebayeva & Beyssembayev, 2023). However, it has to be acknowledged that despite such an issue the gig platforms provides a critical relief for individuals who struggle to find traditional employment, especially in the city as Astana with the dominance of service sector jobs. In summary, despite the risks gig-work platforms could offer stabilization to the employment network. Yet, in order to minimize the risks and facilitate opportunities it is important to implement adequate regulation and support systems.

## 2.10. DEINDUSTRIALIZATION AND CITY PLANNING

Another structural issue that is revealed by the data from the platform is the lack of job seekers in the manufacturing sector of Astana. For convenience reasons, jobs in manufacturing could be divided into two parts: those that require a diploma and those that do not. There is no data at hand on how many qualified cadres are needed for the manufacturing factor. However, there is always a demand for workers who specialize in manual jobs as production line operators. During the interview with the HR manager from the industrial park of Astana, it was revealed that other platforms, such as HeadHunter and Enbek, also do not provide a sufficient number of job seekers.

"Before quarantine, there was no such problem with job seekers. After 2020, we experienced a sharp drop in the number of candidates. It could be related to the rise of taxi and courier platforms such as Yandex and Wolt. Nowadays, it is difficult to find men ready for manual jobs in factories. Sometimes wives bring their husbands." "This is the exception from the interview with the HR manager in one of AsAstana'sactories. It illustrates three important concepts and ideas that are relevant to the employment network of Astana. First, there is a shortage of laborers in the manual work sector. Second, this shortage could be partially explained by the rise of gig platforms. Third, social connections play a significant role in the precariously employed to find the courage to seek employment.

There is also a structural explanation for the lack of workers in the manual factory jobs sector in Astana. As established earlier, Astana is not an industrial city, so the number of large factories is limited. Moreover, the majority of factories are concentrated in the Industrial park, which is located on the outskirts of the right bank of Astana (old town) (QazIndustry, n.d.). Since the city is constantly expanding on the left bank (new town), it creates a transportation problem. Rising new residential areas are too far from the

industrial heart of the city. In order to combat such a structural problem related to city planning, owners of factories often organize their own bus services. However, it cannot cover all the areas of the city. Despite the fact that salaries are higher and employment is more stable, individuals are not as interested in such long commutes since they demand additional time and energy. Due to the perceived distance to work and time for commute, often a place of work can be determined by housing and vice versa. (Haas and Osland, 2014). In addition, the city planning in Astana is not as compact since, during the planning of the left bank, it was of more priority to build a city that is convenient for car owners. This could also explain why, in other spheres, there is a similar problem. Studies indicate that job seekers prefer employment opportunities close to their residences to minimize commute times and associated costs (Ommeren et al., 1998). For instance, during the short phone survey among the 15 users of the JUMYSTAP platform, it was revealed that for 1\3 of candidates, the commute time was one of the most crucial factors while deciding employment opportunities. Thus, it is important not only to include convenient maps in employment platforms but also to consider the aspect of employment during city planning.

## 2.11. PERSONAL AND SOCIO-CULTURAL FACTORS

So far, it has been established that there are a myriad of factors that are shaping and influencing the employment network of Astana, starting from low wages and even the distance to the workplace. However, this list could be much wider since the center of the discussion is human beings. Apart from structural reasons, cultural reasons could also impact the employment network. For instance, among people who participated in the "JOLTAP" survey, it was revealed that there is a much higher interest in owning a business or having no boss than in traditional employment.

As noted previously, as part of the "JOLTAP" project, citizens have an opportunity to get consultations on government support measures. 4 thousand citizens expressed a desire to get a grant or microloan from the government. However, after the detailed consultation, only 900 people left the official inquiry to Akimat in order to get such support. Mostly, as consultants note: "Many people ask for help with opening their own business. They do not want to work traditional 9 to 5. However, they come unprepared. Often, they lack even the business idea to get started. They see grants and microloans from the government as free money and are not informed on the procedural bureaucracy."

The higher earning potential and independence that come with owning a business are more cherished among the local population. Except for cultural reasons, there are also personal factors. Physical and mental capabilities, economic class, disabilities, and substance abuse – are all important factors that might impact the decision-making of individuals. For instance, one of the interview participants noted – "debts is the major issue, especially for those of my friends who are either addicted to substances or gambling." Studies have identified segments of the population disengaged from the labor market due to various factors, including discouragement and personal choice (International Labour Organization, 2018). The concept of 'discouraged workers' refers to individuals who have ceased job-seeking due to repeated failures, leading to

their withdrawal from the labor force. (Ibid). These personal issues could include various individual problems, including, for instance, illicit substance abuse, which by some studies has been noted as a contributor to the issue of unemployment (Nolte-Troha et al., 2023). It is important to acknowledge the existence of marginalized groups that for their personal reasons opted out of the employment market. However, their presence should not become a scapegoat for the government. It is important first to offer multiple opportunities to the individual before classifying him or her as being out of the labor market. In such difficult cases it is of utmost importance to implement targeted interventions due to the variety of personal reasons because of which an individual remains unemployed and out of training.

