POST PANDEMIC SPATIAL ORGANIZATIONAL DESIGN CHANGE IN TECHNOLOGY-ORIENTED CREATIVE SECTORS: ANKARA CASE

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ABSTRACT

POST PANDEMIC SPATIAL ORGANIZATIONAL DESIGN CHANGE IN TECHNOLOGY ORIENTED CREATIVE SECTORS: ANKARA CASE

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Creative sectors play an essential role in the economic and social transformation of the city. Creative sectors, which have a wide range of sectors from advertising to fashion, from research and development to architecture, include high knowledge, innovation, and fast problem-solving elements. The contribution of creative economies to the gross domestic product of metropolitan cities such as Ankara cannot be ignored. The spatial coverage of large-scale working and office areas such as technology development zones and defense industries in Ankara is essential. The remote working habits that came with the pandemic led the creative sectors to meet with different working models, thus offering an alternative to changing the spatial organization. These working models, which eliminate physical boundaries, have become an essential criterion in the job preferences of employees. Remote working models, which offer various experiences to creative sector employees, with advantages and disadvantages for both employers and employees, will continue as an alternative even after the pandemic and reveal a creative class whose borders have been lifted.

For this reason, both the importance of the creative sectors should be considered, and the visibility should be increased by working on this issue. The expectations of the technology-oriented creative sectors from the offices should be learned. This situation will start to lead to economic and spatial innovations in city planning and will shed light on rethinking the organizational designs of spaces.

Keywords: spatial organizational design, creative class, creative economy, hybrid work, respecialization of work

ÖZ

PANDEMİ SONRASI TEKNOLOJİ ODAKLI YARATICI SEKTÖRLERDE MEKANSAL ORGANİZASYON DEĞİŞİMİ: ANKARA ÖRNEĞİ

Başaran, Ceyda
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Yaratıcı sektörler, şehrin ekonomik ve sosyal dönüşümünde önemli bir rol oynamaktadır. Reklamcılıktan modaya, araştırma ve geliştirmeden mimariye kadar geniş bir sektörel yelpazeye sahip olan yaratıcı sektörler; yüksek bilgi, inovasyon ve hızlı sorun çözümleri ögelerini içermektedir. Yaratıcı ekonomilerin, özellikle Ankara gibi metropol kenlerin gayri safi yurtiçi hasılasına katkısı göz ardı edilemez. Özellikle teknoloji geliştirme bölgeleri ve savunma sanayiler gibi geniş ölçekli çalışma ve ofis alanlarının Ankara'da mekansal olarak kapladığı alan ise önem arz etmektedir. Pandemi ile birlikte gelen uzaktan çalışma alışkanlıkları, yaratıcı sektörlerin farklı çalışma modelleri ile tanışmasına ve böylece mekansal organizasyonda değişikliğe gitme alternatifi sunmasına yol açtı. Fiziksel sınırları ortadan kaldıran bu çalışma modelleri, çalışanların iş tercihlerinde önemli bir kriter haline geldi. Hem işveren hem de çalışanlar için avantajları ve dezavantajları ile birlikte yaratıcı sektör çalışanlarına çeşitli tecrübeler sunan uzaktan çalışma modelleri, pandemi sonrasında bile bir alternatif olarak devam ederek, sınırları kalkmış bir yaratıcı sınıfı ortaya çıkaracaktır. Bu sebeple hem yaratıcı sektörlerin önemi göz önüne alınmalı ve bu konuda çalışmalar yapılarak görünülürlü artırılmalı

hem de teknoloji odaklı yaratıcı sektörlerin ofislerden beklentileri öğrenilmelidir. Bu durum şehir planlama açısından ekonomik ve mekansal yeniliklere yol açmaya başlayarak, mekanların organizasyon tasarımlarının yeniden düşünülmesi konusunda bir ışık yakacaktır.

Anahtar Kelimeler: mekansal organizasyon, yaratıcı sınıf, yaratıcı ekonomi, hibrit çalışma, yeniden uzmanlaşma

To my mother İnci and my father Fehmi…

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INTRODUCTION

1.1 Problem Statement

Creative economies play an important role in the economic and social transformation of cities. Creative economies in the metropolitan cities of the world constitute a large part of the overall economic activity of the city. Creative sectors include film and television, advertising, publishing, design, museums and libraries, fashion, architecture, performing arts, music, art, engineering and research and development. Identifying the creative economy sectors and producing a report that will show all the data about this sector is essential to strengthen the importance of the classes and activities in which creative economies emerge. There are employees who are working in these sectors, which are defined as the "creative class" by Richard Florida. The impact of the creative class on location choices and business activities can affect an entire city. The term ‘gentrification’, coined by Ruth Glass in 1964, shows the importance of spatial preferences of working class in cities. Glass stated that: “Once this process of ‘gentrification’ starts in a district it goes on rapidly until all or most of the working-class occupiers are displaced and the whole social character of the district is changed” (Glass, 1964).

The location choices of the creative class have the power to change a city's cultural habits. In time, gentrification created cultural districts in the cities shaped by the people who are bohemians, gays, artists, entrepreneurs, professors, scientists and designers. Which they are together form a creative class, as Richard Florida suggests. In order to evaluate all these variables, it is important to evaluate remote working and hybrid working models. The working habits of the creative class have always been an undeniable parameter in terms of city planning. The COVID-19 outbreak, which started at the end of 2019 in the world, began to spread around the world in

2020. On March 11th, 2020, this epidemic has been declared a pandemic by the World Health Organization and Türkiye announced the first Covid-19 patient on March 10th, 2020. In the days following the announcement of the first case Ministry of Health (MoH), many restrictions were introduced, and schools switched to distance education method. Many workplaces have likewise changed the way they work and have chosen to work from home. Companies that do not continue to work from home constantly, continue to work with a 'hybrid working model,' which means that employees come to the office a few days a week and working from home for the rest of days. With this the spatial existence of large industrial areas and large technology centers in cities has begun to be questioned. During the pandemic, major business centers in cities continued to exist empty-handed.

Although some of the large companies are planning to make the remote working model permanent, many companies in Silicon Valley have started to implement the remote working model since before the pandemic. This kind of change shows that rethinking and reshaping the spatial existence of workplaces is inevitable for the future development of cities. In the future, the remote working model will lead to different perspectives on workplaces and the effectiveness of remote working will change the working habits of creative class, such as location choices and office needs. While it is difficult to predict the distant future consequences of this mode of operation, the impact of remote and hybrid working models should not be underestimated. Remote work has been on the agenda for several years, especially in the creative sectors, as it creates great opportunities for employees and employers. Creative production and activities, without physical boundaries, can contribute to the creative economy by getting more prominent in cities. For worldwide companies such as Twitter, remote working model has always been an option, and these companies have conducted various tests to address and improve their remote working models prior to the pandemic. Now the company continues to work from home with highly talented creative class employees around the world.

The aim of this thesis is to understand the respecialization of work after the COVID-19 pandemic, with particular attention to the future of spatial organizational design

for technology-based sectors. In this way, it will be possible to reconsider the location choice of technology oriented creative sectors in urban space and evaluate the need to improve the remote working conditions, considering both employees and employer's experience and expectations in Ankara. The main question of the research is **"How will the respecialization of work change in technology-based creative sectors after the COVID-19 pandemic? What will be an ideal spatial organizational design for the Ankara case?"**

Main research question will be followed by some sub-questions such as:

- "What kind of work habits have the creative class obtained during the pandemic period?",
- "Which working model has the creative class found more efficient during the ongoing pandemic period? (remote work, hybrid work…)"
- "In the pandemic process, did it affect employee's job choices if companies support remote work? Will it affect employees' future job choices?"

1.2 Parameters

While conducting surveys and in-depth interviews, different parameters are designed for both employees and employers. It is essential that for employees to know their productivity, mental difficulties, socialization and interaction needs with colleagues and friends, their motivation level in the home working model, and the lack of equipment to ensure efficient work while creating the office environment at their home. Another important issue to understand their adaptation to the office environment after working from home for a certain period of time. In order to understand this adaptation; transportation problems to the office during a pandemic, hygiene concerns and expectations from the office environment are important parameters.

The parameters for employers are slightly different than for employees. For employers; productivity in the office and home environments, operating the office

environment in accordance to pandemic conditions, controlling and interacting with employees remotely, identifying and providing office needs are key parameters. In addition, employers' expectations from offices should be taken into account.

Employees	Employers
Productivity	Productivity
Mental Difficulties	Profit
Need of Socialization / Interaction	Controlling Employees / Interaction
Motivation	Physical Requirements of Office Work
Equipment Problems for Remote Work	Communicative Expectations from Employees
Transportation Problems	
Hygiene Concerns	
Communicative Expectations from Employers	

1.3 Justification

Prior to the pandemic, workplaces had not preferred remote work model. Therefore, there was a lack of infrastructure in remote work models. In the beginning of the pandemic, remote work has appeared as an obligation because strict restrictions such as staying at home have been emerged as a result of pandemic throughout the world. On account of need for sudden adaptation to remote work, some challenges have emerged, such as lack of motivation and productivity, isolation, and miscommunications with colleagues. Conditions of remote work model started to be optimized and became more convenient for workplaces along with experience and time. Although remote work has become more convenient, some employees are still finding remote work challenging and unproductive. In addition to all these concerns, office vacancies started to become a problem, affecting the housing economies and many other sectors in the economy. Throughout pandemic period, some negative

effects on employees that have been resulted from the lack of socialization while working from home. In consequences of not only all concerns, but also satisfaction and experiences, a 'hybrid working model' has become more prominent as an ideal alternative for remote work model for employees and employers.

A hybrid working model is association with working style that enables employees to blend working from different locations. Additionally, the hybrid working model has become a much more advantageous alternative that increasing employees' productivity, especially for those working in technology-oriented sectors.

In the light of the related literature, despite the official terms such as 'remote work', 'satellite offices', and 'hybrid work' have emerged, case studies are not sufficient for a solid analysis, specifically after the pandemic. Some research on remote work in the literature have carried out not due to the necessity, but mainly out of convenience for some sectors. As a result of this, in Türkiye, these studies are not suitable for the current situation. Most large-scaled companies, for example, Twitter and Facebook, started to adapt remote working model that depends on their motivation as distinct from other benefits. Those large-scaled companies are trying to find talented employees who can contribute these companies, across the globe so remote working model is much more suitable for these institutions. Along with past two years, both in the world and Türkiye, quite a few businesses and workplaces have had to adapt to remote working model. By virtue of case studies in the existing literature, it is essential to examine the changing work habits in technology-oriented sectors during the pandemic, especially in Ankara. Thereby how the remote working model affects technology-oriented sectors and how it contributes to urban planning is an important research topic. Although the effects of the pandemic are decreasing nowadays, the importance and meaning of remote work has become undeniable in today's conditions.

Today, the effects of the pandemic are waning and although the restrictions are no longer strict, the importance and meaning of remote work is undeniable. This pandemic has shown that it is necessary to build infrastructure for different business

models in an emergency. Previously, employees and employers did not have an opinion about the remote work models, but now they have strong opinions about them as they have experienced the models. These insights lay a foundation for a future where remote working methods will be a solid and highly desirable alternative.

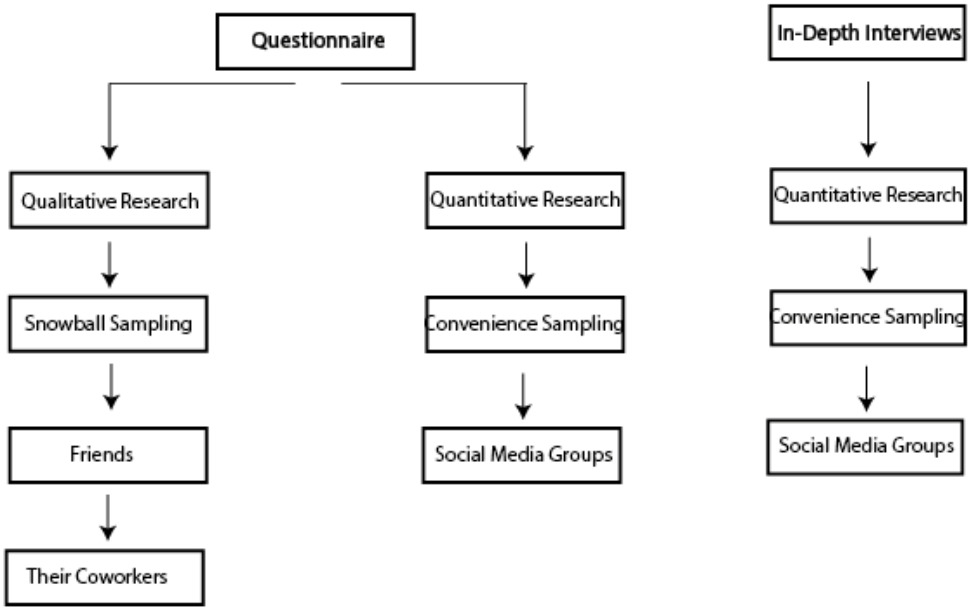
Although creative sectors have an important share in Turkish economy, there are preliminary studies on the creative class, creative sector, and creative economy. Most metropolitan cities publish an annual creative sector report, where you can easily find all the data, such as the number of employees, businesses, and the share of the industry in GDP.

The questionnaires prepared within the scope of the study were shared online through friends and social media groups during the pandemic period. While online surveys are more accessible for people to participate in, recruiting participants and explaining the importance of the study virtually proved to be a difficult process. According to İŞKUR, although there are more than 40,000 employees in information and communication and professional, scientific and technical activities, there are only 48 participants in the study. As in the survey, six participants are available for detailed interviews, and only one interview was face-to-face, and the others were made through the ZOOM application.

1.4 Method of Analysis

First, a questionnaire containing thirty-one questions on different topics related to remote work was prepared for this research. These questions are designed to understand the demographics of employees and to learn about their experiences and thoughts about working from home. In addition, to see their socialization levels during the pandemic process, to learn about the motivation and productivity they experience in this process, to learn about their expectations from the office and their hygiene concerns are among the main objectives of the research.

Distribution of the questionnaire started with people who work in the technology-based sectors. The questions were tested for errors and misunderstandings, and after enriching the questions, all surveys were shared to other employees. The survey was also shared in social media groups for people working in technology-based sectors to find and fill in June 2021; the survey was kept open to be filled for a period of one month period. Even though the number of technology-based sector employees is high in Ankara, the participation was determined to be low since the research was conducted during the pandemic period, and the interview was conducted with only 48 employees. Announcements were also made in social media groups to find the participants to interview. In November 2021, detailed interviews were held with five people. Four of the interviews were conducted online (via the ZOOM application), and face-to-face interviews were conducted with only one participant. Both employees and employers participated in detailed discussions.



1.5 Content

There are five chapters in this study. In chapter one, information is given about creative theories and remote working processes. Then, the definition of the emerging problem the purpose of the thesis, the research questions and the parameters taken into consideration while conducting this thesis are mentioned. Finally, a rationale and limitation were made for the thesis by following the analysis method.

In chapter two, the theoretical framework of the thesis is explained. First, creative theories are mentioned, including culture industries, creative class, creative sectors, and creative economies. Then, the technology-based creative sectors related to the thesis context are determined. These technology-based creative sectors are technology development zones and the defense industry. After mentioning the creative and technology-based parts of theories, remote working is explained. Different remote working models such as satellite offices, co-working spaces, flexible working and hybrid working models are explained under remote working. After the explanation, monitoring and security issues in the remote working process were discussed. In the last part of the second part, the office needs are explained. Case studies are also shared for companies that support remote work, such as Spotify, Twitter, Apple, and some Silicon Valley offices. The chapter three mainly focuses on Ankara province. The creative sector operating in Ankara is the primary concern of this chapter. First, the creative sector in Ankara is analysed. Then, the weaknesses and strengths of the creative sector in Ankara and the innovation potential oh the city were mentioned. After that, technology development zones such as METU Technology Development Zone, Hacettepe Technology Development Zone, and Defense and Aerospace companies are examined. Finally, a suggestion with an LQ Analysis for Ankara has been added based on the report "Analysis of Creative Industries in Turkey at the NUTS 2 Region Level, Focusing on Izmir". In Chapter four, questionnaires and interviews are analysed. It was made with SPSS; cross tables were created on related topics and comments were made according to the tables. Then, the answers from the interviews were added and three issues emerged. These

topics are “Hybrid Working Model and Technology-Based Sectors”, “Remote Working Monitoring”, and “Office Needs”.

The last chapter is the conclusion section, which is made under seven headings that are security, communication, equipment, transportation, hygiene, productivity, and mental health. Finally, a summary of all topics and suggestions for the future has been made.

CHAPTER 2

LITERATURE REVIEW

2.1 Creative Sectors and Creative Class:

"If we count the basic sectors or fields of activity that make up the 'creative sectors' within the framework of these definitions regarding the concept of the creative economy, these include music, advertising, architecture, arts, crafts, design, fashion, cinema sector, performing arts, book-magazine and newspaper publishing, research and development, computer software, toys and games, computer games, photography, radio-television, and cable broadcasting. It is possible to enumerate their sectors" (Howkins, 2001).

There are different classifications of creative professions; however, occupations requiring knowledge, focusing on innovation, offering creative solutions, and using their skills can be considered creative sectors. Many sectors, from music to health, from painting to engineering, have the capacity to produce creative solutions to current problems. These creative sectors also have a respectable share in the overall economy; especially metropolitan cities benefit economically and socially from the creative economy.

Figure 1. Creative Sectors

“Cities had been centers of industry, economic growth, and cultural achievement; by the late 1960s and 1970s, that was no longer the case. Middle-class people and jobs fleeing cities and leaving their economies hollowed out” (Florida, 2012). The creative class became highly important, mainly because several economic sectors were no longer relevant hence cultural and creative sectors took over. With globalization, innovation and technology started to increase. The situation that Adorno argued before in the cultural industries made a significant shift in economy and production. What has been discussed previously is no longer the case; sameness left itself to uniqueness; now, creativity brings variety to place and economy.

Creative sectors are not merely about art and crafts. The sector supporting creativity, innovation, and technology is also considered a creative sector and contributes directly to the economy. UNESCO has a creative cities network to categorize cities

into seven creative fields: “Crafts and Folk Arts, Media Arts, Film, Design, Gastronomy, Literature and Music.”

Additionally, UNESCO suggests that: *“Creative sectors should have the power to strengthen the creation, production, distribution, and dissemination of cultural activities, goods, and services; develop hubs of creativity and innovation and broaden opportunities for creators and professionals in the cultural sector; improve access to and participation in cultural life, in particular for marginalized or vulnerable groups and individuals; and fully integrate culture and creativity into sustainable development plans”* (UNESCO, 2010).

Despite having a highly technological and innovative environment, creative class individuals are not always meant to be highly educated. Florida claims, "*When talking about creative class, not all of them are highly educated. Human capital measures with the total knowledge and skill of the workforce—typically focused on formal education—that is, the percentage of the population with at least a bachelor’s degree. But education is not only one indicator of a person’s creative potential. It is not fair to say education is a must of insignificant. On-the-job experience, wisdom and savvy, creativity, ambition, and entrepreneurial talent are among the many qualities are requisite for success in the creative economy. Creative sector and the general college-educated populace affect regional economic development through different channels. People with college degrees did enjoy higher incomes but members of the creative class earned higher wages— money paid for a specified quantity of labour”* (Florida, 2010).

Bocella and Salerno (2016) argued in their paper ‘Creative Economy, Cultural Industries and Local Development’:

> *Cultural and creative industries are driving factors for economic growth and according to global demand, also stimulated by the new economy. The creative economy is closely related to the creative and cultural industries. The term cultural industries were diffused since the Eighties, and it was referred to those forms of cultural production and consumption, which have*

at their centre a symbolic or expressive element. The concept was then spread around the world by UNESCO just since the Eighties and its definition has gradually incorporated a wide range of industries: music, the industries related to art, writing, fashion and design, media, as well as craft production

The spatial impact of the creative class has brought some urban challenges. "The knowledge workers, techies, artists and other cultural creatives who made up the creative class were locating in places that had lots of high-paying jobs — or a thick labor market; lots of other people to meet and date — what I call a thick mating market; and a vibrant quality of place, with great restaurants and cafes, a music scene, and lots of other things to do." (Florida, 2012). The shift from industry to new creative spaces significantly changed cities. When former industry areas became vacant, it was an excellent opportunity for creative people to exist in those areas. In the context of New York, as Richard Florida says, an old industrial site, SoHo, was a neighborhood with industrial and institutional areas. The industrial workforce left those places because the economy has shifted from industry, and this kind of institution has lost its importance. Therefore, the creative class took the opportunity and occupied city centers with their creative existence.

"The driving force behind any effective economic strategy is talented people…People, especially top creative talent, move around a lot. A community's ability to attract and retain top talent is the defining issue of the creative age" (Florida, 2009). Adorno mentioned that city centers became vacant after the fall of industry. That was an opportunity for creative people to use, so they moved

to city centers and shaped the city centers into something different. Creative people are also known for their high tolerance for various community groups. Florida's suggestion, the 'bohemian-gay index,' argued that people in different groups, orientations, and lifestyles (also members of creative sectors) greatly tolerate society. This community is not judgemental and can accept the minorities and different lifestyles. Thereby, a considerably acceptant, peaceful environment occurs. This

situation affects the user's location choice in cities. Hence families tend to prefer a more acceptant community for their kids to be safe and visible.

The history of creative sectors is based on the concept of 'culture industries' introduced by Thedore Adorno. The term ‘culture industries’ first emerged in Frankfurt School with the contribution of Adorno in 1947. At that time, this term was defined to mock cultural sectors; hence they were creating a ‘cultural monotony.’ Adorno stated that people do not shape the culture, but the culture shapes people. He also says in the book with Max Horkheimer, Dialectic of Enlightenment:

> *Culture today is infecting everything with sameness. Town planning projects which are supposed to perpetuate individuals as autonomous units in hygienic small apartments, subjugate them only more completely to their adversary, the total power of capital. All mass culture under monopoly is identical. ‘The truth that they are nothing, but business is use as an ideology to legitimize the trash they intentionally produce.’ The standardized forms it is claimed were initially derived from the needs of the consumers: that is why they are accepted with so little resistance. In reality, a cycle of manipulation and the retroactive requirement is unifying the system even more tightly (p.198).*

In Dialectic of Enlightenment, Adorno and Horkheimer argued that the ‘culture’ in the culture industries is the opposite of the authentic culture representing society in various fields. This type of culture only pleased the masses; it was meant to entertain the community and did not contain any genuine representation of the culture. Their perspective of the culture industry was a culture that takes the ability of people’s critical thinking and convinces them that someone else is more capable of making decisions for individuals.

Individuals in cultural industry society are inclined to consume the pre-determined goods and services, and nothing is original. Thus, companies can maximize profits and control the economy and culture by their rules. In this environment, Adorno and

Horkheimer said: ‘Culture today is infecting everything with sameness”, which was the case in the 1940s.

Over time, the definition of cultural industries became more authentic and creative than Adorno had criticized. Cultural monotony in culture industries started to fade when society began to practice their talents in various fields. Heavy industry was no longer the dominant sector in cities. Hence creativity of people brought originality and authenticity. The dominance of the heavy industry left space for more talented and creative areas. This occupation of the people revealed creative sectors. As the industries lost their importance, large city production sites remained empty. Individuals with different types of talent turned vacant industrial spaces into creative environments to pursue their interests. Thus, the cities' centers, which have been transformed for more recreative use, became more attractive for the cities. The creative people's expectations differed from those in the industrial era; this new group was willing to interact with people with similar interests. Thus, the areas that were used Creative people were involved in the production, and their financial strength began to increase day by day. When creative people started to take place in city centers, they created the concept of ‘gentrification,’ where traces of heavy industry vanished.

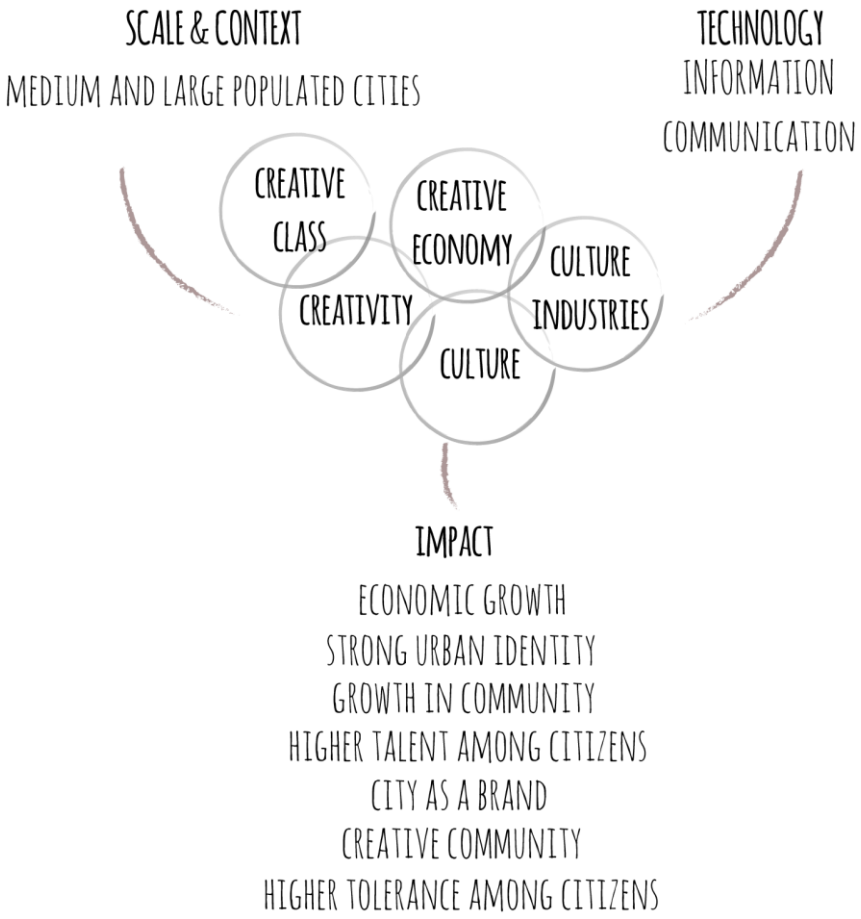


Figure 2. Creative Sector and its Components

2.2 Culture Industries in Economy

As mentioned above, there has been a remarkable shift in the cultural industries since the 1980's. *"The cultural industries have moved closer to the centre of economic action in many countries and across much of the world. Cultural industry companies can no longer be seen as secondary to the 'real' economy where durable, 'useful' goods are manufactured. The largest companies no longer specialise in a particular cultural industry. These industries compete with each other, but, more than ever before, they are competing with each other"* (Hesmondhalgh, 2013).

Creative economies play a significant role in the cities economically and socially. Creative economies in the world's metropolitan cities make up a large part of the

city's overall economic activity. In New York, USA, creative economies comprised 13% of the city's total economy in 2017 (NYC Government, 2019). Judging by the aggregation, one out of every $8 activity in the city involves creative activities, either directly or indirectly. This number was announced as 11.1% in the city of London in 2017 (London Datastore, 2017).

In cities worldwide, creative economies have a respected share in the general economy. The creative sector plays such a role in the delivery of spatial decision, as well as its place in the economy remains uncertain and are recognized in Türkiye. In 2017, UNESCO 'Creative Cities Network' and in this report, there are six cities are considered as creative in various creative activities in Türkiye. Hatay, Gaziantep, and Afyonkarahisar are in the gastronomy category; Kırşehir in the music category; Kütahya in the craft category and Istanbul in the design category. This report is considerably limited due to the fact that UNESCO considers creative sectors as cultural sectors such as arts and traditions. "*The creative economy is also associated with large cities and/or dominant regions within countries or even concentrated within cities where a prosperous creative industry sector may be small enclave surrounded by poverty and social deprivation. The creative economy tends to concentrate today in great world cities that are already central places of financial capital, investment and power or have significant historical legacies of social and cultural mixing*" (Bocella et. al., 2016).

In order to strengthen creative and cultural industries at a national level, it is mandatory to encourage the development of the territorial network and policies to support the local economy and the relationships among privates and between public and private sectors. Bocella and Salerno (2016) stated that:

> *Examining new industries in previously ignored cities required economic geographers to explore how market logics both similar to and different from traditional manufacturing shaped the geographical distribution of economic activities. On the other hand, new industries such as music, film and fashion were*

> *vertically disintegrated, and relied on dense inter firm transactions. The size, structure and interdependent relationships between creative industry firms encouraged spatial agglomeration in particular districts, usually in large cities, other academics have sought to explore how cultural and creative industries emerge from small, suburban, rural, and remote places and are implicated in a range of social. Exploring creative industries in rural and remote places, in socio-economically disadvantaged and suburban places, means researchers cannot take context for granted, unlike in cities where urbanity is given*

A creative economy brings great employment to the cities and is a guide to attracting creative and knowledgeable people, improving the economic growth in a city and a nation. With solid creative and cultural development, cities have the foundation of a strong urban identity. High creative skills in society is an excellent advertisement to attract talent and potential worldwide. Strong urban identity can change the city's aesthetic and society's pleasure. A creative community brings more creativeness to the city, helping grow the creative economy.

2.3 Creative and Cultural Resilience

Urban culture is the formation of material and spiritual values produced by people living in the city with a dimension of space based on a common denominator. The important thing here is forming a city's memory, and the urban people understand the cultural outputs produced. (Holthorf, 2018). The term is a combination of different dynamics in the city. A creative city covers open-mindedness and imagination in the city.

"Creative Resilience is an enhanced capability which enables individuals, groups and communities to respond optimally to life's immediate challenges, but also to imagine

future opportunities and risks, supporting creative foresight and the development of preferable futures" (McAra-McWilliam). The capability of a cultural system (consisting of cultural processes in relevant communities) to absorb adversity, deal with change and continue to develop (Holthorf, 2018).

Barron (1969), defined creativity as "the ability to bring something new into existence . . .Since human beings are not able to make something out of nothing, the human act of creation always involves a reshaping of given materials, whether physical or mental". This definition echoes strongly with those of resiliency, which is mostly defined as bouncing back through a positive adaptation – a reshaping in response to a given condition such an adversity or risk (Masten & Powell, 2003).

2.4 Creative City Parameters

In order to be called a creative city, city must have many parameters from different aspects. When it comes to the creative city, it emerges based on the cities that meet at a common point. The typical features of cities classified as creative cities in the table below are compiled from the components in the articles of Romain & Tripp (2008) and Bašová & Štefancová (2016).

Table 1. Creative City Parameters

Social Environment	Peace and tolerance among society, respect and feeling of safeness, visibility of various minority groups in cities, sense of belonging to a place and his freedom to choose a way how to spend free time in the city.

Table 1. (Continued)

Occupation and Employment	High usage of talent in employment, high GDP contribution of creative sectors to economy, specialization in creative sectors in the name of location quotient analysis.
Creative Urban Representation	Cultural and historic heritage
Accessibility	Various transportation modes, open resources, easy Access to goods and services.
Innovative Potential	R&D and technology-based sectors, production of good quality knowledge, high employment rate in creative sectors.
Creative Scene	Openness, pedestrian public spaces, tourist attraction, calm rhythm, diversity of places.
Governance	Creating conditions rather than detail planning, cooperation between local authorities, firms, and interest groups.
Use of IoT	Smart solutions, easy to use applications for different aspects of cities (transportation, museums…)

2.5 Creative Class and Location Choice

In the book ‘Who’s Your City,’ Richard Florida argues that the location is vital for the economic and social aspects. To understand such an important matter of fact, he asks the question of ‘where.’ Florida says, "Where we live is increasingly important to every facet of our lives. We owe it to ourselves to think about the relationship

between place and our economic future, as well as our happiness, in a more systematic –if different- way."

One important reason why people choose any location to live in is the 'bohemian-gay index.' This index is explained as follows: "This study found that artistic, bohemian, and gay populations increase housing values in the neighborhoods and communities they inhabit." According to this theory, since bohemian and gay people tend to do creative jobs, they choose a place accordingly. Wherever they go will have a great capacity for creativity. In order to find a place that has great creativity in economic and social terms, plus an excellent opportunity for this kind of labor, those two groups should be followed. "The theory is that tolerant communities, where homosexuals are likely to reside, nurture an open-minded culture of creativity, which can lead to innovations like Google or YouTube." And he continues with: "Where: Maybe it is so obvious that people overlook it. Finding the right place is as important as –if not more important than- finding the right job or partner because it not only influences those choices but also determines how easy or hard it will be to correct mistakes that made along the way. Perhaps it's because so few of us have the understanding or mental framework necessary to make informed choices about our location."

"Jobs end. Relationships break up. Choosing the right place can be a hedge against life's downside" (Florida, 2010).

Clustering Force

"In today's creative economy, the real source of economic growth comes from the clustering and concentration of talented and productive people. New ideas are generated, and our productivity increases when we locate close to one another in cities and regions. The clustering force makes each of us more productive, making the places we inhabit much more productive, generating great increases in output and

wealth. Because of the clustering force, cities and regions have become the true engines of economic growth. No wonder these locations continue to expand."

Florida advises on three different things:

1. Despite all the hype over globalization and the "flat world," place is more important to the global economy than ever before.

2. Places are growing more diverse and specialized—from their economic makeup and job market to the quality of life they provide and the kinds of people that live in them.

3. We live in a highly mobile society, giving most of us more say over where we live.

Thomas Freidman claims that the world is flat in economic terms. With the importance of technology, IoT systems, and social media, people can reach everything. In a zero marginal cost society, people can advance knowledge anywhere possible. This kind of advantage for the societies brings borderlessness. With zero marginal cost, innovation and knowledge can be located anywhere. This relocation brings equality to the communities so that the world can be flat: equal. In this society, goods and services should be shared by every citizen. Planners should maximize according to a 'public interest.'

The concept of 'spiky society' became a topic with globalization. As Richard Florida argues, the 'creative class's that he defined tend to pick locations similar to each other so that economic development is located in different places, which generate a spike. However, the middle class is rejected and lost its importance with this new class, and there are huge gaps between classes. This spike has an entrepreneurial culture, and human capital is important. Location is important as well. Richard Florida says: "The attraction and retention of these individuals thus become the centerpiece of economic growth." This system brings a 'people climate' rather than a 'business climate.' People as individuals are equal in public regardless of ethnicity, gender, or sexual tendency they have. But communities are the ones that have

inequalities. There is competition and rivalry among these societies, and it keeps these societies and markets vivid.

If the hybrid working system is on the agenda, it is possible to create both a spiky society and a zero marginal cost society. The fact that employees have the power to carry out their work in the creative sector remotely means creating a zero marginal cost society. As Freidman emphasizes, the ability to work remotely can push the world to a low economic level. However, as in the example of Ankara, spikes emerge according to the sectors of the employees. For example, looking at Türkiye, it is possible to say that the technoparks in big cities create a spike in the country, no matter where the employees are.

Michael Porter, “Location still matters. The more things are mobile, the more decisive location becomes. This point, has tripped up a lot of really smart people.” Florida says they are both mistaken; hence he says: “The key to our new global reality lies in understanding that the world is flat and spiky at the same time.”

2.6 Sustainable Development Goals in Terms of Creativity.

The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. There are 17 different sustainable development goals Under these 17, there are many more topics that should be taken into account. (United Nations) Creative and cultural goals are essential in ensuring sustainability, and creative and cultural issues have a great place in sustainable development goals.

Figure 3. Sustainable Development Goals and Culture and Creative Industries (United Nations)

2.7 Definition of Technopark

According to UNESCO, the term ‘science and technology park’ encompasses any high-tech cluster such as a technopolis, science park, science city, cyber park, hi-tech (industrial) park, innovation centre, R&D park, university research park, research and technology park, science and technology park, science city, science town, technology park, technology incubator, technology park, technopark, technopole, and technology business incubator. Although these concepts have minor dissimilarities, it mainly refers to a cluster involving high-tech businesses. The International Association of Science Parks defines the concept as:

> *An organization managed by specialised professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions. To enable these goals to be met, a science park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high quality space and facilities.*

Technoparks are high-innovation workspaces for many companies. Firms consist of various disciplines and various sectors. These sectors, which aim for high innovation, technology, design, and development, make up their employees from the creative class. “If we count the basic sectors or fields of activity that make up the "creative sectors" within the framework of these definitions regarding the concept of creative economy. . . It is possible to enumerate their sectors” (Howkins 2001). There are different classifications of these professions, but occupations that require knowledge, focus on innovation, offer creative solutions, and use their skills can be counted among creative sectors. Many sectors, from music to health, from painting to engineering, have the capacity to produce innovative solutions to current problems,

except by using only talent. The mentioned sectors also have a place in the economy, and big cities gain economic and social benefits from the creative economy. “Cities had been centers of industry, economic growth, and cultural achievement; by the late 1960s and 1970s, that was no longer the case. Middle-class people and jobs fleeing cities and leaving their economies hollowed out” (Florida, 2012). The creative class became extremely important, mainly because some economic sectors were no longer relevant; cultural and creative sectors took over.

Along with the office areas of various sectors, there are also innovative interior arrangements in technoparks where employees can come together, socialize and spend time. These space arrangements are of great importance in socializing the employees with each other, exchanging ideas, and increasing their motivation. In working conditions where innovation and development are high, employee interaction should be solid. The spaces designed for the creative class require high-quality spatial and interior design.

The purpose of Technology Development Zones;

- producing technological knowledge
- developing innovations in products and production methods
- increasing product quality or standard
- increasing technological expertise in order to make the country's industry internationally competitive and export-oriented by cooperating with universities, research institutions and organizations, and production sectors.
- commercializing, supporting technology-intensive production and entrepreneurship, adapting small and medium-sized enterprises to new and advanced technologies, and creating investment opportunities in technology-intensive areas by taking into account the Supreme Council of Science and Technology decisions.
- creating job opportunities for researchers and skilled people

- helping technology transfer and is to provide the technological infrastructure that will accelerate the entry of foreign capital into the country that will give high/advanced technology (ODTÜ Teknokent).

2.8 Remote Work

In 1984, Alvin Toffler, an American writer, and businessman, predicted the work style of the future, using the developing technologies at that time. He wrote a book named 'The Third Wave,' which includes three types of societies and their cultures as waves. The first society he explained, 'The First Wave,' is a primary hunter and gatherer, agricultural society. The second one, 'The Second Wave,' is the industrial society and culture shaped around mass production and standardization. The third and last one, 'The Third Wave,' defines a post-industrial society and culture, which he explains as the 'Information Age.'

In his book, The Third Wave, Toffler stated that the houses are going to be 'electronic cottages' with the style changes in work life. The reason that the houses will have kind of shift is the increasing importance of computers in the 1980s. At that time, even though there was not a great use of 'personal computers,' he said: "The new production system could shift millions of jobs out of the factories and the offices into which the second wave swept them and right back where they came from originally: the home." The situation that the world is in today is similar to his predictions, except people did not initially prefer to work remotely, but they did not have any other choice.

What he meant by jobs originating in the houses is that 300 years ago, people could work from home, considering people would often do work that requires manual labor. The production process was unique for the creator, such as carpenters, leatherworkers, blacksmiths, and shoemakers. Those kinds of jobs are considered as creative class since they need a process to lead to the original production. However, with the shift in production, people started to leave their homes to work in

significant-scale factories that dominated cities and economies. The creative industries defined as “those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property” (U.K Government, 2015).

2.8.1 Satellite Offices

The spatial concept of remote work first appeared as satellite offices. Satellite office term has emerged from the need for remote work in the late 70s and early 80s. At that time, some firms were growing their business and employed many employees from different locations. Headquarters of the firms were getting large; however, the commute was a problem for most employees. Firms found the solution in creating smaller workspaces all over the country. These offices are “in residential areas in rural villages, owned by a specific company which has relocated parts of its operations at a distance from an original or main site” (Quvortrup, 1998). The plan was to reduce commute in terms of time and expenses; employees would save time and gas when there is a satellite office near their home. “The logic is that the critical mass of employees will also provide the necessary social interaction and a sufficiently deep hierarchical structure to provide adequate management on-site” (Olson, 1983).

Nonetheless, this type of organization brought different positive and negative effects. On the positive side, satellite offices helped reduce commute, which can be considered cost-efficient. Offices still had the spirit of an office, furniture, break rooms, and equipment, but in a more local sense. Social interaction was still there, but it was with a small number of employees. It was easy to be monitored than remote work at home, but it was still complicated. Offices needed some administrative members in them to keep the system running.