Furthermore, the preference for self-employment over traditional jobs reveals a broader shift in the employment aspirations of Astana's workforce. Dissatisfaction with low wages and limited career opportunities could be one of the leading causes for such an entrepreneurial spirit among the local population (Korgan et al., 2022). Yet, often such ambitions are not based on actual experience and professional knowledge. Such a trend was noted by the consultants of the "JOLTAP" project, since among those who wanted to receive a government grant only a handful had a business idea or plan. In other words, the level of understanding about complexities of managing one's own business could be underestimated by the population. Still, the cultural preference for entrepreneurship as an effective social ladder is evident and shows that there is a niche, where the government intervention could be effective. There are already government supported seed funding and microloan initiatives as “auyl amanaty” (Tokayev, 2023). Yet the number of them could be insufficient to address the local entrepreneurial spirit. The funding of such initiatives should be expanded with inclusion of mentorship programs to battle the lack of knowledge in regards to the business management and to increase the number of entrepreneurs that could not only provide long–term employment for themselves but also

could create new jobs.

## 2.12. ROLE OF THE GOVERNMENT

In this research, it was established that the employment network of Astana is quite complex and includes various human and non-human actors. Human actors include job seekers, employment platform administration, and employers, while non-human actors include debts, distance, culture, personal preference, professional and support communities, employment platforms, job listings, digitalization, lack of factories, structural problems, gender and age discrimination, digital literacy, housing, education, etc. However, the most important actor in the employment network that has the most potential to reshape the system is the government. Thus, in order to finish mapping out the factors that are part of the employment networks, it is crucial to include the discussion of the government's role.

First and foremost, the government stabilizes the employment system in the role of legal guarantor. It enforces labor laws and regulations, which fosters a stable employment network (Betcherman, 2012). The more equitable and fair employment is reached via the government interventions in the form of minimum wage, working hours limits, safety protocols, and etc. However, despite the government’s potential to stabilize the network it can also in the case of inefficient measures could further destabilize the employment network. One of the most acute problems in Astana's labor market is the lack of precise mechanisms and timelines for resolving disputes, particularly in non-payment of wages. For instance, 6 seamstresses retrained via JOLTAP courses faced this issue from one of the city's clothing studios. The studio not only employed them as "independent contractors," but managed to underpay them under the legal minimum wage and terminated the contract without warning. These groups could not get justice due to the specifics of their working contract. Workers often find themselves in situations where their salaries are delayed or unpaid.

Yet, the existing procedures for addressing these issues of wage non-payment are complex and often time-consuming (Khamzina et al., 2020). For example, to resolve such disputes an individual has to go through multiple steps, like labor inspectors, courts, or arbitration commissions (Khamzina et al., 2020). This process is complicated for many workers, who may need more time, financial resources, or understanding of the bureaucratic process to pursue their claims. As a result, many disputes remain unresolved, contributing to a lack of trust in the formal employment system.

Despite that, in the previous example, seamstresses could have protected themselves with a formal work contract. However, there are also problems with the low desire of the population to disclose their real wages. Many workers are deterred by the financial burden associated with formal employment, such as the mandatory deductions for pension contributions, health insurance, and taxes, which might chip away more than 20% of the whole income. These deductions can significantly reduce take-home pay for employees, which makes informal work arrangements more attractive. Similarly high labor costs in the form of taxes and social deductions could force employers into the informal market (Schneider & Williams, 2013). Such a financial burden often leads employers and even employees to choose informal contracts. This in turn could destabilize the employment network by leaving workers without legal protections. Many people in Astana are already indebted, so regular income is crucial for escaping the debt trap. If wages are delayed, it places additional strain on workers with meeting their such obligations. Thus, wage non-payment has the potential also to deteriorate socio-political stability.