With the COVID-19 pandemic, satellite offices became popular again. “In the era of the pandemic, many companies have started adopting satellite worksite policies in an effort to reduce the risk of keeping the critical mass of employees in a single location as well as risks of employees being exposed to the virus when commuting for longer time” (Belzunegui-Eraso & Erro-Garces, 2020). Compared to the previous aim of satellite offices, this type of organization gained a new meaning along with safety and health concerns. Reducing the commute and expenses are still the main reasons, but with COVID-19, bringing fewer people together to work started making more sense for most offices. It is crucial to control the infection, keep employees safe, and reduce their risk of getting infected in public transportation or long commutes. Even with safety reasons, satellite offices will not make sense if it is not beneficial for economies of scale. Location-allocation might seem like an ideal solution for the companies with headquarters and the risk of infection, but this system will not work in every city. In Ankara's case, the distance from their work to the house could be ventured, so opening new office places will only make the city more crowded with office areas. Apart from the crowdedness, in a scenario where a new pandemic is hitting again, investing in new office areas will not be sustainable. When people work remotely from their houses again, office areas will be empty and wasted. Monitoring the satellite offices was a problem and is a problem now. Even with the high technology and new tools, it is still hard to monitor employees. It brings motivational issues with itself. Isolation from their co-workers primarily affects employees badly, and they feel like they are not part of a team.

Considering all the facts and possibilities, satellite offices will not be a sensible solution for Ankara’s remote work scenarios. One, for the lack of need to create new office areas; two, the distance in the city is not something to avoid. Creating closer workplaces will not reduce the commute radically, and firms are also having hygiene and equipment problems in their central offices; it is a warning for the new possible office areas.

2.8.2 Coworking Spaces

Similar to satellite offices that are located around the city to make the commute easy, coworking spaces *"are shared workplaces utilised by different sorts of knowledge professionals, mostly freelancers, working in various degrees of specialisation in the vast domain of the knowledge industry. Practically conceived as office-renting facilities where workers hire a desk and a wi-fi connection these are, more importantly, places where independent professionals live their daily routines side-by-side with professional peers, largely working in the same sector – a circumstance which has huge implications on the nature of their job, the relevance of social relations across their own professional networks and – ultimately – their existence as productive workers in the knowledge economy*" (Gandini, 2015).

Coworking spaces allow increasing the creative class workers to be more independent and productive as well.

Activity-based planning is *"a design strategy that responds to the individual worker and where certain work activities can be performed. More specifically, this strategy looks at how and where work activities are being performed, which is then fed into the design and layout of the workplace. Activity-based planning allows for more flexible uses of space, so the office is not just shrinking, but is also expanding on a need-to basis — in other words, the office increasingly resembles a Tetris game, whereby pieces are assembled and disassembled continuously"* (Pajevic, 2021).

2.8.3 Flexwork (Flexible Work)

Flexible work refers to a part-time job, but it can also refer to a range of other changes to the traditional arrangement of work and increased worker control over when and where their work takes place. In this system, employees can take responsibility and decide what hours suit them best to develop a working schedule. This way, they can keep their productivity level high and increase their creativity. A flexible work system differs from the nine to five working system, allowing employees to fill their

weekly working hours. It is more than coming to an office at specific times and evolving to work from a distance within years. “Work can take place in the office, a home, a co-working space, a client’s premises, a train, or a coffee shop. Workers have the potential to be increasingly untethered from a physical space – where of course, the organizational culture permits” (Dale, 2021). Its benefits and opposing sides are similar to a hybrid work system.

2.8.4 Hybrid Work

A hybrid working system; although it means coming to the office on certain days and continuing to work from home on other days, it varies with the physical space, which is vital. Reena (Mahapatra) Lenka stated that there are three forms of the hybrid operating system and developed a unique hybrid system model with the most suitable.

First, the remote first model: the main thing in this model is to prioritize working from home. This model, which supports employees to work from home, is used by many companies as long as there are no mandatory situations to collect. In this system, the working days are not divided into certain times of the week, and it encourages more employees to come to the office when it is necessary to go together. In this working system, the office layout is no longer as important as before in terms of design and size. In this way of working, there is no harm in reducing office areas, but in a system that needs to be gathered several times a month, it becomes unnecessary for office areas to be so large that they come together every day.

In the 'office occasional' model, it is entirely up to the employees to work remotely or come to the office. Employees determine the days when they will come to the office. The problem with this model is that supervision is very weak, and employees are likely to feel distant and disconnected from the office if they prefer to work remotely.

Finally, in the ‘office first, remote allowed’ model, the primary preference is to come to the office but inform those who do not come to the office remotely. In this scenario, employers must arrange a meeting and work responsibilities to be the same remotely and in the office.

Reena Lenka states that the optimum hybrid mode of operation is only possible by combining these three models. This system is called the unique hybrid work model and is explained as remote first, office occasional. In this system, the working order is primarily adapted to remote working, and the office becomes functional when the employees need to be gathered. In this system, the office continues its existence with its load removed. Considering the requests of technopark employees in the surveys, a scenario where the office is still actively open, but the employees prioritize working from home seems more appropriate.

If the unique hybrid work system is adapted to work, the concept of the office needs to change more. Offices with high design, innovative, and extensive social areas, where everyone is an active part, will be empty in this unique hybrid work order. Thus, in cases where a hybrid working system is adopted, offices need to be rethought.

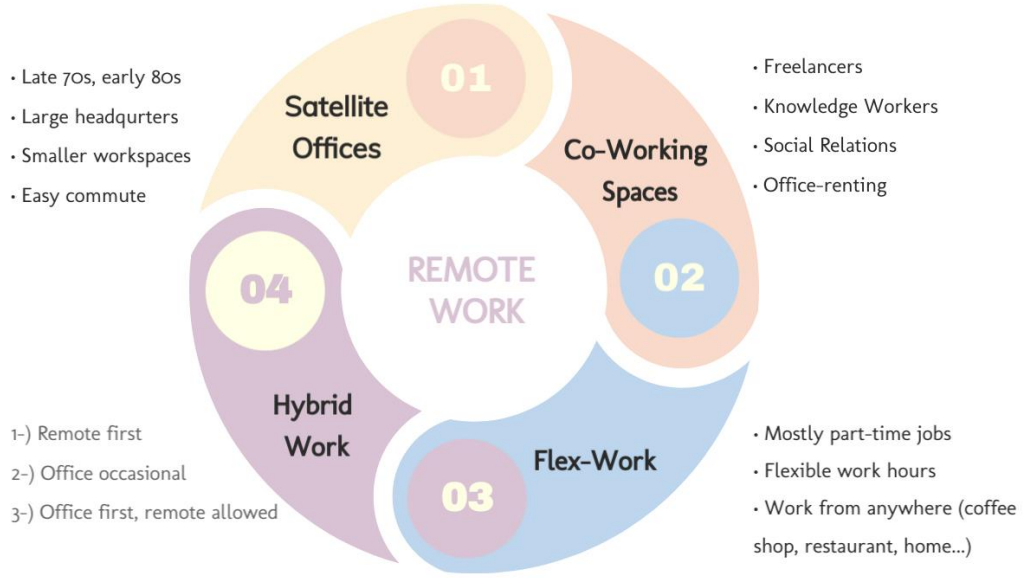


Figure 4. Remote Work Types

2.8.4.1.1 Remote Work Monitoring & Security

Remote work will not be a temporary solution to the crisis, pandemics, and natural disasters. It will continue to stay on the agenda for a long time. Even after the pandemic, companies will prefer to work in that system because it has a lot of benefits for more prominent companies. With the use of social media and the development of technology, getting news from all over the world, being aware of the agenda miles away, and visiting places individuals have never been to are the most prominent examples of the removal of borders in daily life. Teleworking helps maintain working order in an emergency and offers the opportunity to work in a specific job wherever a person is in the world.

There are different ways to monitor remote work for employers. Since the beginning of the pandemic, many other applications have come to the fore. Besides messaging, e-mailing and video conferencing, various surveillance tools have been created so employers can 'spy on' employees.

Some firms use software that lets employers know what employees do with visual proofs. “…thousands of firms including PwC have panic-bought spy software dubbed “tattleware.” Sneek, for example, takes webcam pictures of workforces as regularly as every minute and uploads them for seniors to scrutinize” (Laker et al., 2021).

In Independent Turkey’s article on criticizing remote work monitoring, there are different opinions on the topic. Canan Duman, a strategic management consultant, states, “What to do is to be productive at home as well as in the office. To train employees for efficient remote work. Establishing trust between managers and employees. It is necessary to encourage open communication about workload and time management and inform employees beforehand if monitoring software is to be implemented. Because data obtained without permission cannot be subject to termination against the employee”. Some professional people think that it is a problem in the way of being productive. Haydar Kömürcü, the founder of Cremicro Growth Agency, believes, "Unfortunately, these practices seriously undermine productivity. For creative people whose job is to think, it's nearly impossible to establish a measurable business process. For example, someone in the marketing/advertising field may need to spend all day on social media in search of insight. I don't think an administrator watching his computer would understand that. There is no need to follow the device already used by people whose work can be measured by its output. Suppose the employee is malicious, with very little computer skills. In that case, he can set his computer to perform automatic operations. At the same time, he sleeps”. And there is an opinion by Dr. Kerem Dündar, a biophysicist, about being more ethical when monitoring closely by: “We act more ethical when we are being monitored.” All the opinions are based on the trusting relationship between employee and employer (Erdem, 2020).

Monitoring the working environment remotely is an issue that all employers have problems with. Still, it is a significant problem that needs to be solved in order to make working remotely permanent. In some cases, such as the defense industry, working from home is nearly impossible, as well as monitoring. Because defense

industry is highly fragile, remote work may cause cyber security problems when employees do not work from their computers in their office. It is hard for the defense industry employees to set up their office environment in their houses.

When it comes to remote working in the computer world, the technologies most frequently used by institutions are VPN (Virtual Private Network) and RDP (Remote Desktop Protocol) (STM Report, 2020). Those technologies allow workers to connect their office system from their devices anywhere, making it easier to keep up and control.

What is VPN (Virtual Private Network)?

"A virtual private network can be regarded to simulate a private network over a public network like the internet. It is called a virtual network because it depends on temporary connections with no physical presence. They consist of packets routed over various servers and routers on the Internet on an ad hoc basis. VPN connections are created between two endpoints, an endpoint and a network, or two networks" (Abhijith & Senthilvadivu, 2020). This technology makes it possible to connect the office's system when working from home.

What is RDP (Remote Desktop Protocol)?

RDP, short for remote desktop protocol, is a computer-to-computer network. It is a device that can be connected via a remote graphical interface and controlled via a graphical interface. Microsoft Developed the RDP protocol, which was first introduced in the 1998 operating system named "Microsoft NT 4.0 Terminal Server Edition" released in the used version. With this version, RDP services are available from Microsoft operating systems. All operating systems that were added to the methods and subsequently released versions come installed with the system. Due to the fact that there is no additional cost such as an additional license fee and the purchase of a VPN product, many small and medium-sized companies, apart from large companies, use RDP services both in standard times and during the Covid-19 outbreak" (STM Report, 2020).

According to research done by STM, "…it has been determined that there are many high-risk security vulnerabilities in remote access tools and VPN systems. It has been observed that these vulnerabilities can be used alone, depending on the scenario and target, only to infiltrate the target. They can be used by chaining together to infiltrate the target system and then spread horizontally. To avoid being affected by related vulnerabilities, it should always be ensured that services and products are used in the latest version". To protect individuals, USOM, the national cyber incident response center, has published a guide to secure remote work and gives recommendations for the least harm in using technologies in remote work.

In order to ensure security, both institutional and individual information should be provided, and a road map should be drawn up by paying attention to the crucial issues in cooperation. Thus, in addition to the problems of working remotely, the security problem can be minimized. A more comfortable base will be formed for the hybrid and remote working systems in a scenario where the security problem is minimized. Thus, sectors such as the defense industry, which have security problems, can bring teleworking to the agenda more comfortably and frequently. This situation will raise questions about making regulations on the size of the area and the use of offices in the defense industry, just like in technoparks. Since the defense industries have a working system that includes the application, it will not be typical and healthy for such areas to shrink suddenly.

Even if the security problem is solved in remote working, it is necessary to determine the line between how much personal space the employees need for monitoring, violation of privacy, and imposing responsibility on employees. Thus, the sustainability of both hybrid and remote working systems will be ensured.

2.9 Office Need

Since the beginning of the pandemic, offices have been empty due to reasons such as the rapid transition to a work-from-home system and hygiene concerns. As a result

of the change in the working system, the demand for office spaces decreased, and the office spaces in use became empty. Some companies considering changing the operating system did not renew the lease agreements of the offices. “More than a year into the pandemic, demand for office space has decreased significantly. During the first quarter, the amount of U.S office space that became vacant exceeded the amount of space that was leased by 34.8 million square feet, commercial real estate services and investment firm CBRE Group Inc. said” (Broughton & Trentmann, 2021). Some of the companies decided to move their headquarters to other cities with lower rent costs.

A similar situation is currently happening in Türkiye. According to Kaba and Hasar’s new: Savaş Gürbüz, Chair of Cushman & Wakefield’s Office Renting Department, said to DHA that: “*Compared to the first quarter of 2020, demand has decreased by 44 percent this year. While there was a 90 thousand square meter transaction in the first three months last year, we completed the first quarter of 2021 with a 51 thousand square meter transaction. Remote working people's working model, which we call the new ecosystem, has changed the need for the office. Offices will not disappear from our lives, their importance has not decreased, but our need has been shaped. Office rental prices increased by 11 percent due to inflation in Turkish lira terms. However, rental prices in dollars decreased by 20-22%. The main factor here is the changes in the exchange rate*”. The changes in Türkiye's economy highly trigger this decrease.

When it comes to the physical part, the way offices are preferred is generally their external appearance. According to Gürbüz, offices are now chosen after the pandemic considering features such as technical infrastructure and fresh air quality. At the same time, low-rise buildings are more in demand than multi-story buildings. Savaş Gürbüz said: *“Before the pandemic, the area needed by the person in the office was 12 gross square meters, but today when we consider the social distance, the areas have increased to 17-20 square meters. Offices have now turned into structures where individual desks are removed, flexible meeting areas, and a comfortable working environment. You can think of the new office motto as 'branded*

cafes.' Today, offices evolve into the comfort of a cozy cafe under your company's brand. This reduced the need for space for users, but the space used per person increased. While we continue to work individually from our homes or at third locations, we will use the offices for working together, establishing the company's identity and R&D studies" (Kaba & Hasar, 2021).

According to Hürriyet's news, Altan Elmas, Chairman of the Housing Developers and Investors Association (KONUTDER) and Sur Yapı, who also stated that the office stock increased in parallel with the slowing office supply due to the effect of the pandemic, said; *"After the epidemic, various models such as flexible working will come to the agenda of companies. We know that especially banks and financial institutions are preparing for this. This can create a need reduction pressure of 15 to 20 percent on offices. If a firm has kept five floors in an office plaza, it can return one floor to the office owner and continue four floors. Maybe it will have a negative effect on the office market for 2-3 years, but after a while, these will also fill up"* (Kobal, 2021).

2.10 Remote Work Around the World

Considering the effects of the pandemic, many large companies decided to make the remote work system a permanent system. In this way, the company employees were able to work from wherever they wanted. Since the location problem has been eliminated, the company has the right to make selections in recruitment without looking at the location of the employees. Thus, physical offices have become less important for large companies than before. One of the biggest reasons large companies permanently switch to remote work is to keep their employees' productivity at the highest level. The other reason is the money that companies spend on their offices can contribute to the company in different ways through remote working.

Many firms that came up with permanent remote work are usually creative class workers who need to find innovative solutions. Since they produce ideas instead of physical production, their efficiency must remain at the highest level and thus contribute to the company. This way, companies do not harm their brands and keep their creativity at the highest level. Those firms also have high office design plans and creative spaces. Remote work not just emerged with the COVID-19 pandemic for these firms. Considering they have to keep their creative level high, these firms were already flexible about remote working, which means they had the foundation of a remote work system. Among the companies that have decided to make remote working permanent are the leading social media companies such as Facebook, Twitter, and Spotify.

2.10.1 Silicon Valley Case

As stated in the *A News*, "Tech companies have long believed that employees clustered together in physical space will swap ideas and spawn innovations that probably wouldn't have happened in isolation. That's one reason tech titans have poured billions of dollars into corporate campuses interspersed with desirable common areas meant to lure employees out of their cubicles and into "casual collisions" that turn into brainstorming sessions. But the biggest tech companies, which have profited even more than ZOOM as the pandemic that made their products indispensable for many workers, aren't giving employees much choice. Apple, Google, Amazon, and Microsoft have made it clear that they want most of their workers together at least a few days each week to maintain their culture and pace of innovation".

A survey has been conducted in the Bay Area, San Francisco, where most of the creative class work. The survey is about remote work, and employees seem more comfortable working remotely (Mercury News, 2021). "*The 2021 Poll was a scientifically valid survey of 1,600 registered voters carried out online over a four-day period. Conducted in English, Spanish, Chinese (Mandarin), and Vietnamese,*

Poll respondents resided in Santa Clara, San Mateo, Alameda, Contra Costa and San Francisco counties. The survey was stratified by age, gender, race/ethnicity, education, sub-region, and the respondents' vote in the most recent presidential election. The modelled margin of error was 2.8 percent" (Joint Venture, 2021).

Table 2. Silicon Valley Poll (Joint Venture, 2021)

Regardless of how you currently work, would you say that, for the most part, the responsibilities of you job	*Can be done from home*	***%48***
	Cannot be done from home	***%52***
Are you currently working remotely?	*All of the time*	***%57***
	Most of the time	***%16***
	Some of the time	***%13***
	Rarely	***%5***
	Never	***%8***
Looking ahead to when the coronavirus outbreak is over, if you had a choice, would you want to work remotely:	*All of the time*	***%34***
	Most of the time	***%36***
	Some of the time	***%25***
	Rarely	***%3***
	Never	***%2***
The coronavirus outbreak and restrictions have impacted people's lives in many ways. For each of the following pairs of statements, which one better describes your experience compared to before the outbreak, even if neither is exactly right? I am…	*Less Satisfied with my job*	***%30***
	More satisfied with my job	***%31***
	Neither	***%39***

According to the results of this poll, almost half of the employees think their job can be done from home, whereas another half think contrary. Employees are still mostly or entirely working from home, and after the outbreak, they want to keep their working system where they work entirely or mainly from home. It means they tend to prefer an utterly remote working system or a hybrid working system. Lastly, %30

think they are less satisfied with their job than pre-outbreak, while %31 percent are more satisfied with their jobs and %39 think neither. Considering they are still primarily working from home, more employees are somewhat happier or neutral in their job. These results are similar to the Ankara case, where employees from Ankara started to come back to the office compared to Silicon Valley.

CHAPTER 3

CREATIVE AND TECHNOLOGICAL POTENTIAL OF ANKARA

3.1 Ankara in Terms of Creativity

Ankara is the second-largest city in Türkiye, with a population of 5,747,325 in 2021. With this population, it constitutes 6.8% of Türkiye. According to İŞKUR records in Ankara, the number of people working in 2021 is 645,395. This number of employees makes Ankara a position that meets 4.3% of employment in Türkiye. In Türkiye, Istanbul has the highest employment rate, with 12.3%.