Moreover, except for guaranteeing enforcement of the law the government can further stabilize the system through implementation of additional social programs and employment measures. Programs such as the "JOLTAP" initiative help to mitigate the youth unemployment by offering professional training and consultations about government support measures and

relevant vacancies. These programs have the potential to stabilize the job market by providing opportunities for self-employment and skill development. However, there are also limitations of the government measures. For instance, despite that more than 4 thousand citizens expressed an interest in obtaining government grants or microloans via the “JOLTAP” project – only 900 individuals decided to follow through the required procedures. Still, out of the 900 – only 20 managed to secure the funding due to the limited number of grants. This highlights complexities of accessing such support and their limited nature. Many potential entrepreneurs view these grants and loans as "free money" without fully understanding the bureaucratic processes involved, which shows that there is a need for mentorship programs.

It could also be concluded that when the government measures do not work as intended, it could further destabilize the system. For instance, there are rising critiques of such government measures as "youth practice", which is not functioning as intended due to the bureaucracy and the low quality of the job listings (Alshanskaya & Nemec, 2023). The government measures as unemployment support and training programs could provide a stabilization to the employment network in case of efficient implementation. While the inefficient implementation of government support measures at least could result in the waste of public money or in extreme cases in the loss of faith in official institutions. When support mechanisms are complex to access or fail to address the immediate needs of the unemployed, they do little to prevent economic hardship or help individuals reenter the workforce.

Finally, it is of considerable importance for the government to have efficient statistical and analytical tools to monitor the situation in the labor market correctly. As noted previously, unemployment is counted upon the citizens' proactive decision to register as unemployed. Not all citizens are eager to register as unemployed, and most importantly, not all citizens are ready to work officially. Especially when the discussion is about the NEET youth. Thus,

additional systems have to be developed to collect data on citizens regarding income, employment, and education. Currently, the government is developing the "Digital map of the family," which is composed of 6.3 mln families of Kazakhstan. However, the data collection mechanisms were not disclosed to the broader public. In addition, its primary concern for now is targeted financial help – meaning it collects data on the eligibility of citizens on the 9 financial government measures. However, as Amartya Sen noted, financial interventions are not enough. Considering the ANT analysis of unemployment and inadequate employment in Astana, it is evident that more comprehensive data collection on citizens with their consent has to be considered to resolve the issue.

Nonetheless, it is an essential development for government agencies since it introduces the concept of proactive work with the population on the part of the government workers. However, the lack of data and analytical tools on part of the government in regards to the unemployment and inadequate employment is a severe and persistent problem. For instance, during the interview with the representatives of the "youth resource center", which is a government-funded organization, it was revealed that they lack the register of NEET youth. This is problematic on several fronts – starting from the fact that it does not allow monitoring and understanding the actual reasons behind such a phenomenon. Creating a list of NEET registers could allow for targeted interventions based on the living situation of individuals.

In summary, the government's actions or inaction can significantly shape the employment network of Astana. On the one hand, the government as a legal guarantor and provider of social support can create a more stable environment for employers and employees. On the other hand, the challenges associated with bureaucratic processes, a lack of efficient dispute-resolution mechanisms, obligatory deductions can create barriers that destabilizes the employment network. There also has to be implemented more efficient analytical and statistical tools for tracking the unemployed and the inadequately employed

citizens. Addressing these issues will be crucial for fostering a more balanced and inclusive job market that better meets the needs of Astana's residents**.** In conclusion, while the government has the potential to play a vital role in stabilizing the employment landscape in Astana, its current approach contains significant gaps that need to be addressed.

## 2.13. SYNTHESIS

In this thesis, with the help of the Actor-Network Theory (ANT), it has been revealed that a complex network of human and non-human actors contributes to both the stability and instability of the labor market. In order to proceed with policy recommendations, it is important to create a comprehensive list of factors that were revealed to have the potential to stabilize or destabilize the system.

First, let us list all the human and non-human actors (concepts, objects) that are engaged in the youth unemployment network. Human actors are

– Young people,
– employers,
– government officials,
– “JOLTAP” project staff and researchers
– family and relatives,
– HR managers
– employment platform administration.

Non-human actors are:

Objects

– digital employment platforms (e.g., headhunter, enbek, olx, jumystap)
– industrial infrastructure (factories, industrial parks)
– digital tools (smartphones, computers)
– internet access housing (rent, proximity to workplaces)
– educational institutions short-term skill courses (joltap project)
– financial literacy programs (қарызсыз қоғам initiative)
– public transportation city planning (infrastructure layout)
– banking and microfinance institutions
– job listings
– workplace contracts (formal, informal)
– gig economy platforms (e.g., yandex, wolt)

Concepts:

– digitalization

– social and cultural norms (e.g., uyat, gender roles)

– financial systems (high-interest microloans, credit systems)

– frozen bank accounts

– dependency on family support

– dependency on social services and welfare programs

– digital divide and digital literacy gap

– employment laws and regulations

– wage standards and labor rights economic instability (inflation, cost of living)

– formal vs. informal work status

– gig economy

– professional networks

This list of actors that influence and at the same time are being reshaped by the employment network is not comprehensible. It is important however to understand that each actor either could stabilize the system, destabilize it or both at the same time.