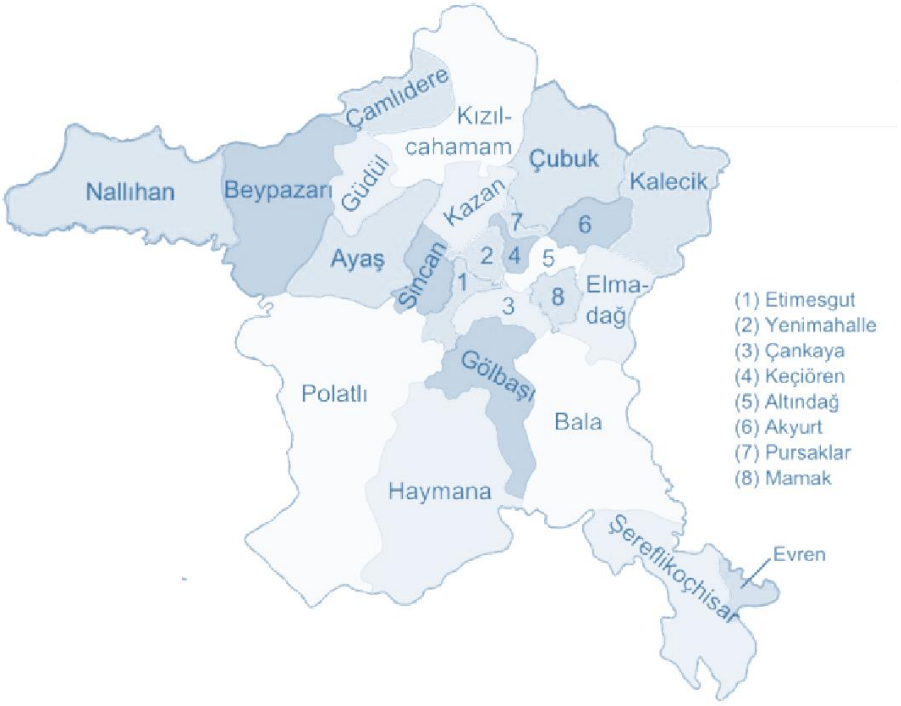


Figure 5. Ankara Districts Map

Looking at the 2021 İŞKUR data, the top 5 most popular sectors in Ankara and Türkiye can be seen in the table below:

Table 3. Türkiye and Ankara's Top Five Popular Sectors 2021 (İŞKUR, 2021)

TÜRKİYE	**ANKARA**
Manufacturing	Manufacturing
Wholesale and Retail Trade	Wholesale and Retail Trade
Construction	Administrative and Support Service Activities
Administrative and Support Service Activities	Construction
Transportation and Storage	Accommodation and Food Service Activities

The issue of the existence of creative economies in Ankara and the share of creative sectors in the economy within the city remains blurred. The creative economy presence in a city is vital for the development and promotion of the city. What the sectors that contribute to the creative economy of Ankara are, the spatial positions of the sectors, how the habits of the creative class in the city affect their positioning in the city.

United Nations Conference on Trade and Development publishes a 'Creative Sector Report,' but Türkiye is not very often mentioned in the report. The report aimed to show all the creative economy activity in different variables.

"The creative economy is recognized as a significant sector and a meaningful contributor to national gross domestic product. It has spurred innovation and knowledge transfer across all sectors of the economy and is a critical sector to foster inclusive development. The creative economy has both commercial and cultural value. Acknowledgement of this dual worth has led governments worldwide to expand and develop their creative economies as part of economic diversification

strategies and efforts to stimulate economic growth, prosperity, and well-being. Within it, the creative industries generate income through trade and intellectual property rights, and create new opportunities, particularly for small and medium sized enterprises" (Kituyi, 2018).

Ankara has considerable high potential in terms of creativity. Working opportunities in the city are suitable for different areas in the creative sector. Even though Richard Florida does not define the creative class based on education, ranks are somewhat high in Ankara in terms of education. Ankara has excellent potential in creative sectors compared to other provinces because activities such as the defense industry, research, and development within the city provide an essential place to attract creative people.

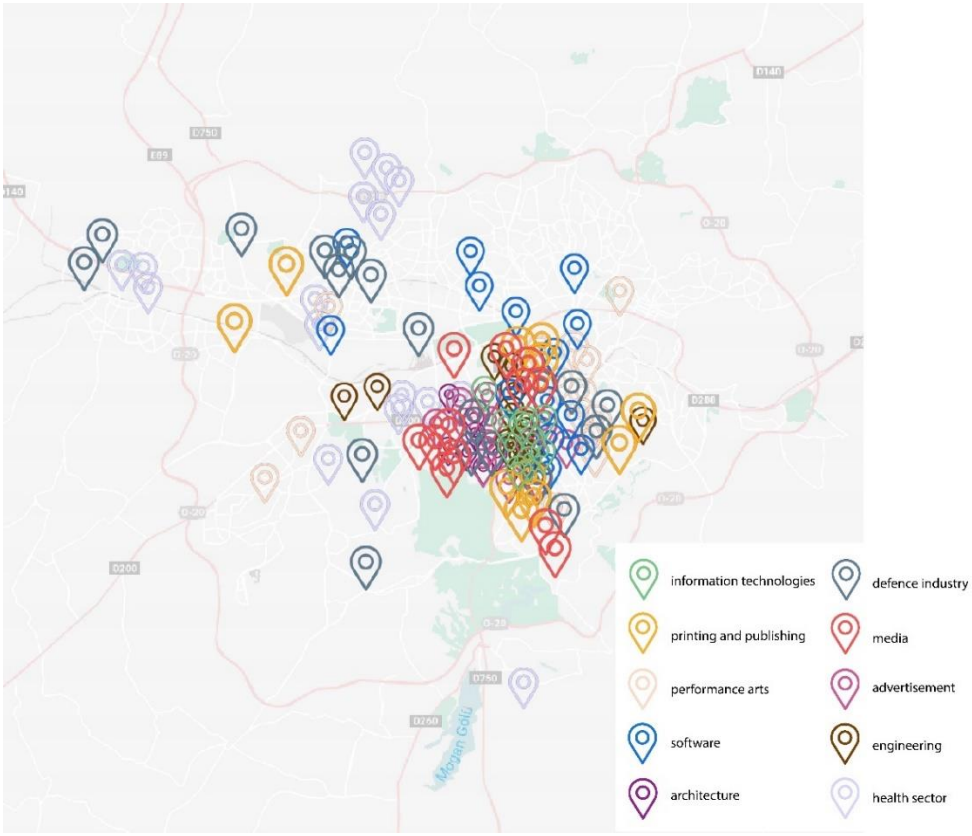


Figure 6. Locations of Some of the Creative Sectors in Ankara

Table 4. Vulnerabilities and Strengths of Ankara in Creative Terms (Ankara Development Agency, 2015)

Fragilities:	Strengths
- The share of high technology products in production and export is not sufficient compared to developed economies, - The foreign trade deficit of the Ankara economy mainly originates from the medium and high technology sectors, - Although the sectors using advanced technology are in Ankara, the production realized in these sectors mainly covers medium and low technology components, - Not promoting cultural assets and cultural events.	- Many research centers, including Ankara's universities, technoparks, organized industrial zones, nano, and biotechnology fields, - Historical-cultural-natural values and tourism advantage of being a capital, - The sectors with medium and high technology are strong in Ankara, - Vibrant human capital, entrepreneurship, and innovation ecosystem - Ankara's high-tech investment in the draw to take first place in Türkiye - Productive cultural, artistic, and historical assets

3.2 Ankara’s Innovation Potential

Efforts to establish a technopolis in Türkiye started in the 1980s. As a result of these studies, TEKMERs (Technology Centers) started to be established in 1990 as the first step of techno-cities within the framework of cooperation between KOSGEB and universities. The legal framework for technoparks was established in 2001 with the enactment of Law No. 4691.

In Türkiye, according to law no. 4691, this concept is known and adapted as 'Technology Development Areas.' ODTÜ Teknokent explains technology development areas as: *"Where companies using high/advanced technology or for new technologies produce/develop technology or software by using the opportunities of a particular university or high technology institute or R&D center or institute, where a technological invention is a commercial product, method, or service. within or near the same university, high technology institute or R&D center or institute area, which they operate to transform into and thus contribute to the development of the region; It represents the site where academic, economic, and social structure is integrated or the technopark having these characteristics"* (ODTÜ Teknokent).

Technology development areas in Ankara are mostly located near the places where universities and defense industries are. It concentrates on the OSTİM Industrial Zone and the METU-Hacettepe-Bilkent University region. As of November 2021, there are 89 technology development zones in Türkiye. Ten of them are in Ankara. Eight of these technology development zones are in operation, and the infrastructure works of two zones are ongoing.

Table 5. Number of Technoparks, Design Centers, R&D Centers and Technological Product Experience in Ankara (Ministry of Industry and Technology, 2021)

	Technoparks		**Design Centers**		**R&D Centers**		**Technological Product Experience**	
	Ankara	İstanbul	Ankara	İstanbul	Ankara	İstanbul	Ankara	İstanbul
Number	10	11	39	151	130	417	315	225
(%) in Türkiye	8,9	12,35	11,5	33,25	10,37	48	32,31	23,1

Table 6. Number of Technology Development Zones in Ankara (Ministry of Industry and Technology, 2021)

No.	Name of Zone	University	Established
(Operating Technology Development Zones)			
1	ODTÜ Teknokent Technology Development Zone	Middle East Technical University	2001
2	Ankara Technology Development Zone	Bilkent University	2002
3	Hacettepe Üniversitesi Technology Development Zone	Hacettepe University	2003
4	Ankara Üniversitesi Technology Development Zone	Ankara University	2006
5	Gazi Teknopark Technology Development Zone	Gazi University	2007
6	Ankara Teknopark Technology Development Zone	Yıldırım Beyazıt University	2014
7	OSTİM Ekopark Technology Development Zone	Ankara, Hacettepe, Atılım, Çankaya, Başkent, TOBB Universities	2014
8	ASO Teknopark Technology Development Zone	TOBB University	2008
(Ongoing Infrastructure Work)			
1	Teknohab Technology Development Zone	Gazi University	2018
2	ASBÜ Social Innovation and Entreprenurship Technology Development Zone	Ankara Social Sciences University	2019

Locations of these ten technology development zones in Ankara can be seen in the below map.

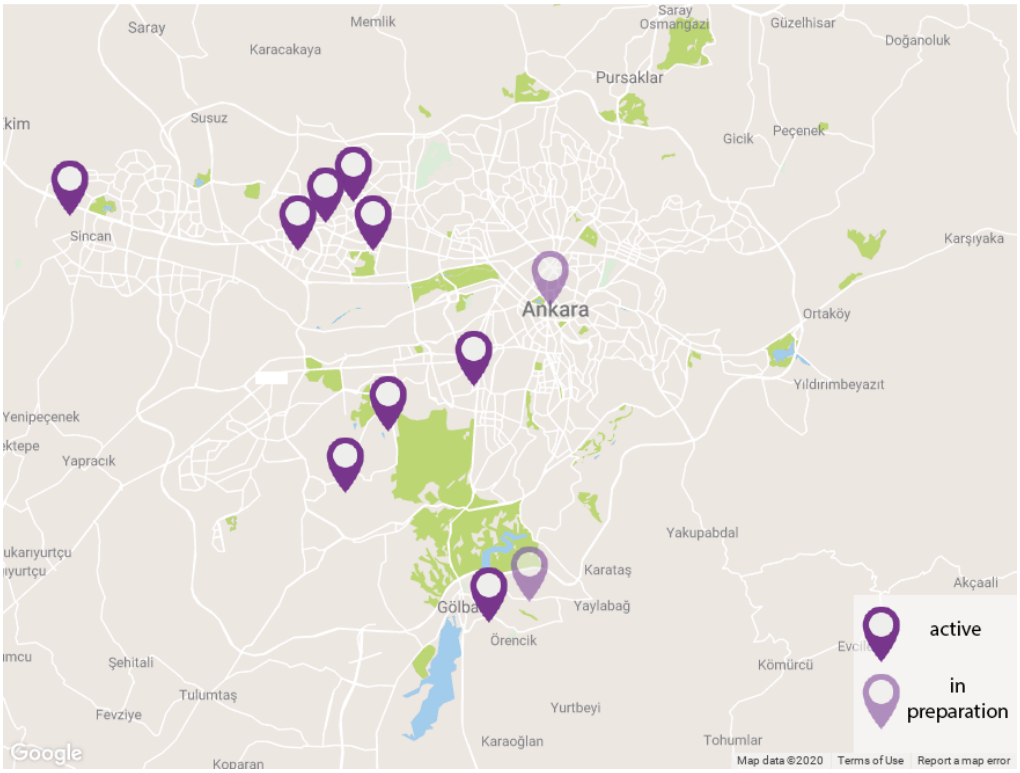


Figure 7. Technology Development Zones in Ankara (Ministry of Industry and Technology, 2021)

3.2.1 ODTÜ Technology Development Zone

ODTÜ Teknokent is the first technopark in Türkiye; hence the importance for the innovative sector is exceptionally high. The first studies for establishing this technopark started in the late 1980s. At that time, the World Bank helped the technopark to make its feasibility studies and reference other operating technopark examples from the world. KOSGEB allowed for the funding, and ODTU TEKMER became its service, which made the basis for the current technopark. In 2001, ODTÜ Teknokent was established and gained its strength as the first technopark in Türkiye (ODTÜ Teknokent).

Recently, ODTÜ Teknokent has 440 tenant companies; % 70 of them employ more than 10.000 employees (90% of which have bachelor's, master, or Ph.D. degrees). ODTÜ Teknokent is covered more than 170.00 square meter area (ODTÜ Teknokent). ODTÜ Teknokent has three locations in Ankara and one in Silicon Valley, California.

Table 7. Company Statistics That Are Operating at ODTÜ Teknokent (ODTÜ Teknokent)

R&D Activities in Software and Information Technologies	**%50**
Electronics	**%20**
Mechanics and Design	**%15**
Medical Technologies	**%6**
Energy and Environment	**%6**
Advanced Materials, Agriculture, Food, Aviation and Space, Automotive	**%3**

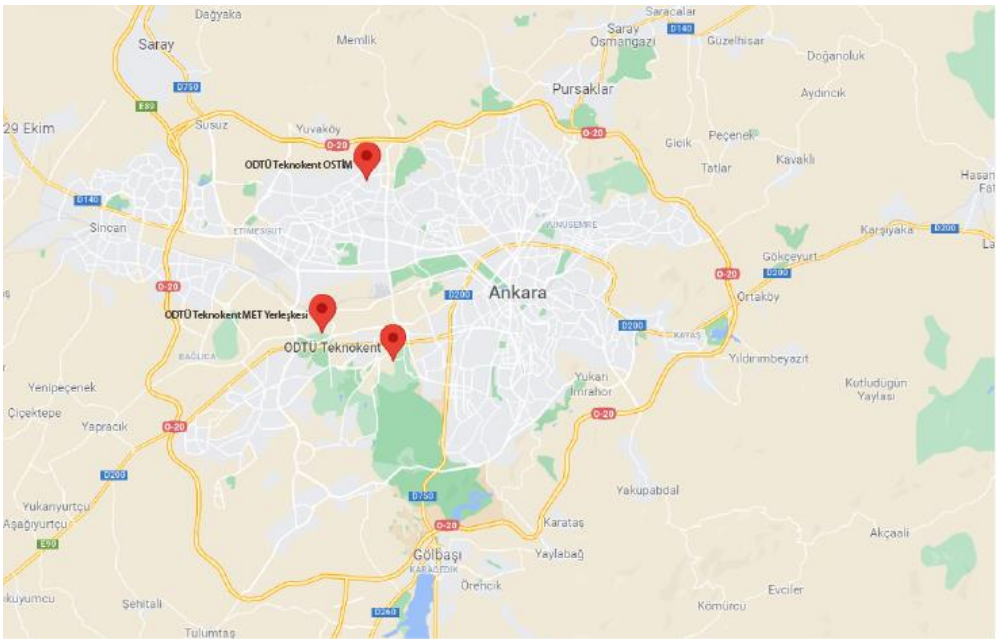


Figure 8. ODTÜ Teknokent Locations in Ankara

Figure 9. ODTÜ Informatics and Innovation Center is in the ODTU MET Area (ODTÜ Teknokent, 2021)

Figure 10. ODTÜ İkizler Building (ODTÜ Teknokent, 2021)

3.2.2 Hacettepe Teknokent

Hacettepe University Technology Development Zone (Hacettepe Teknokent) was declared a Technology Development Zone on January 10, 2003, upon the application made to the Ministry of Industry and Trade based on the decision of the Hacettepe University Board of Directors. With this decision, Hacettepe University Technology Development Zone (Hacettepe Teknokent) has been declared in the areas of Hacettepe University Beytepe Campus, which Hacettepe University fully owns.

Table 8. Hacettepe Teknokent 2020 R&D Activities (Hacettepe Teknokent)

Number of Firms	302
Number of Business Incubators	81
Number of Pre-Incubator Firms (Center opened in May 2019)	25
Number of Companies That Started Their Activities in TGB for the First Time	46
Number of Companies with Academic Partners	38
Number of Entrepreneurs Cooperating with Local and Non-Regional Companies	71
Number of Entrepreneurs Cooperating with Foreign Companies	79
Number of R&D Employee	4.030
Number of Total Employees (R&D+ Support + Out of Scope)	5.311
Number of Students and Interns Employed	633
Number of Projects (Started in the Period, Completed, and Ongoing)	730
Number of Projects Carried Out in Cooperation with Local and Non-regional Companies	125

Table 9. Sectoral Distribution of the Number of Hacettepe Technokent Firms (Hacettepe Teknokent)

Computer and Communication Technologies	291
Software	125
Defense and Aerospace	28
Health, Medication and Medical	25
Electronics	13
Construction, Engineering and Architecture	6
Mining	5
Energy	4
Chemistry, Cosmetics and Cleaning	4
Food and Agriculture	3
Automotive, Machine and Equipment Production	2
Telekom	2
Media and Communication	2
Consultancy	1
Other	9
Total	**520**

When looking at the sectoral distribution of the companies, it is seen that the Computer and Communication Technologies, Software, and Defense Industry, and Aviation sectors are dominant in Hacettepe Teknokent.

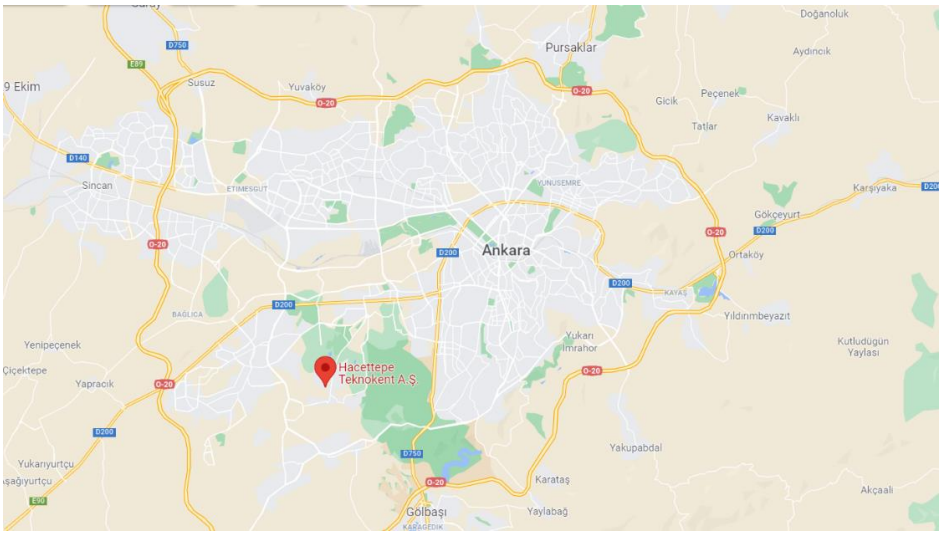


Figure 11. Location of Hacettepe Teknokent in Ankara

Figure 12. Hacettepe Teknokent Building (TGBD, 2021)