In order to continue with the policy recommendations it is important to list all the factors that are destabilizing the system. For the convenience measures the factors would be grouped by the themes.

| Economic and financial |
| --- |
| – high-interest microloans and credit systems<br>– frozen bank accounts due to unpaid debts<br>– inadequate wages and low-quality jobs, particularly in service sectors<br>– housing costs and high rent relative to local earnings |

| |
|---|
| – inflation and economic instability<br>– dependency on informal work to avoid mandatory deductions (e.g., pensions, taxes) |
| Digital |
| – digital divide and lack of access to digital tools for some segments of the population<br>– insufficient digital literacy among job seekers<br>– over-reliance on digital platforms that exclude non-digitized individuals<br>– ghost vacancies on digital employment platforms due to unprofessional management<br>– algorithms of gig platforms creating unpredictability in job availability and earnings<br>– limited digital job-hunting skills (e.g., CV preparation, platform navigation) |
| Structural |
| – lack of analytical and statistical tools for monitoring unemployment and inadequate employment<br>– inadequate representation of vacancies on employment platforms<br>insufficient regulation of gig economy platforms, leading to precarious job security<br>– bureaucratic hurdles in accessing government support (e.g., grants, microloans)<br>– limited dispute resolution mechanisms for wage-related issues<br>mismatch between educational qualifications and job market needs (elite overproduction)<br>– lack of industry-focused education programs aligned with labor demand |

| |
|---|
| – low quality of educational institutions, ineffective support measures<br>– lack of industrialization and limited availability of manufacturing jobs |
| Socio-cultural factors |
| – traditional gender roles that limit women's participation in the labor market<br>– childcare<br>– "uyat" (shame) culture discouraging graduates from taking manual or lower-paid jobs<br>– family and community obligations and remittances |
| Personal |
| – high rate of indebtedness and associated financial stress<br>– issues like substance abuse, mental health challenges, and lack of motivation<br>– lower desire to participate in traditional employment among some youth, preferring entrepreneurship without adequate preparation<br>– stigma attached to certain types of jobs, leading to a reluctance to pursue them |
| Infrastructure |
| – city planning issues, such as industrial areas being far from residential zones, increasing commute times<br>– lack of public transportation options connecting residential areas to workplaces<br>– non-compact city layout prioritizing car owners over public transport users<br>– limited affordable housing options for young workers and migrants |

Despite the fact that ANT played a critical role in identifying the relevant actors that contribute to youth unemployment and inadequate employment, this current analysis has highlighted the limitations of this theoretical framework.

First and foremost, as a descriptive tool without a normative stance ANT cannot provide us with straightforward answers on the best solutions that could stabilize the network, thus does not equip us with concrete policy recommendations. Second, ANT revealed that there are numerous actors in the network, which also does not allow us to understand what factors to prioritize and the extent of each actor's influence on the system.

However, in spite of its limitations ANT reveals that Astana's employment network is shaped by structural, economic, digital, and socio-cultural factors that either stabilize or destabilize the system. The reliance on service-sector jobs, low wages, high debt burdens, and housing costs destabilize the network, while efforts like the "JOLTAP" project, family support systems, and digital platforms act as stabilizing forces. This also illustrates that ANT is not the single best tool that allows us to gain the deeper and most importantly practical understanding of the social realities, instead it offers critical insights into the complex interactions within the network. However, it should be also kept in mind that due to the complexities of the real–world, it is impossible for any theory to provide us with holistic answers and step-by-step guidelines.

# CHAPTER 3: CONCLUDING THOUGHTS AND POLICY RECOMMENDATIONS

## 3.1 GENERAL CONCLUSIONS

This research attempted to analyze youth unemployment in Astana through the lens of Actor-Network Theory (ANT), while mapping out the complex interactions between various human and non-human actors contributing to the employment network's stability and instability. By applying ANT, we explored how structural, economic, technological, and socio-cultural factors shape the labor market, revealing both the challenges young job seekers face and the opportunities for policy intervention.

The main question of the thesis was understanding the reasons for youth unemployment and inadequate employment in Astana through the ANT framework in the age of digitalization. The analysis revealed that several structural, financial, and digital factors work simultaneously to stabilize and destabilize Astana's employment network. Most importantly, these factors are constantly reshaping the employment network and being reshaped by it.