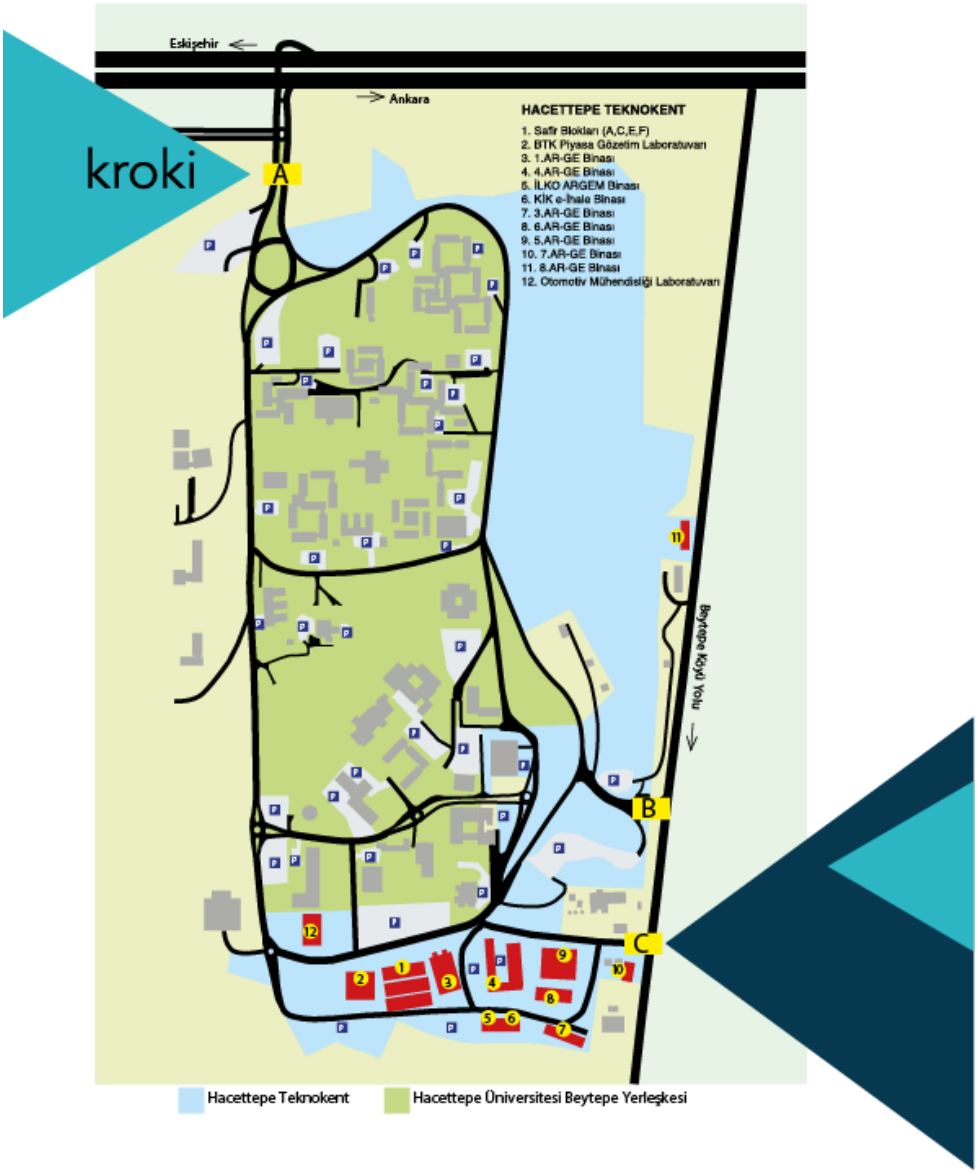


Figure 13. Diagram of Hacettepe Teknokent (Hacettepe Teknokent)

Table 10. Ankara's Employment of Creative Sectors (İŞKUR, 2021)

	2016	2017	2018	2019	2020	2021
Information and Communication	12.760	11.867	14.900	17.800	21.723	22.019
Professional, Scientific and Technical Activities	18.852	19.875	24.649	22.779	28.080	20.162

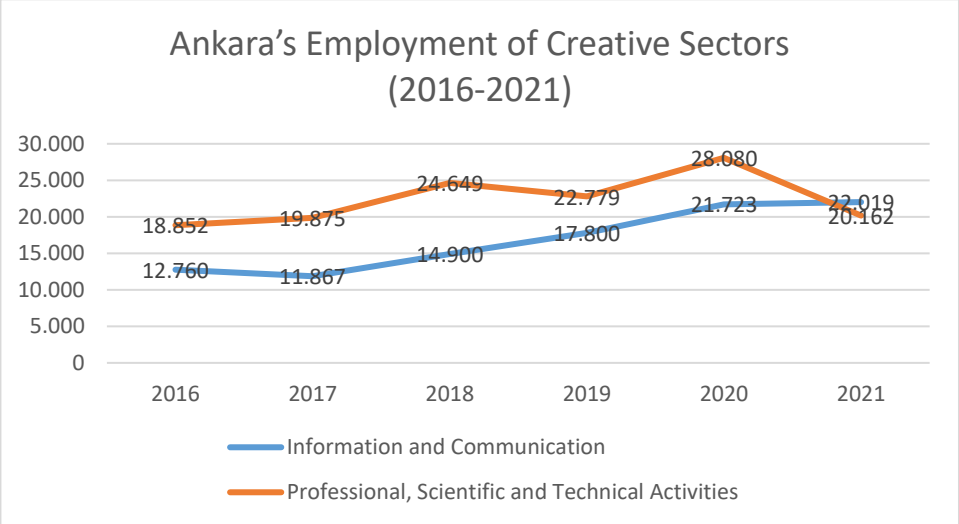


Figure 14. Ankara's Employment of Creative Sectors (İŞKUR, 2021)

Table 11. Ankara's Number of Workplaces for Creative Sectors (İŞKUR, 2021)

	2016	2017	2018	2019	2020	2021
Information and Communication	198	216	246	265	254	243
Professional, Scientific and Technical Activities	533	579	729	560	462	360

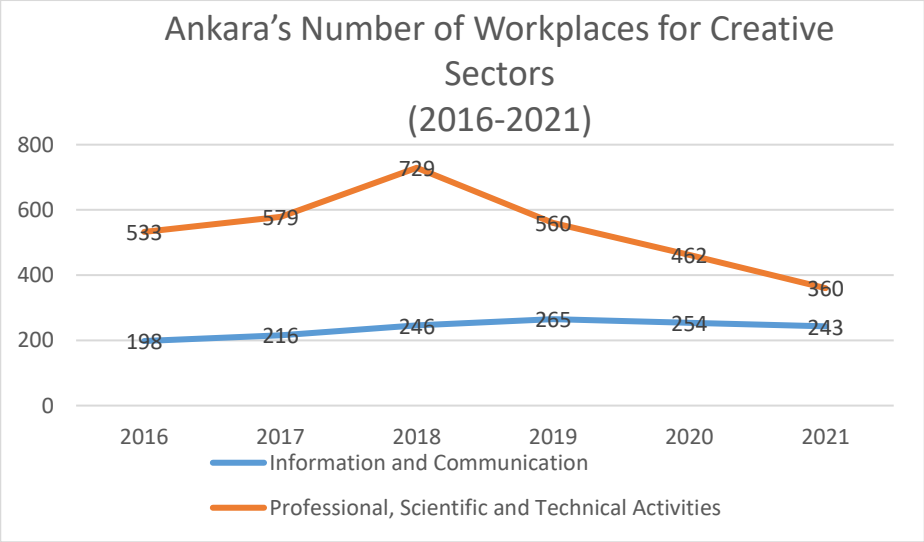


Figure 15. Ankara's Number of Workplaces for Creative Sectors (İŞKUR, 2021)

Looking at the number of employees and workplaces in Ankara, the trend curve started to rise at the beginning of five years. However, it began to decrease in 2020 and 2021 with the COVID-19 pandemic. This decrease shows that the pandemic caused a lot of unemployment and closed workplaces.

The definition of creative sectors is not clear in Türkiye's case. Therefore, it is hard to put together meaningful employment data. The data used for employment and workplaces are from the İŞKUR report on Ankara. Two sectors in this report can be categorized as creative sectors: the information and communications sector and the professional, scientific, and technical activities sector. According to İŞKUR Labour Market Research Report, among the sub-sectors of the Information and Communication sector, there are:

- Publishing Activities
- Motion Picture, Video and Television Program Production, Sound Recording, and Music Broadcasting Activities
- Programming and Publishing Activities
- Telecommunication
- Computer Programming and Consultancy
- Information Service Activities.

Among the sub-sectors of the Professional, Scientific, and Technical Activities sector, there are:

- Legal and Accounting Activities
- Headquarters Activities
- Administrative Consultancy Activities
- Architectural and Engineering Activities
- Technical Test and Analysis Activities
- Scientific Research and Development Activities
- Other Professional and Scientific Activities
- Veterinary Services

3.2.3 Defense and Aerospace Industry and its Role in Ankara

In Türkiye, the most considerable defense expenditure is personnel, with equipment as the second-largest expenditure. The share of personnel expenditures in the majority of NATO countries is higher than in Türkiye.

History of Defence Industry in Türkiye

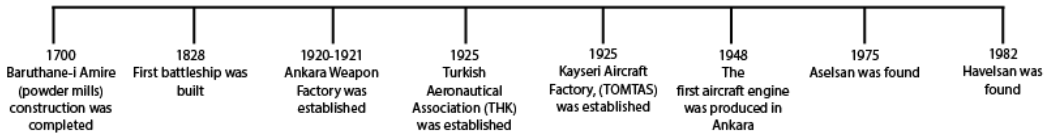


Figure 16. History of Defence Industry in Türkiye (Hartley & Belin, 2019)

Table 12. Highest R&D Expenditures in Türkiye (Turkish Time, 2020)

	2020 Classification	***Firm***	***2020 R&D Spendings (TL)***	***Amount of Ongoing R&D Projects***	***Number of Employees in R&D***
1	***1***	Aselsan	3.356.327.355	749	5264
2	***2***	TUSAŞ Turkish Aerospace	2.648.665.457	98	3389
3	***4***	Roketsan	488.816.111	114	1295
4	***5***	TUSAŞ Motor	458.108.372	34	691
5	***8***	Havelsan	433.993.861	92	1331

According to Turkish Time's ‘250 companies with the highest R&D expenditures in Türkiye’ research, five defense industry companies are in the top 10. While the highest expenditure is seen with Aselsan in the first place, it also has the highest number of ongoing R&D projects. It has 5264 R&D personnel. All of these companies are in Ankara. Thus, the defense industries make a significant contribution to Ankara's creative sector with their R&D expenditures and the number of employees.

The defense industry plays a vital role for countries to defend themselves against the outside and ensure security. It is essential that the production in the defense industry shows development depending on the technological developments and strengthening their designs. Along with the advanced technology, the defense industry has to include a severe knowledge accumulation.

Government Planning Organization: *“With the effect of the Cold War in the world, the expenditures made for the defense industry in most countries in the years following the war started to decrease over time. However, unlike the countries where this tendency has decreased, Türkiye has started to keep its expenditures on the defense industry high in the country due to the insufficient assistance it receives from outside”* (DPT, 2007)**.**

The Turkish defense and aerospace industry policy has recently given priority to meeting the needs of domestic production and design and developing the market area (Eceral, 2017). This situation shows that the defense and aerospace industry can be considered one of the creative sectors. Being in the creative sector means that the income from this sector can contribute to the creative economy. Thus, it can be deduced that it is one of the sectors that most support the creative economy in Ankara.

According to the Ministry of Industry report, state-sponsored investments in the defense industry are focused on Ankara. Thus, in Ankara, this role comes to the fore. *“Due to the fact that one of every two companies operating in the defense industry*

is in Ankara, a natural cluster has occurred in the sector; the current situation has emerged as an approach that supports entrepreneurship and regional development with the potential of new business areas as well as R&D, innovation and clustering activities." (Ministry of Industry, 2018)

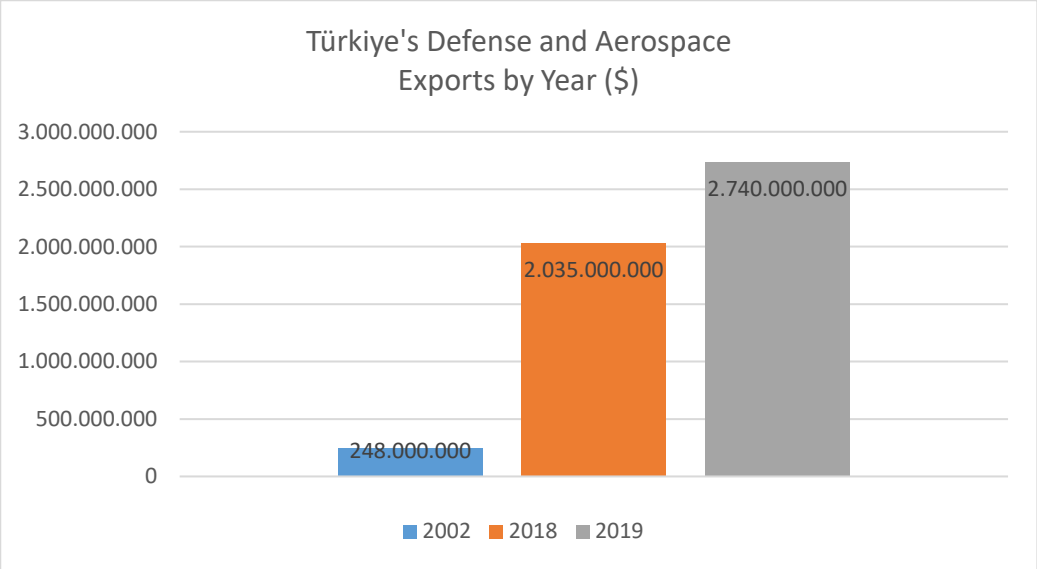


Figure 17. Türkiye's Defense and Aerospace Exports by Year (Ministry of Industry, 2018)

Table 13. Top Five Cities in Defense and Aviation Industry Exports in 2019 (Turkish Time, 2020)

Top Five Cities in Defense and Aviation Industry Exports in 2019	
Ankara	1.346.654.376 $
İstanbul	664.287.144 $
Eskişehir	472.681.062 $
Konya	56.724.570 $
İzmir	48.071.302 $

Referring to the 2019 Ankara Export data, along with defense and aerospace exports of $ 1.346.654.376, Ankara comes first in Türkiye. Istanbul, Eskişehir, Konya, and İzmir follow Ankara, respectively. Considering Ankara's 2019 export data, the defense and aviation industry is one of Ankara's crucial sectors. According to the Defense and Aviation Industry Manufacturers Association data dated 2017, there are 80 defense and aerospace industry companies in Ankara.

3.3 Analysis of the Creative Industries in Türkiye at NUTS 2 Regions Level, FOCUS on İzmir

There is very little recognition in the creative sector, creative class, and creative economy in the case of Türkiye. İzmir Development Agency published a report on an analysis of creative industries in the İzmir case. In this report, the Agency explained the creative sectors based on DCMS's classification, which are;

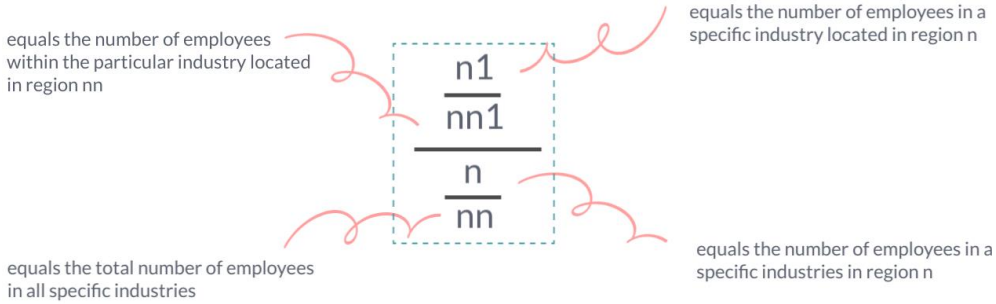
- *Advertising and Marketing*
- *Architecture*
- *Crafts*
- *Design*
- *Film, TV, Video, Radio, and Photography*
- *Information Technologies, Software, and Computer Services*
- *Publishing*
- *Museums, Galleries, and Libraries*
- *Music, Performing, and Visual Arts*

(DCMS's classification of creative sectors)

In this analysis, the importance of creative labor is recognized in the name of regional development. As stated in the report, "creative labour is capable of synthesizing knowledge and skills from science, technology, and the arts is present at the source of these innovations."

LQ Analysis:

Location quotient (LQ) quantifies how concentrated a particular industry, cluster, occupation, or demographic group is in a region compared to the nation. It can reveal what makes a specific region "unique" compared to the national average.



N1 equals the number of employees in a specific industry located in region N (i.e., the country). Nn1 equals the number of employees within the industry located in region nn. N equals the number of employees in all specific industries in region n or the county. NN equals the total number of employees in all specific industries. If the outcome is smaller than 1, it means that this sector is not specialized in the country. If it is equal to 1, it means that the sector is the same in all countries. If it is bigger than 1, it is safe to say that the sector is specialized in Türkiye (Miller et al., 1991).

İzmir Development Agency calculated the specialization of the creative sector in Türkiye using location quotient analysis. According to their research, three regions show tremendous specialization in creative sectors. "These are TR10 (İstanbul), TR51 (Ankara) and TR61 (Antalya, Isparta, Burdur). Although the creative economy doesn't display specialization outside these three regions, the region closest to the critical LQ value is TR31 (İzmir)". (İZKA, 2020)

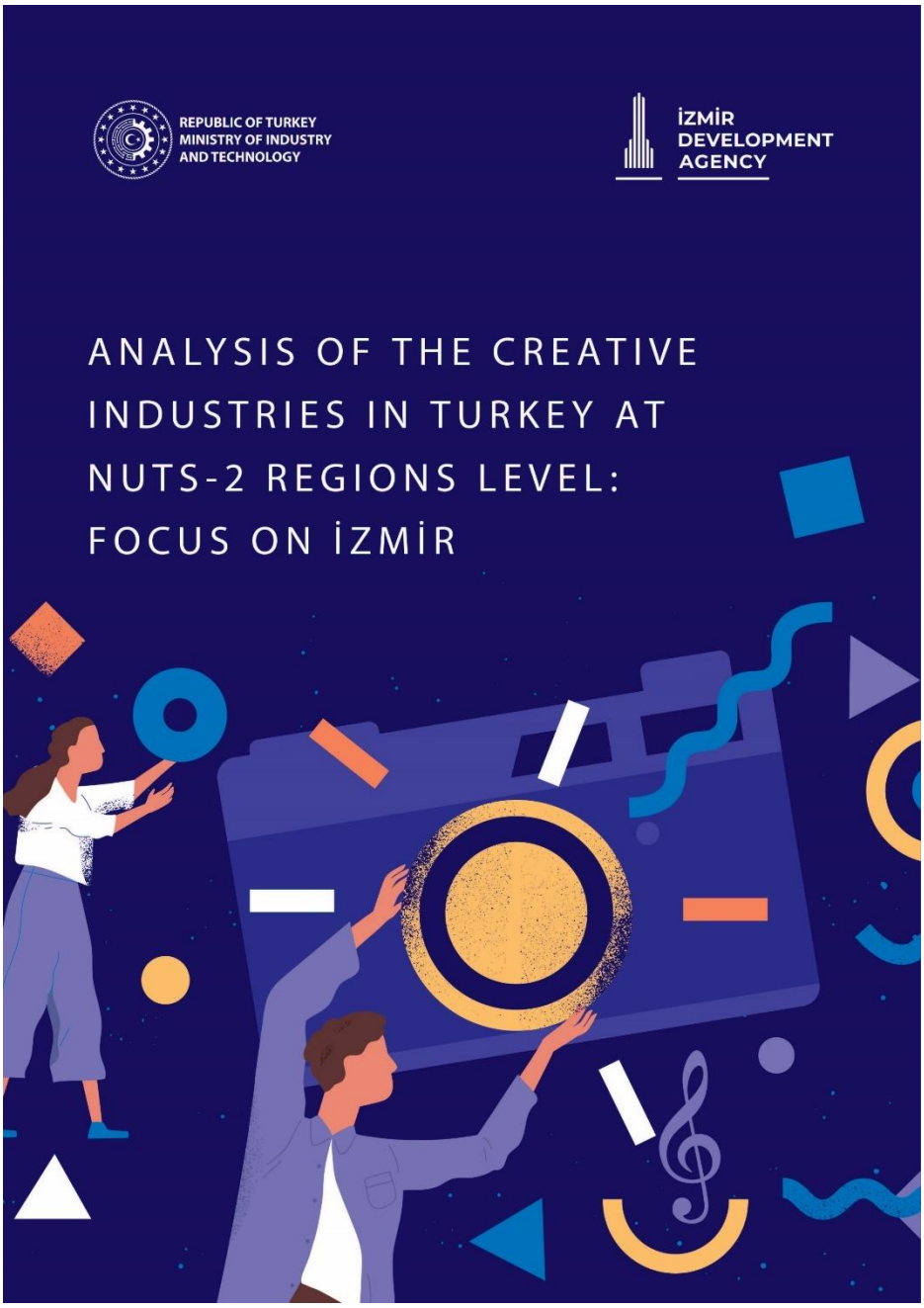


Figure 18. Cover Page of Analysis of the Creative Industries in Turkey at NUTS-2 Regions Level: Focus on İzmir (İZKA, 2020)

Alongside the creative economy, we also looked at regional agglomerations of creative industries. Regions displaying specialization for the nine creative industry groups are as follows:

Table 14. Regions Displaying Specialization for the Nine Creative Industry Groups

Advertising and Marketing: TR10 and TR51	TR10 and **TR51**
Architecture	TR10, TR41, **TR51** and TR61
Crafts	TR10
Design	TR10, TR21 and TR32
Film, TV, Video, Radio and Photography	TR10, **TR51** and TR61
Information Technologies, Software, and Computer Services	TR10, TR31 and **TR51**
Publishing	TR10 and **TR51**
Museums, Galleries, and Libraries	TR10 and TR42
Music, Performing, and Visual Arts	TR10 and TR61

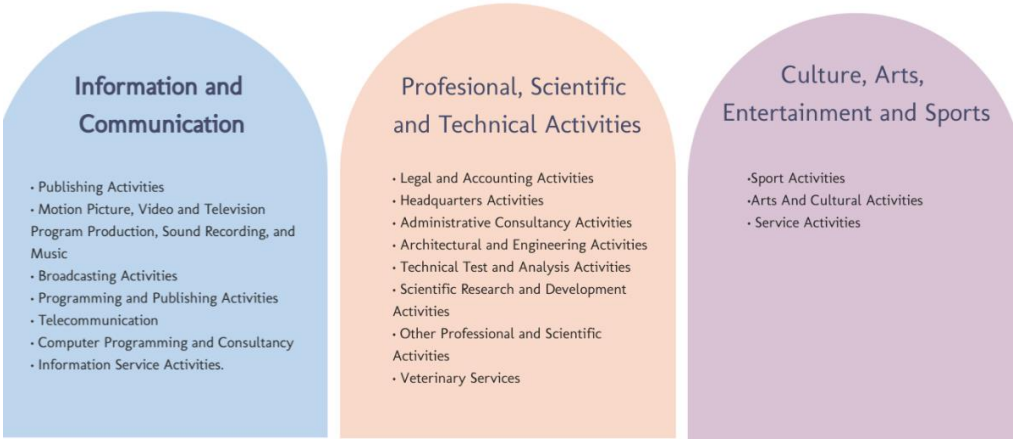
According to İzmir Development Agency's study, it is seen that TR10 (İstanbul) has specializes in all creative industries, while TR51 (Ankara) is mainly specialized in Advertising and Marketing, Architecture, Film, Tv, Video, Radio and Photography, Information Technologies, Software, and Computer Services and Publishing. Specialization in Information Technologies, Software, and Computer Services shows that Ankara has a high creative potential in innovative technology. Therefore, technology development zones in Ankara have great importance. The regions that provided the most increased employment in creative industries (as of 2015) are:

Table 15. Number of Creative Sector Employees, 2015 (İZKA, 2020)

TR10 (İstanbul)	167.000
TR51 (Ankara)	**35.000**
TR31 (İzmir)	13.000
TR61 (Antalya, Isparta, Burdur)	12.000
TR41 (Bursa, Eskişehir, Bilecik)	9.000

Looking at the numbers, İstanbul has the most significant share in creative economies, which Ankara follows. This is not a coincidence that the most effective three cities in Türkiye are leading.

It is possible to examine the data on the creative sectors in Ankara under the following three headings. According to İŞKUR DATA, enough information to be able to comment on LQ could be accessed in these sectors, so calculations and interpretations were made based on these three sectors in the LQ analysis.



Information and Communication:

Within the Information and Communication Sector are Publishing Activities; Motion Picture, Video and Television Program Production, Sound Recording and Music Publishing Activities; Programming and Broadcasting Activities; Telecommunications; Computer Programming and Consulting, and Information Service Activities. In particular, the scope of the Information and Communication sector should be considered when examining data based on a profession in the report.

$$\frac{\frac{22.019}{253.206}}{\frac{645.395}{14.911.962}} = 2{,}02$$

Looking at the localization quotient analysis, it can be said that Ankara has a specialization in the Information and Technology sector throughout Türkiye. This means that this sector is vital for Ankara. Since it also includes creative sectors, it is essential that the location quotient number is high.

Professional, Scientific, and Technical Activities:

Within the sub-sectors of the professional, scientific, and technical activities sector are Legal and Accounting Activities, Headquarters Activities; Administrative Consultancy Activities, Architecture and Engineering Activities; Technical Test and Analysis Activities, Scientific Research and Development Activities, and Other Professional Activities and Scientific Activities, Veterinary Services. The scope of the professional, scientific and technical activities sector should be considered, especially when examining the data based on a profession in the report.

$$\frac{\frac{20.162}{712.294}}{\frac{645.395}{14.911.962}} = 0{,}65$$

Looking at the localization quotient analysis, it can be said that Ankara does not have a specialization in the Professional, Scientific, and Technical Activities sector throughout Türkiye. This means that this sector has a low potential for Ankara. Since it also includes creative sectors, it is essential that the location quotient number is high.

Culture, Arts, Entertainment, Recreation and Sports:

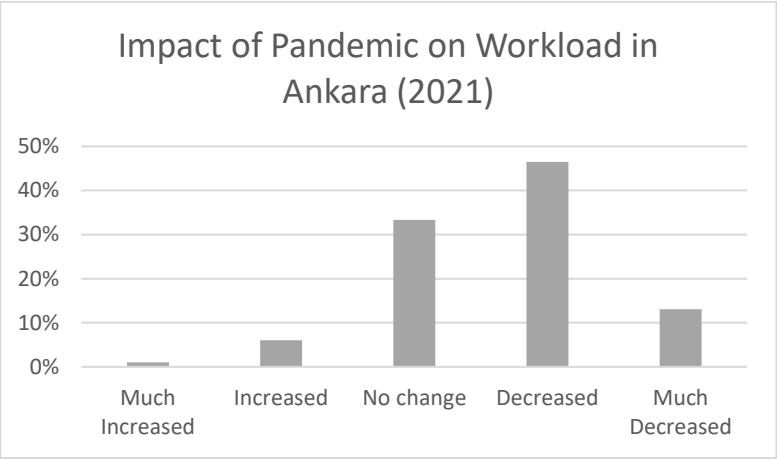
According to the NACE classification, this sector includes Libraries, Archives, Museums, and Other Cultural Activities, Activities related to Fitness and Development Halls, Botanical Gardens, Zoos, and Nature Conservation Areas.

$$\frac{\frac{5.128}{88.146}}{\frac{645.395}{14.911.962}} = 1{,}35$$

Looking at the localization quotient analysis, it can be said that Ankara has a specialization in the Culture, Arts, Entertainment, Recreation, and Sports sector throughout Türkiye. This means that this sector is vital for Ankara. Since it also includes creative sectors, it is essential that the location quotient number is high.

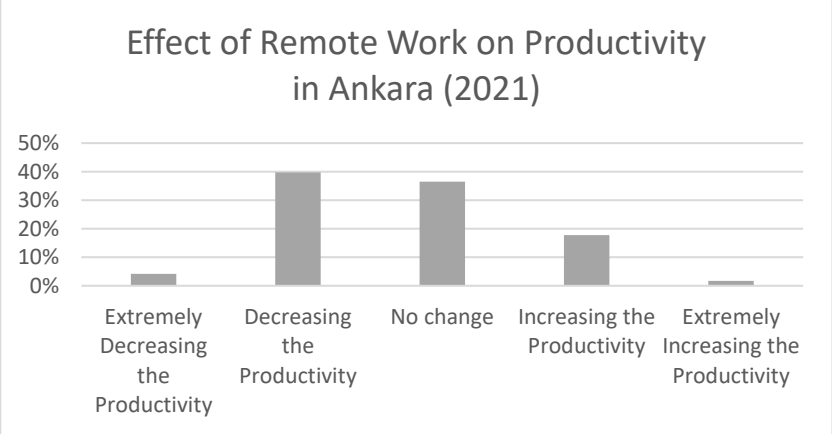
İŞKUR has researched the impact of the pandemic on workload and the effect of the pandemic on productivity by collecting feedback from employers.

Table 16. Impact of Pandemic on Workload in Ankara (İŞKUR, 2021)



When the employers were asked how their jobs were affected during the epidemic, the number of businesses in Ankara that stated that their business decreased significantly was 59.6%.

Table 17. Effect of Pandemic on Workload in Ankara (İŞKUR, 2021)



In Ankara, the rate of employers saying that flexible working does not negatively affect productivity is 56%.

CHAPTER 4

EVALUATION

4.1 Survey Questions

The questionnaires prepared within the scope of the study were shared online through friends and social media groups during the pandemic period. While online surveys are more accessible for people to participate in, recruiting participants and explaining the importance of the study virtually proved to be a difficult process. According to İŞKUR, although there are more than 40,000 employees in information and communication and professional, scientific and technical activities, there are only 48 participants in the study.

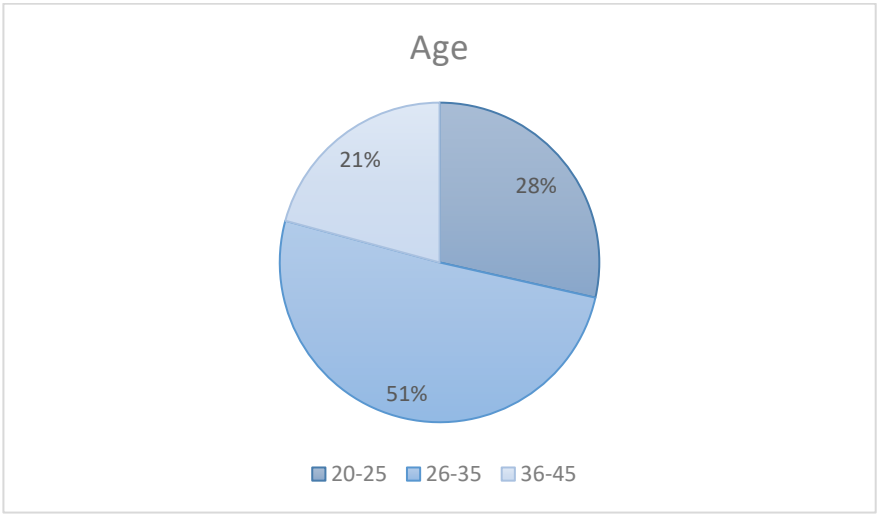


Figure 19. Participants' Age

For the first question, *'Your age?*', 51% of the participants stated that they were between the ages of 25-30, 28% between the ages of 26-35, and 21% between the ages of 36-45. No participant ticked the 45+ age box as the answer. Figure 18 shows the pie chart of the answer to the first question.

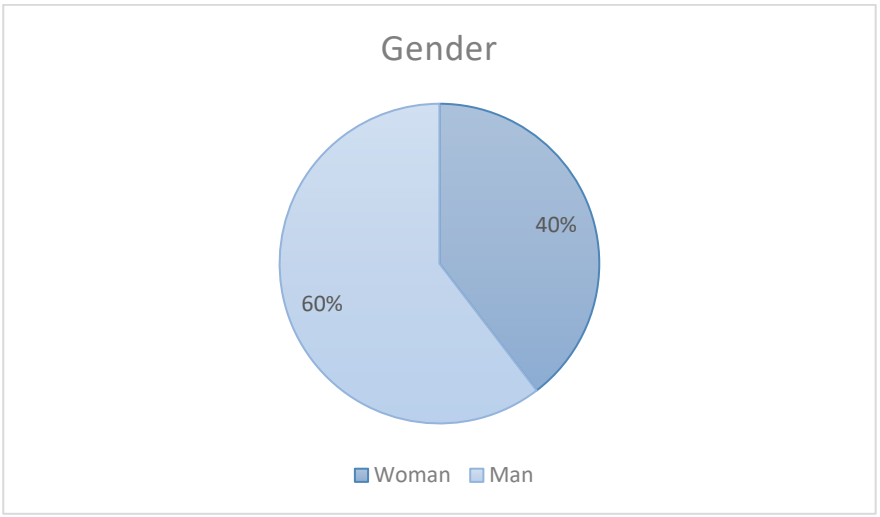


Figure 20. Participant's Gender

For the second question, *'Your gender?*', 40% of the participants stated that they were male, and 60% were female. Figure 19 shows the pie chart of the answer to the second question.

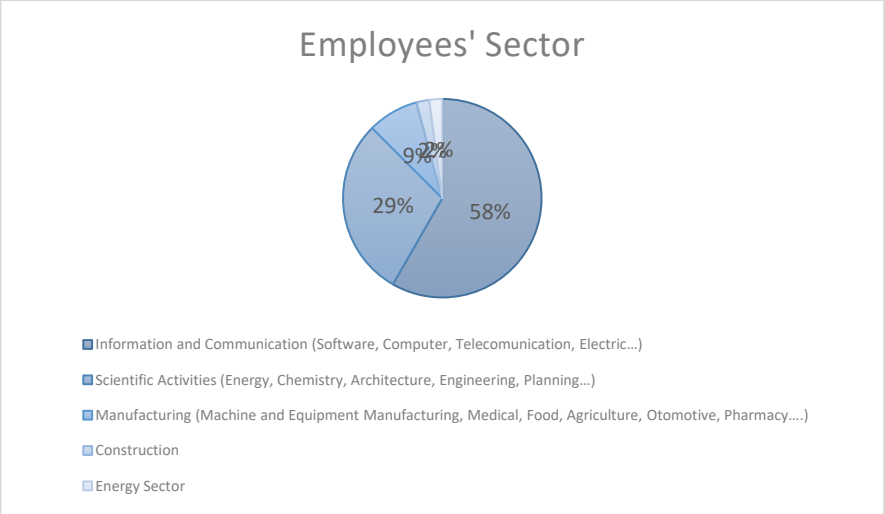


Figure 21. Participants' Sector According to Their Job

For the third question, *'The sector that you work in*?', 58% of the respondents stated that they are in the information and communication sector. The scientific activities sector follows this with 29% and the manufacturing sector with 9%. Participants said that they work in the construction and energy sector with a rate of 1.2%. In Figure 20, the sectors of the participants are shown in the form of a pie chart.

Table 18. Participants' Professions

PROFESSIONS		
GIS Specialist	Software Engineer	Design Engineer
Electrical and Electronics Engineer	Software Engineer	Software Engineer
Software Engineer	Software Analysis	Software Specialist
Mobile Software Specialist	Specialist Software	Computer Engineer
Topographical Engineer	Development Specialist	3d Modeling Specialist
Java Software Assistant	Aeronautical Engineer	Electrical Engineer
Engineer Website Developer	Electronics Design Engineer	Java Software Engineer
Computer Engineer	Aeronautical Engineer	Prototype Software Specialist
Automotive Engineer	Design Engineer	R&D Engineer
Author	Electronics Engineer	Electrical and Electronics Engineer
Front-End Developer	Software Development Specialist	Energy Systems Engineer
Civil Engineering	Computer Engineer	Control and Test Engineer
Optimization Engineer	Front-End Developer	Software Engineer
Topographical Engineer	Mechanical Engineer Configuration Management Engineer	
Software Engineer	Industrial Engineer	

Most participants answered the fourth question, '*Your profession?*', as 'engineering.' Table 18 shows the answers given by the participants to the question about their profession.

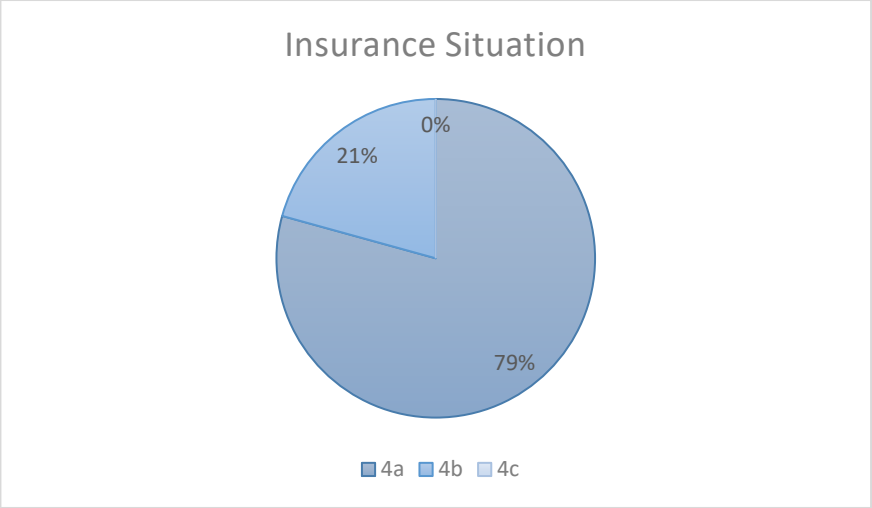


Figure 22. Participants' Insurance Situation

For the fifth question, *'Your insurance status?'*, 70% of the participants stated that they were affiliated to the 4a (insurance system of contracted citizens at a workplace), and 21% of them were affiliated to the insurance system 4b (an insurance system to which occupations other than career occupational groups are dependent). No participant has a 4c (insurance system for citizens working for less than one year or in seasonal jobs) insurance system. In Figure 21, the insurance status of the participants is shown in the form of a pie chart.

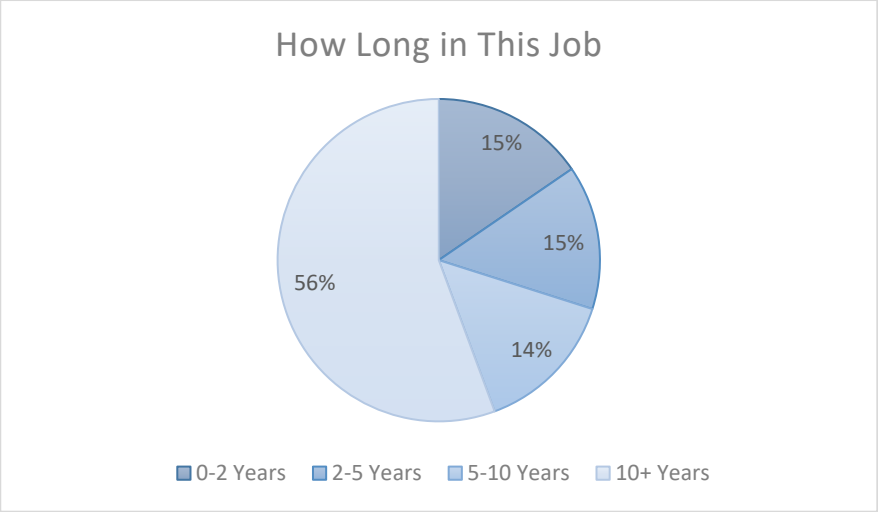


Figure 23. Participants' Work Time in Their Current Jobs

For the sixth question, the participants give answers to the question *'How long have you worked at your current job?*', 15% were 0-2 years, 15% 2-5 years, 14% 5-10 years, 56% the most. They stated that they have worked in their current job for more than ten years. Figure 22 shows how long the participants have worked in their current job in the form of a pie chart.

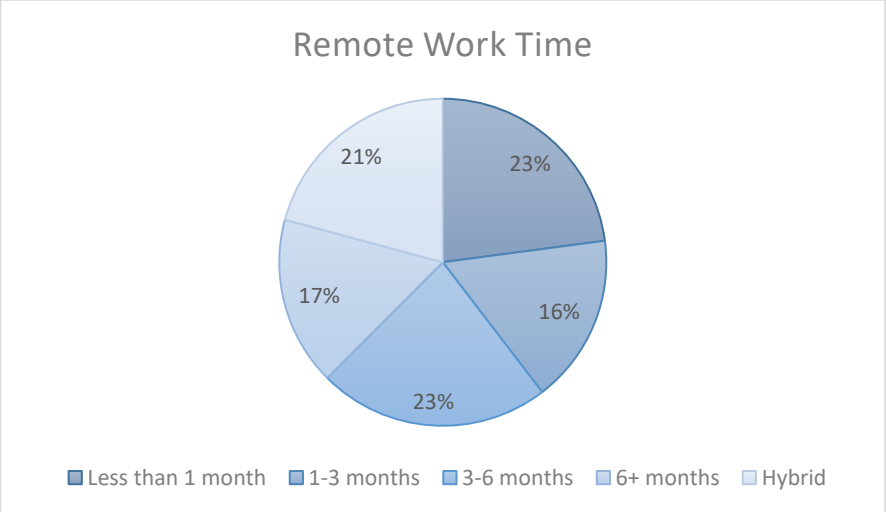


Figure 24. Participants' Total Remote Work Time

For the seventh question, the participants give answers to the question *'Your time working remotely during the pandemic?*' 23% were less than one month, 23% were 1-3 months, 16% were 3-6 months, 17% were more than six months, and 21% stated that they still work remotely. In Figure 23, the total remote working time of the participants during the pandemic process is shown in the form of a pie chart.