There is the significant structural barrier in the form of reliance on oil and the subsequent predominance of service sector jobs with the lack of industrial capacities. Such a service-oriented economic model means that young Astana residents often find themselves trapped in a low-paying and high turnover position, which contributes to unemployment and inadequate employment. On top of this there is a critical problem with the official government statistics in relation to this problem.

There are also financial factors at play that further destabilize the system, including high-interest indebtedness and rising housing costs. Such financial issues on their part limit the prospects of youth in finding meaningful employment, often forcing the individuals into the service sector to meet basic needs.

Digitalization as the primary actor in this study has the most influential impact on the employment network and social relations. It could be even argued that constant exposure to the digital technologies have reshaped the very human nature creating a “Homo Digitalis”. While platforms like Headhunter, Enbek, and JUMYSTAP have made job searching more accessible, they also create new challenges. The digital divide, particularly among migrant youth, older generations and those without access to digital tools or literacy, excludes a large portion of the population from potential employment opportunities.

There are also cultural factors at play as traditional gender roles and family obligations. Many young women are excluded from the labor force due to inability to balance professional and personal lives due to family responsibilities. In addition, remittances to the extended families in the birth region of the migrant youth could also further destabilize their financial situation. This also highlights minority groups (women, impoverished, youth, elderly, and etc.) are more likely to face either unemployment or confinement into the secondary labor market.

The implications of this research could be of use for the future researchers and policy makers. First and foremost, it is the first attempt to understand the issue of youth unemployment in Astana utilizing the Actor-Network Theory framework. The findings suggest that in order to expand capabilities and the agency of the youth financial ingestions are not enough. Instead there has to be comprehensive reforms that address the systemic issues of debt, inadequate job opportunities, digital exclusion, lack of government data and control, gender inequality, housing issue, lack of industrialization and lack of skills. Such policies that stress the expansion of capabilities are 1) industrialization and mixed-zone city planning 2) short-term practical courses 3) regulated employment platforms and programs fighting digital divide 4) support for the young entrepreneurship 5) flexible working hours and childcare

6) financial literacy programs and microloan regulations. Most importantly this study has demonstrated that through complex frameworks as ANT human and non-human factors should be explored to understand the destabilizing factors. This way it becomes more evident which destabilizing factors should be addressed.

Future research must examine the evolving role of automation and artificial intelligence in the labor market. As noted briefly in the research, AI is likely to impact a significant portion of jobs in the coming decades, and understanding how this will affect youth employment in Kazakhstan is critical. Additionally, future studies should continue to explore the digital divide and its long-term implications for employment networks in a rapidly digitalizing world. In summary, the employment network in Astana is shaped by a combination of structural, financial, digital, and socio-cultural factors, all of which contribute to youth unemployment. While initiatives such as "JOLTAP" show promise in stabilizing parts of the network, the broader labor market remains destabilized by financial, digital, and social pressures. There should be a focus in policymaking on expanding the capabilities of youth as well as the root causes of youth unemployment and inadequate employment should be addressed to build a more stable and resilient employment network.

## 3.2 POLICY RECOMMENDATIONS

### 3.2.1. GOVERNMENTAL POLITICS IN REGARDS TO UNEMPLOYMENT

The International Labour Organization (ILO) outlines how government interventions, such as labor market regulations and active labor market policies, can significantly influence employment outcomes (n.d.). This highlights that the government in the myriad of actants that contribute to the formation of the youth employment network constitute the actor with the most agency. Thus, the government should become a catalyst for wider change. Not only that but it should be also noted that as depending on the individual are different actors at play the policies also should be targeted. Fields (2007) also emphasizes that labor market policies in developing countries must address multiple factors to be effective. In the following paragraphs, the targeted policies will be discussed that are produced based upon the listing of destabilizing factors.

First, governmental policies towards unemployment should be reconsidered. As outlined previously the current statistical, methodological and analytical tools that are at the disposal of the government are not enough to tackle the issue. According to the official definition, an unemployed person in Kazakhstan is someone who – is actively searching and ready to get into employment (Ministry of Labor and Social Protection of the Population of the Republic of Kazakhstan, 2023). Such a definition is problematic since it does not allow for the incorporation of population stratas that are discouraged from the further job search, as well as those who might be ready but lack necessary skills.

In addition, it was established during this study that for Astana it is not unemployment but inadequate employment, the problem which is more pressing. The definition of inadequate employment by the International Labour Organization includes labor underutilization, such as inadequate pay, short and unstable hours, the mismatch between the skills and labor market, etc.

(International Labour Organization, 2008). Such a broader definition could highlight better the issues with the current employment network that in turn could be a base for more effective and targeted policy solutions.