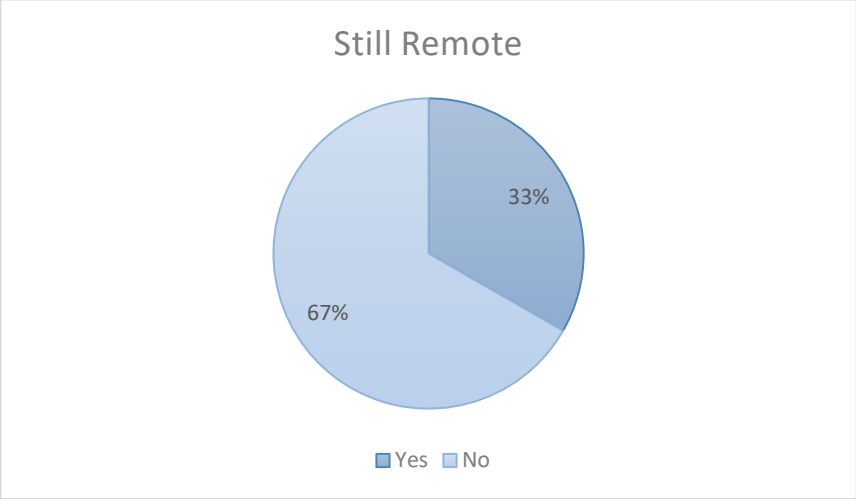


Figure 25. Participants' Current Situation of Remote Work

For the eighth question, *'Do you still work remotely?*', 33% of the participants answered yes, and 67% said no. In Figure 24, it is shown in the form of a pie chart whether the participants are still working remotely.

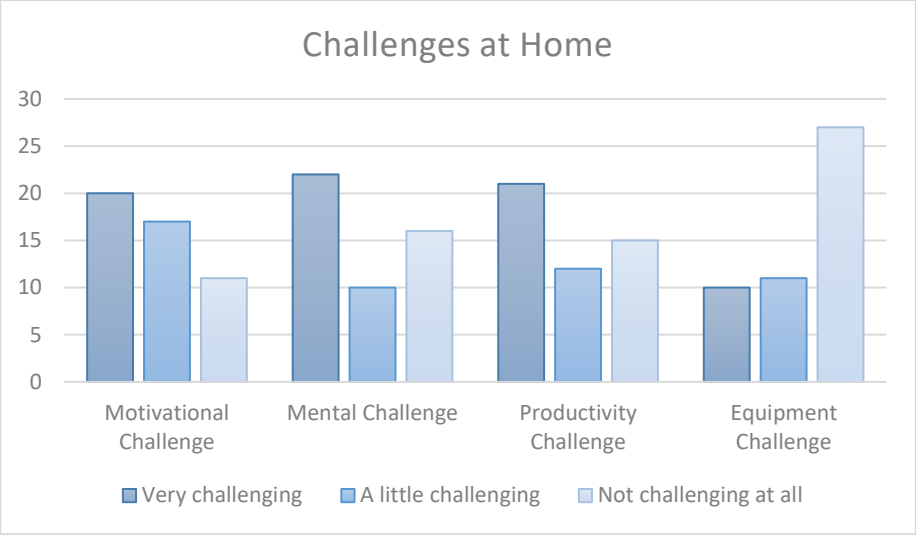


Figure 26. Participants' Challenge When They Work from Their Home

For the ninth question, *'The level of difficulty you experience while working from home during the pandemic period?*', the participants answered mental, productivity, and motivation as the subject they had the most difficulty with. Then the equipment difficulty as the subject they had the minor problem. Figure 25 shows the challenges the participants experienced while working from home as a column chart.

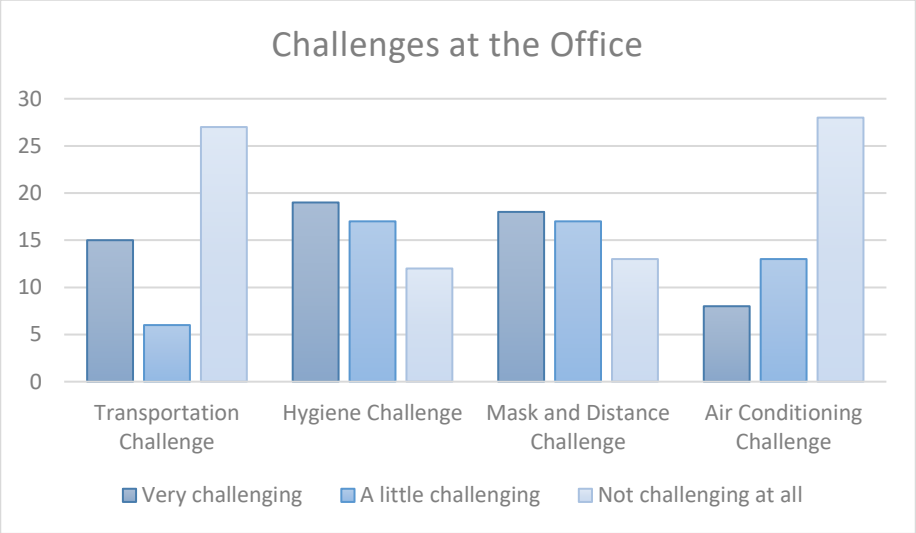


Figure 27. Participants' Challenge When They Work from Their Office

For the tenth question, *'The level of difficulty you experience in the office during the pandemic period*?', the participants answered hygiene, mask distance, and transportation as the subject they had the most difficulty with, and then the difficulty of ventilation as the subject they had the slightest problem with. Figure 26 shows the challenges the participants experienced while working from the office as a column chart.

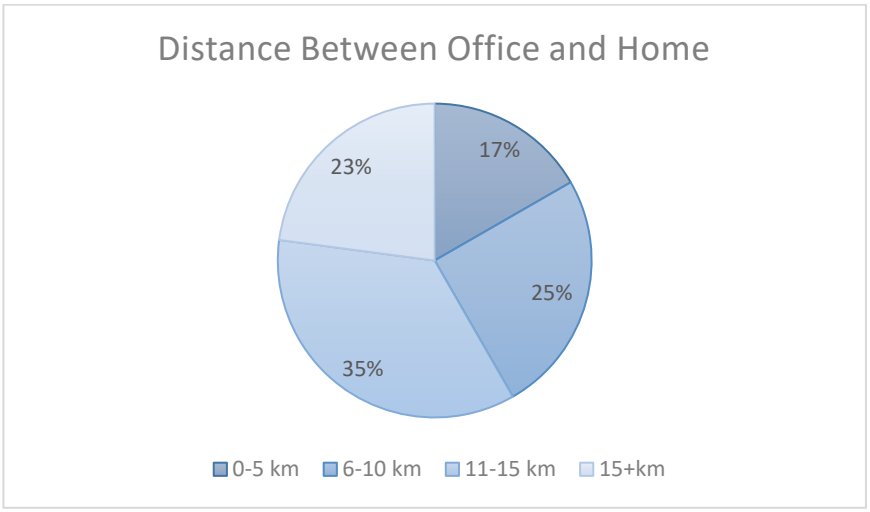


Figure 28. Participants' Distance by Kilometres Between Their Office and Their Home

For the eleventh question, *'Distance between your office and home?*', 35% of the respondents answered 11-15 km. 25% answered 6-10 km, 23% of them 15+ km, and the minimum rate of 17% was 0-5 km. Figure 27, shows the distance between the offices and workplaces of the participants as a pie chart.

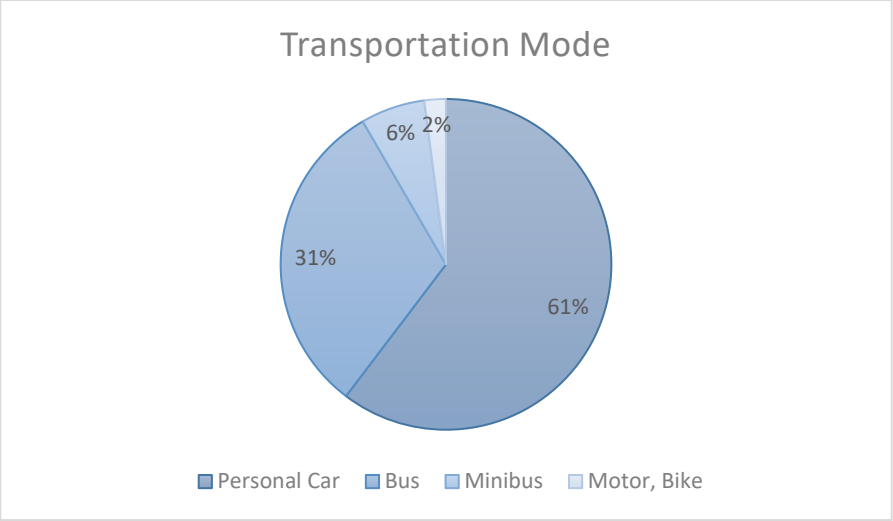


Figure 29. Participants' Transportation Mode from Their Home to Their Work

For the twelfth question, 61% of the respondents answered personal vehicle as the '*Transport vehicle you use to go to work?*' 31% responded to buses, 6% for minibuses, and the minimum rate for 2% was the motor or bike. In Figure 28, the means of transport the participants use to go to work are shown as a pie chart.

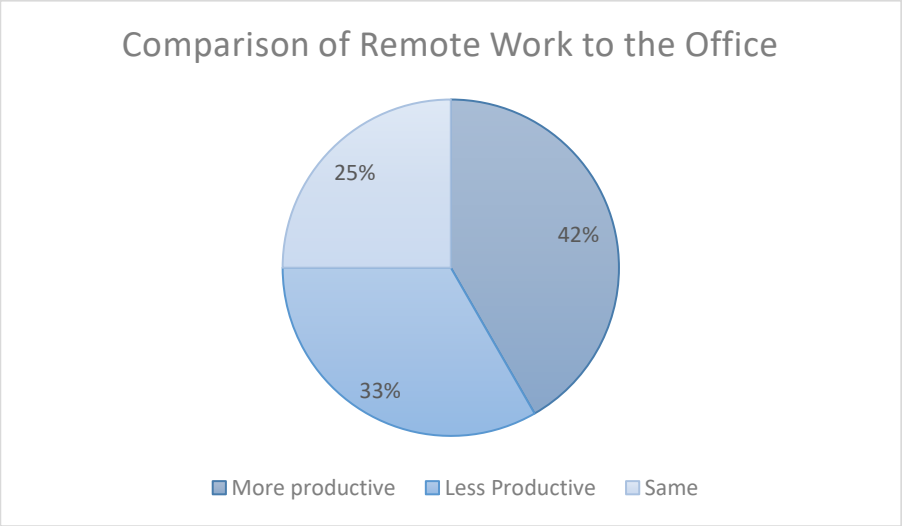


Figure 30. Participants' Productivity Comparison of Remote Work to the Office

For the thirteenth question, *'The way you work from home is _____ than the way you work in the office*', 42% of the respondents answered that it is more efficient. 33% stated that it is less efficient, and 25% indicated that they did not experience any change in terms of efficiency. Figure 29 shows how the participants' ways of working from home differ from those in the office in the form of a pie chart.

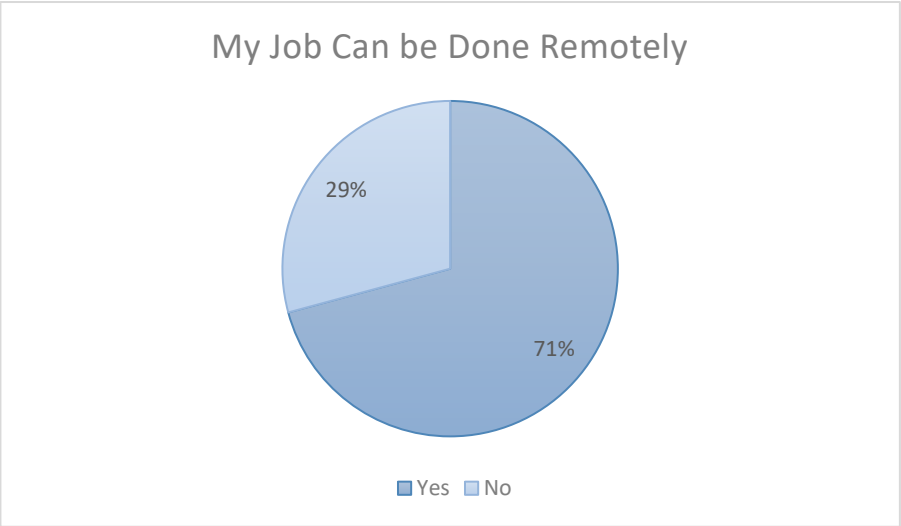


Figure 31. Participants' Consideration of Their Job Regarding to Remote Work

For the fourteenth question, '*Do you think your job is a job that can be sustained by working remotely?*', 71% of the respondents answered yes. 29% responded no and stated that their jobs are unsuitable for remote work. In Figure 30, it is shown in the form of a pie chart that participants think their job is a job that can be maintained by working remotely.

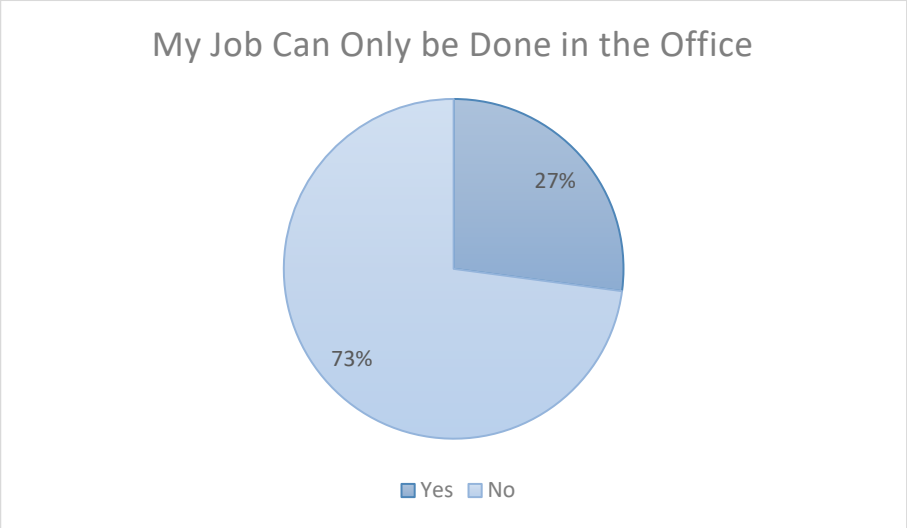


Figure 32. Participants' Consideration of Their Job Regarding to Physical Work

For the fifteenth question, *'Do you think your job is a job that can only be maintained by working from the office?*', 73% of the respondents answered no. 27% answered yes and stated that their jobs are not suitable for working only in the office. In Figure 31, it is shown in the form of a pie chart that participants think their job is a job that can only be maintained by working from the office.

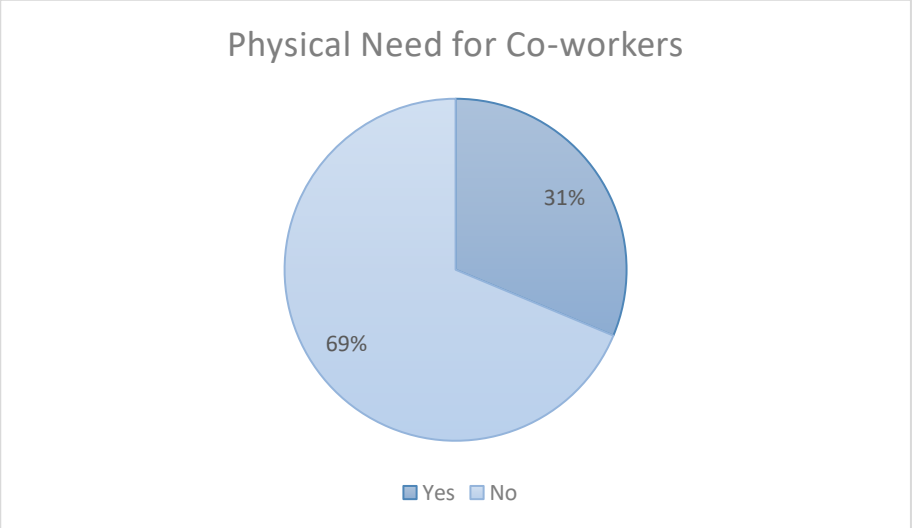


Figure 33. Participants' Consideration of Their Physical Need for Their Co-workers

For the sixteenth question, '*Do you think your job is a job that requires you to work in the same environment with your co-workers physically?*', 69% of the participants answered no. 31% answered yes and stated that they thought their job was a job that would require them to work in the same environment as their colleagues. In Figure 32, it is shown in the form of a pie chart that participants think their job is a job that will require them to work in the same environment with their colleagues physically.

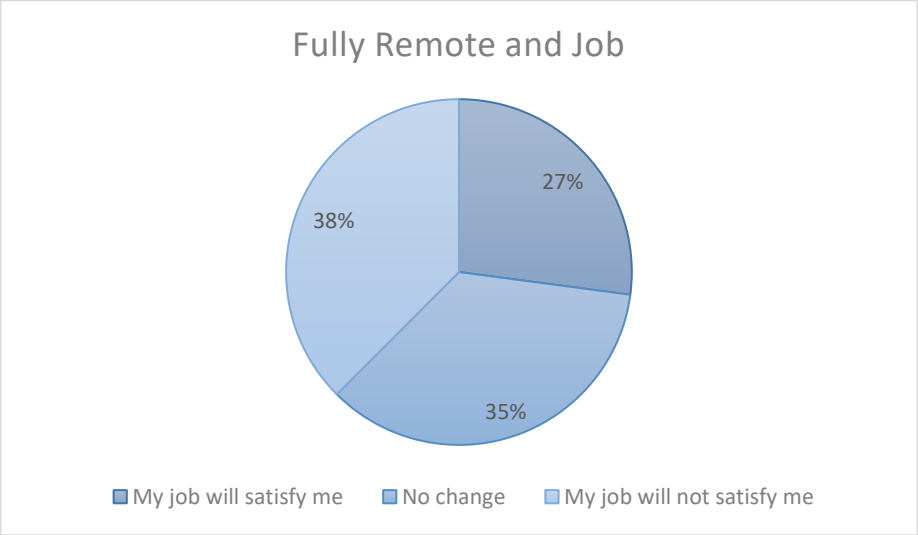


Figure 34. Participants' Consideration to Satisfaction from Their Job in a Fully Remote Scenario

For the seventeenth question, '*How do you think your job will affect you if you continue to work from home?*', 38% of the respondents answered that my job does not satisfy me. 35% responded that there would be no change in satisfaction in their job, and 27% answered that my job pleases me. Figure 33 shows how the participants think their work will be affected when they continue to work from home in the form of a pie chart.

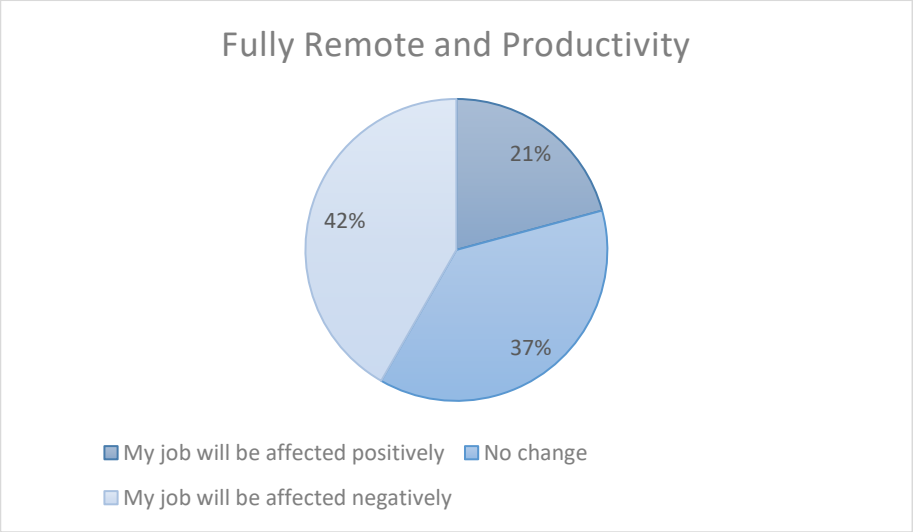


Figure 35. Participants' Consideration When They Work Fully Remote to Their Productivity

For the eighteenth question, '*How do you think your work will be affected in terms of productivity in a scenario where you work completely from home?*', 42% of the respondents stated that their work would be negatively affected, and 37% said it would not change. A minority of 21% replied that their business would be positively affected. Figure 34 shows how the participants think their work will be involved in productivity when they work entirely from home, in the form of a pie chart.