In order for the better improvement of analytical and statistical tools it is important to establish better data-sharing between the various government bodies and non-governmental institutions. As noted in this study digitalization has become the cornerstone of many social processes. Thus, in the digital age it is of considerable importance to tackle the complex socio-political issues to have the efficient and transparent mechanisms of data sharing between various government bodies (Gil-Garcia & Sayogo, 2016). President Tokayev during the National Quryltai has also stressed the importance of high quality scientific expertise as the basis for the efficient policies (Tokayev, 2023). Thus, there has to be a wider data-sharing not only among the government departments but also cooperation with non-governmental research centers.

Finally, in order to fully grasp the extent of inadequate employment and unemployment different tactics should be used. As noted previously in order to be counted as unemployed due to the definition of the term and procedures individuals have to themselves proactively claim that they are unemployed. This does not provide the statistics to the fullest. Thus, there has to be the change in the way unemployment is counted in Kazakhstan. The alternatives could be monitoring taxes and providing assessment via surveys (OECD, ILO, & European Union, 2023). However, in order to acquire more accurate data it is also recommended to fight all the forms of informal employment. In summary, as the government is the most influential actor in the employment network of Astana its efficiency defines whether the network will be stabilized or further destabilized.

### 3.2.2. INDUSTRIALIZATION, HOUSING AND INFRASTRUCTURE

As revealed in the analysis, housing, due to its cost or distance, could substantially destabilize the employment network. At the same time, it was revealed that Astana's industrial potential is underutilized due to the lack of factory workers. Financial strain and indebtedness, as well as lack of skills, were also highlighted as major obstacles during the "JOLTAP" surveys. An important policy recommendation which can be implemented in Astana without much effort is subsidized housing programs as a means to attract new workers to the sector. . The government could consider introducing housing programs near industrial parks with even possible private-public partnership prospects. Research by the European Training Foundation (ETF) indicates that housing stability positively influences employment retention and supports industrialization (2021). Based upon the ANT framework, it could be argued that such a policy catches on several destabilizing factors and has the potential to ease the problem of unemployment and inadequate employment**.** It is anticipated that such a policy would decrease commute time substantially, stabilize the indebted by lowering housing costs, and create a sense of community**.** In addition to this, it is important to note that the stability of such a network will be ensured due to the dependencies that it will create. It will create a dependency network between the factory - working-class neighborhood - employees - and employers.

For instance, the Astana Times reports that in 2020, 40 thousand households received social housing, and the rental housing program received 9 thousand households, with a combined volume of 2 million square meters (Astana Times, 2020). This shows that there is already a procedural and infrastructural precedence for such a program. For example, a program could be designed where workers in the industrial sector can rent housing near their workplaces at a fixed rate, with the option to buy the property after a certain

number of years of continuous employment. Such a policy could create a new opportunity for government-private partnerships since businesses are also interested in long-term and productive employment.

As President Tokayev has stressed, one of the pillars of the Kazakhstani new ideology stands on the ground of "fair labor," and the year 2025 would be proclaimed as the year of "blue-collar jobs" (Tokayev, 2024). This proposition resonates with Marx's teachings that labor is part of human nature and differentiates us from animals (1844). However, Marx also argued that change in mentality follows the change in material conditions and not vise-versa (1859). The proposed housing project and further industrialization of Astana would provide the important foundations for the change in culture and formation of a robust working class. This would not only create a cultural change but also would ensure better protection of workers' rights since both Marx and Engels argued that strong proletariat class could balance the employer power (1848).

In order to facilitate cultural change and provide the population with high-quality, stable jobs for the wider population, further industrialization is required. The study by Alcorta (2017) discusses how industrialization can create employment opportunities for less-educated workers, addressing youth unemployment. It is noted that innovative industries tend to improve the employment network (Khishaueva, as cited in Bekenova, 2022). However, the industrialization should be also done with caution since low-tier industries cannot provide the sufficient wages for life in Astana, while the complex ones could be risky endeavors. Thus, it is recommended either by local investments or foreign to develop mid-tear industries such as automobile parts, equipment, appliances, etc. This would not only provide sufficient income to the local population but could also mitigate the process of "brain waste". Brain waste is often referred to in migration studies as underutilization of skills among migrants when the person with higher qualifications takes up manual job

positions (Reitz, 2001). This term could be also applied in the case of Kazakhstan since as the JOLTAP survey illustrated approximately 60% of unemployed had a university degree. Such underutilization of labor resources not only could lead to socio-political destabilization but also it hinders the goals of Kazakhstan to get into the top 30 developed countries rank.

### 3.2.3 SHORT TERM COURSES

Another structural problem that could be resolved through government involvement is the lack of skills among the young Astana citizens. As noted previously, based on the "JOLTAP" survey, 34% of young participants of 18-35 ages noted the lack of skills and work experience as the primary obstacle to employment (JOLTAP Database, 2024). Moreover, the significant presence of unemployed individuals with university or vocational training education among JOLTAP surveys, 45% and 30%, respectively, shows the inability of the traditional educational system to eliminate the structural problems of the labor market (JOLTAP Database, 2024). This demands a complementation of the educational system in order to stabilize the employment network.

The educational system should be adaptable and suit the ever-changing demands of the labor market, which could be further destabilized in the future by the wider introduction of AI. Already, it is estimated that in the US alone, a third of jobs that are primarily composed of highly skilled white-collar jobs are in danger of vanishing due to AI (Soueidan & Shoghari, 2024). This highlights the ever-important role of the lifelong learning concept. Fortunately, there are several government initiatives in Kazakhstan that offer short-term courses. One of which is the JOLTAP program, where short-term courses were designed to meet the immediate needs of the local job market (Akimat of Astana City, 2024). The focus was on creating specialized programs aligned with Astana's economic demands, from digital skills like social media marketing to manual trades such as welding and sewing (Akimat of Astana City, 2024). These programs aimed to bridge the gap between what traditional education offers and what employers actually require, making it easier for graduates to find jobs (Akimat of Astana City, 2024). A key aspect of this approach was the collaboration with local businesses (Akimat of Astana City, 2024). By involving employers in the design of the courses, the project ensured that the training content met industry standards, making graduates more appealing to potential

employers (Akimat of Astana City, 2024). Most importantly the business provided expertise on what equipment to buy, what trainers to hire and what operations and skills should people learn (Akimat of Astana City, 2024). In addition, there was a great emphasis on practical training and many courses kept the balance between 20% theory and 80% practice (Akimat of Astana City, 2024). Participants spent significant time in workshops and simulations, gaining the kind of experience that employers value (Akimat of Astana City, 2024). This approach was especially effective in preparing people for jobs that require immediate application of skills, allowing them to transition smoothly into the workforce after just a few weeks of training (Akimat of Astana City, 2024). There are also digital skills courses in the "JOLTAP" initiative, which matches the voices that advocate for the education of the masses in Kazakhstan with the following set of skills: "graphic design and marketing, publication production, and social media management…" (Korgan et al., 2022).

Building on this foundation, the JOLTAP initiative could benefit from a broader, more dynamic framework similar to Singapore's SkillsFuture program, which emphasizes lifelong learning and cross-sector collaboration. SkillsFuture's success in facilitating continuous and life-long learning shows the importance of government supported short-term courses (Fung, 2020). The Singaporean example also shows that regardless of employment status the constant skill acquisition could build a resilient and adaptable workforce that is ready for unexpected life situations. The JOLTAP project also has demonstrated that there is a great interest in acquisition of practical skills not only among the unemployed but also those who have steady income in the form of a job or business. On top of that the automation and advent of AI looms, which could further destabilize the employment network (Soueidan & Shoghari, 2024). This underscores that the need of lifelong learning is becoming a critical issue for the socio-political situation in Kazakhstan. The focus should not be on the

immediate employment but rather on creating a mindset of continuous skills development.

### 3.2.4. DIGITAL LITERACY AND EMPLOYMENT PLATFORM REGULATIONS

Studies on digital literacy globally reveal that digital divides often limit job seekers' access to opportunities, particularly affecting youth and marginalized groups (Galperin & Arcidiacono, 2021). The rising dependence on digital platforms like HeadHunter, Enbek.kz, and Olx.kz has highlighted a digital divide that limits access to job opportunities for those needing more skills. Thus, addressing the lack of digital literacy should be a pillar of social politics akin to the mass literacy programs. During the study it was established that digitalization became one of the crucial nodes in the employment network and day-to-day life. As noted previously digitalization could magnify the social inequalities as well as mitigating them. In order for digitalization to provide stability in the employment network once again there has to be a free digital literacy course. Among the practical courses “JOLTAP” also provides a basic course on digital literacy which is especially relevant and popular among the population older than 40-50 years old. Also, this highlights that digital literacy courses among the older generation not only would cultivate the mindset of lifelong learning but also would address the issue of ageism in the employment network.

In addition, there should be initiatives at making technology either more affordable or access free. For instance, in Almaty Akimat has launched the “community centers” that provide access to computers, which is of great importance and could be widened throughout the Republic (Informburo.kz, 2023). It is important to provide the access to technology to the unemployed groups since in the era of digitalization lacking laptop or smartphones could render the job search even more difficult.

Finally, the employment platforms themselves need greater control and monitoring on part of the government. The inefficiencies on employment platforms as ghost vacancies and slow response times further could destabilize the employment network. Addressing these issues requires a comprehensive strategy that includes government intervention and regulatory reform. Most importantly employers should be required to provide accurate and up-to-date information on job vacancies. Also, the employment platforms should introduce features that hold job seekers and employers accountable as rating systems. Overall, digital literacy and employment platform regulations must be prioritized to stabilize the employment network in Astana. Through government intervention, targeted digital literacy programs, and stricter regulation of employment platforms, the digital divide can be reduced.

### 3.2.5. FLEXITIME AND CHILDCARE

Another significant barrier in the way of stable employment for many, especially women, are the family obligations often associated with childbirth and childcare. The introduction of flexible work arrangements can play a crucial role in stabilizing the employment network by providing more opportunities for individuals without sacrificing personal lives. Studies demonstrate that flexible work arrangements support caregivers, particularly women, by providing them with the flexibility to balance work and family responsibilities (Chung & Van der Lippe, 2020). Such arrangements allow workers to balance personal and professional responsibilities more effectively, thereby increasing labor market participation and reducing turnover. Research supports that flexible work options are critical for women to maintain employment and reduce gender disparities in the workforce (OECD, 2017). In addition, the EU has implemented the flexitime measure that allows women in particular to ask for remote work or flexible arrangement while looking after the child under the age of 8 (European Union, 2019). This illustrates that there are already precedents around the globe that could support such a measure. The government and private sector should work together to expand access to remote work opportunities, particularly for roles that can be performed online or with minimal in-person requirements.

In addition to this affordable childcare programs could be also expanded. The studies in the US have highlighted that the expensive childcare often correlates with the low maternal engagement in the labor force and vice versa (Ruppanner, Moller, & Sayer, 2019). Thus, in order to mitigate the destabilizing effects of gender inequality on the employment network of Astana the additional subsidies and expansion of childcare programs are needed. If Kazakhstan strives to get into the top 30 developed countries it should use its human resources potential to the fullest – which will be impossible without the wider inclusion of women into the labor market.

### 3.2.6. ACCESS TO SEED FUNDING AND MICROLOANS

On top of this, during the study it was noted that the local population has high entrepreneurial aspirations. Yet, the first and foremost barrier is the lack of starting capital. There are several government supported microloan and grants programs in Kazakhstan. However, the expansion of such programs and the funding that they provide could be the tool to empower the unemployed or inadequately employed youth of Astana. There are studies that showcase the positive impact of grants and public financing on the development of SME's (Srhoj, Lapinski, & Walde, 2021). In other words the availability of seed funding and microloans is essential for breaking the financial barrier and creating opportunities for people to explore entrepreneurship as an alternative to traditional employment.

However, another issue that was revealed during this study is that despite the high entrepreneurial aspirations many people lack the basic business literacy as business plan creation. Thus, the grants should be accompanied by the mentorship programs. There is a strong link between the mentorship programs and their positive impact on the development of SMEs (Hussain Shah, bin Othman, & bin Mansor, 2016). Thus, in order to rightfully utilize the entrepreneurial potential of Astana's youth apart from the expansion of existing grant programs, the extended mentorship programs are recommended for implementation.

### 3.2.7. FINANCIAL LITERACY AND DEBT REDUCTION PROGRAMS

In light of the mounting debt problem among Astana's youth, programs that target financial literacy and debt management need to be expanded and prioritized. One such initiative already in place is the “Қарызсыз Қоғам” (Debt-Free Society) initiative by the Amanat party, which focuses on improving financial literacy across Kazakhstan. It offers free courses to educate citizens on managing personal finances, avoiding predatory loans, and creating sustainable financial habits ("How the 'Қарызсыз қоғам' Project Works," 2024).

The need for such programs has become increasingly critical due to the widespread use of high-interest microloans, which often trap individuals in cycles of debt. JOLTAP survey indicated that 70% of respondents aged 18-35 admitted to having a debt with the average monthly repayment amounting to 80,000 tenge. This creates additional psychological tensions as well as in the worst scenarios it inhibits the chances of finding steady employment if an individual has his bank accounts frozen. There are strong correlations between the financial literacy and positive economic growth (Lusardi & Mitchell, 2014), Thus, expanding programs like Қарызсыз Қоғам could significantly improve the financial resilience of the youth by teaching them essential skills in budgeting, saving, and understanding credit.

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