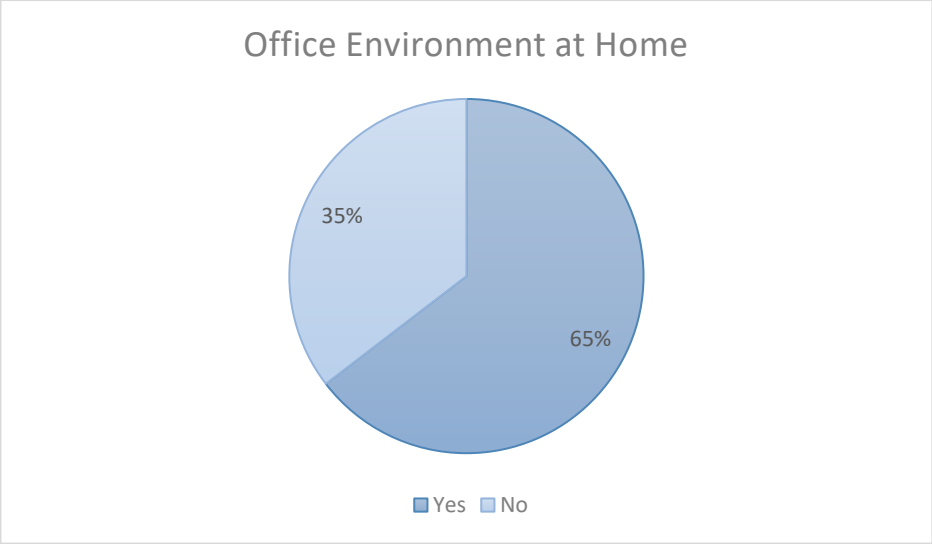


Figure 36. Participants' Consideration of Creating Office Environment at Home

For the nineteenth question, '*Do you think you can set up your work environment at home?*', 63% of the participants stated that they could establish the environment at home, while 35% said they could not. In Figure 35, a pie chart shows how the participants think you can set up your office work at home.

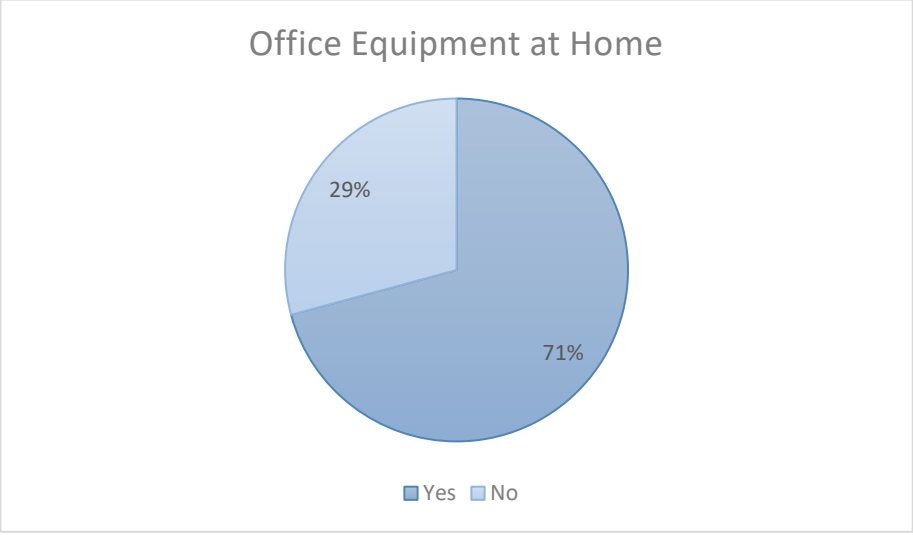


Figure 37. Participants' Consideration of Providing Office Equipment at Home

For the twentieth question, '*Do you think you have the equipment you need in the office at home?*', 71% of the respondents stated that they also have the equipment in the office at home, while 29% said that they do not have the equipment. In Figure 36, a pie chart shows whether the participants think they have the equipment they need in the office or not at home.

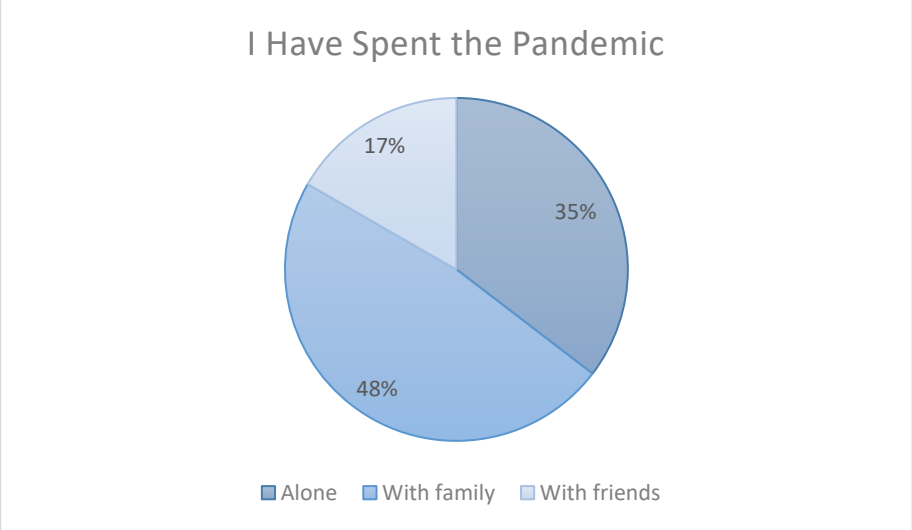


Figure 38. Participants' Total Socialization During Pandemic

For the twenty-first question, '*Who did you spend the pandemic with?*', 48% of the participants stated that they spent it with their family, 35% alone, and 17% with their friends. In Figure 37, it is shown in the form of a pie chart with whom the participants spent most of the pandemic process.

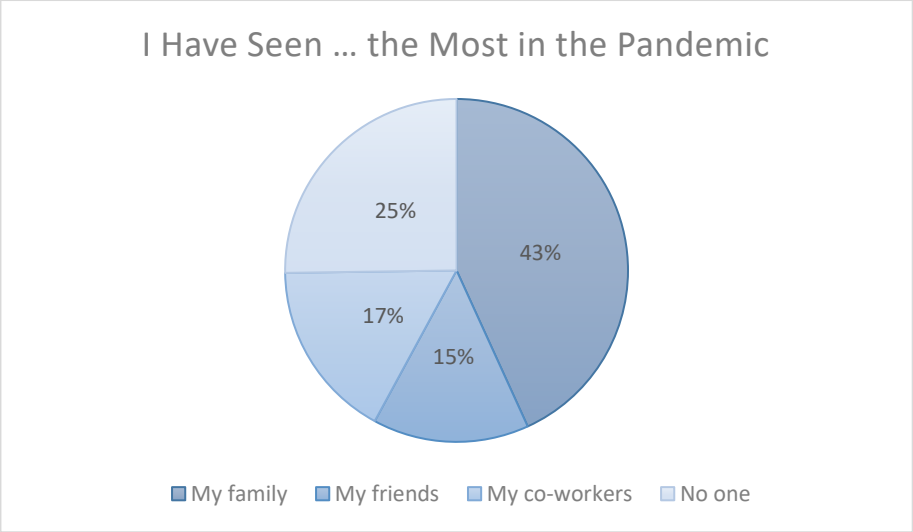


Figure 39. Participants' Most Seen Person During Pandemic

For the twenty-second question, '*Who did you talk to the most during the pandemic?*', 43% of the participants said they talked to their families, 25% to no one, 17% to their friends, and 15% to their colleagues. Figure 38 shows with whom the participants talked the most during the pandemic process in the form of a pie chart.

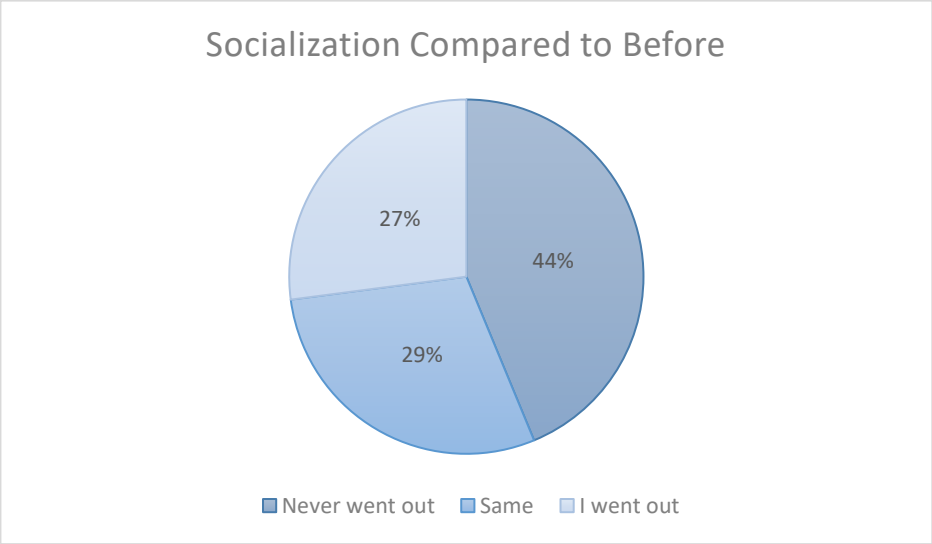


Figure 40. Participants' Socialization Situation Compared to Before

For the twenty-third question, *'The frequency of socialization compared to before the pandemic?*', 44% of the participants stated that they never went out, 29% said there was no difference, and 27% said they went out. In Figure 39, the socialization status of the participants before the pandemic is shown in the form of a pie chart.

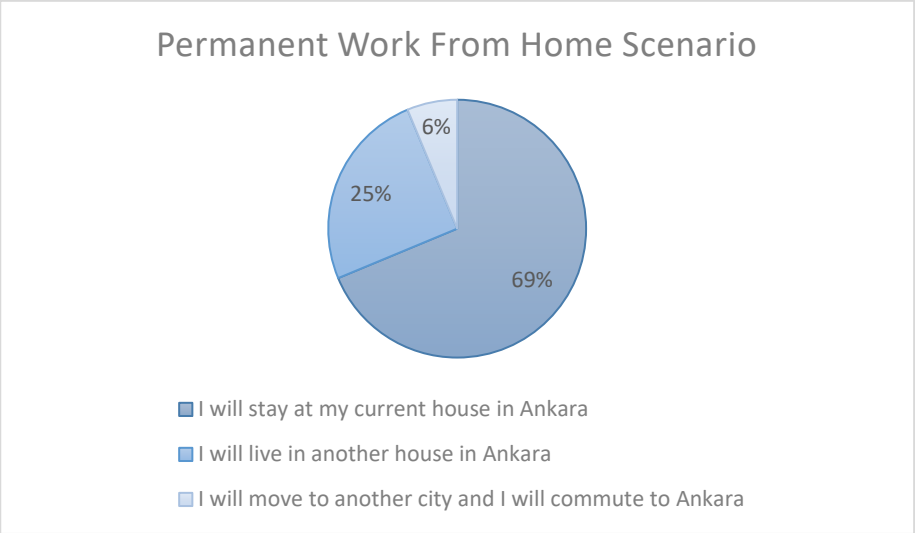


Figure 41. Participants' Consideration of Location in a Fully Remote Scenario

For the twenty-fourth question, *'In a scenario where the company you work for makes working from home permanent…*', 69% of the participants answered that they would stay at their current house in Ankara. 25% said they would move to another place in Ankara, and 6% said they would move to another city and commute to Ankara. In Figure 40, it is shown in the form of a pie chart whether the participants will stay in Ankara in the scenario where the company they work for makes working from home permanent.

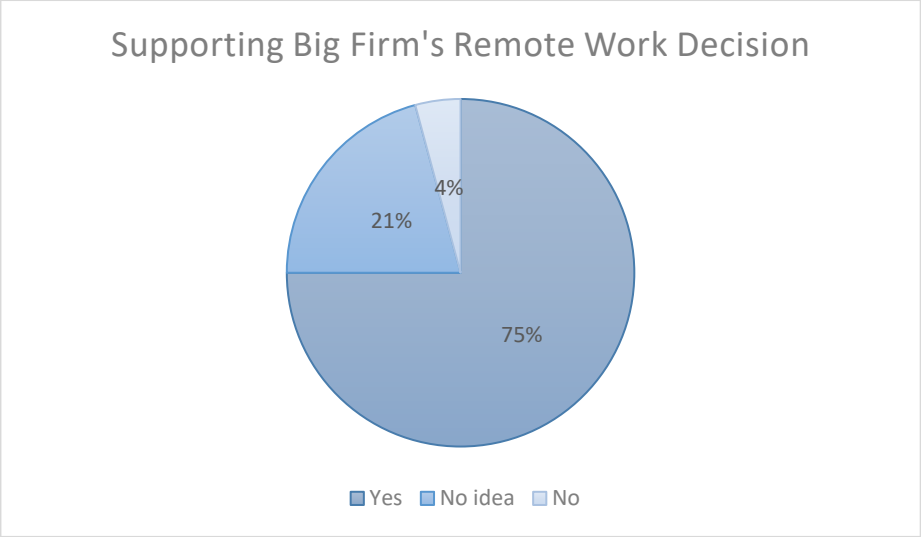


Figure 42. Participants' Support on Big Firms' Remote Work Decision

For the twenty-fifth question, '*Do you support the decision of many large companies (Twitter, Facebook, etc.) to make working from home permanent?*', 75% of the participants supported the decision, 21% did not have an opinion, and 4% said they disagreed with the decision. In Figure 41, the participants' views about the decision of large companies to make working from home permanent are shown in the form of a pie chart.

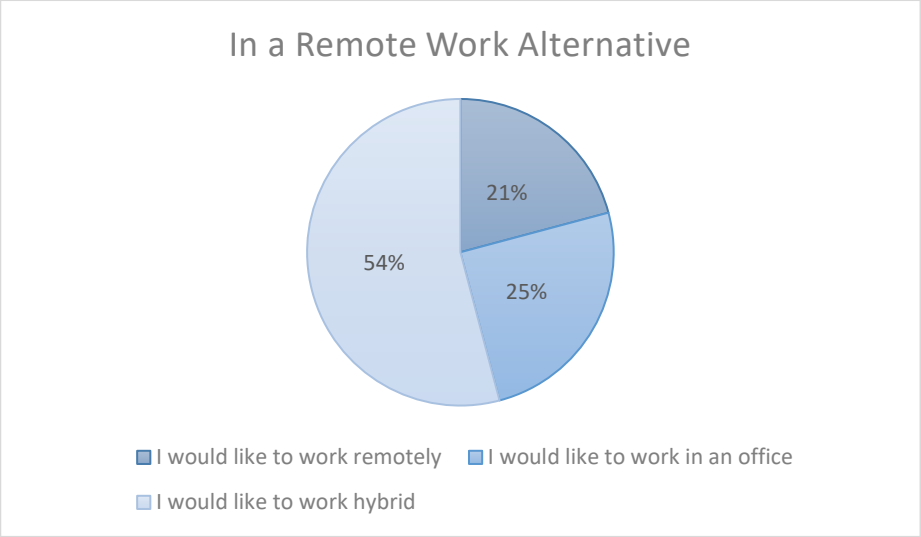


Figure 43. Participants' Consideration for a Remote Work Alternative in Their Jobs

For the twenty-sixth question, *'When you have an alternative to continuing working from home after the pandemic...'*, 54% of the participants stated that they wanted to continue working as a hybrid, 25% wanted to work in the office, and only 21% wanted to work remotely. Figure 42 shows in the form of a pie chart what the participants will decide on the alternative to continuing to work from home after the pandemic.

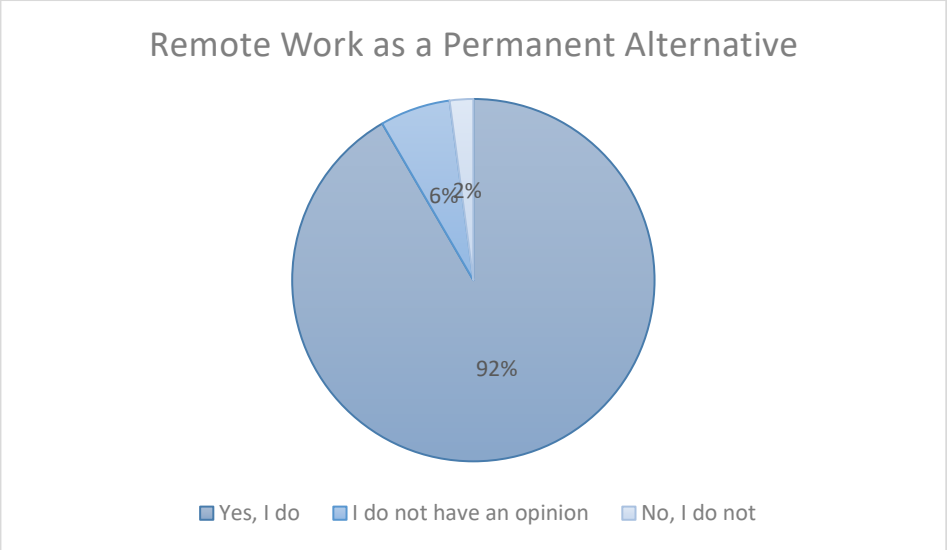


Figure 44. Participants' Consideration of Remote Work as a Permanent Alternative

For the twenty-seventh question, *'Do you think working from home will be a permanent alternative after the pandemic?*', 92% of the participants stated that remote work would be a permanent alternative. 6% indicated that they did not have an opinion, and a minority of 2% said they thought that remote work would not be a permanent alternative. In Figure 43, it is shown in the form of a pie chart whether the participants believe that working from home will be a permanent alternative after the pandemic process.

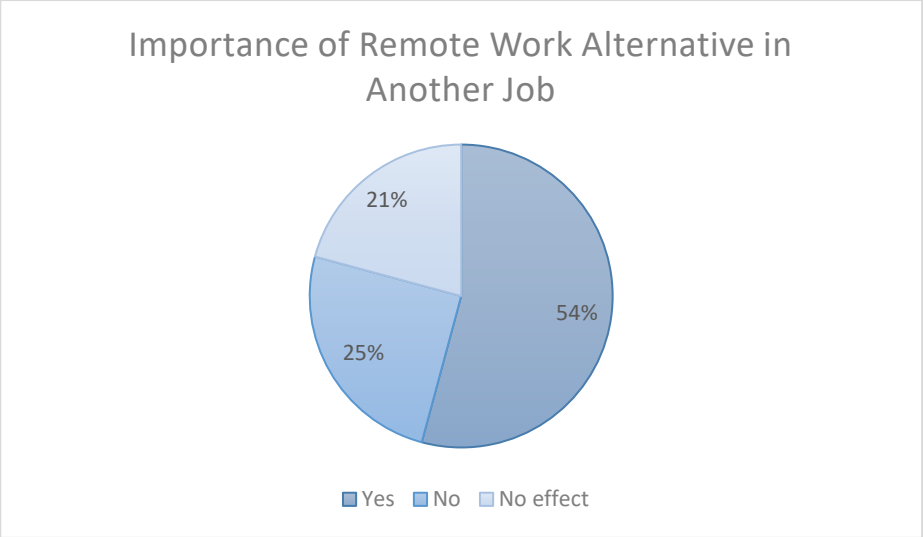


Figure 45. Participants' Consideration of Importance of Remote Work Alternative in Another Job They Apply for

For the twenty-eighth question, '*Is it essential for you to have an alternative to working from home in your next job?*', 54% of the participants stated that this alternative would be necessary, 25% said there would be no difference, and 21% said the alternative would not be necessary. In Figure 44, the importance of whether there is an alternative to working from home in the next job for the participants is shown in the form of a pie chart.

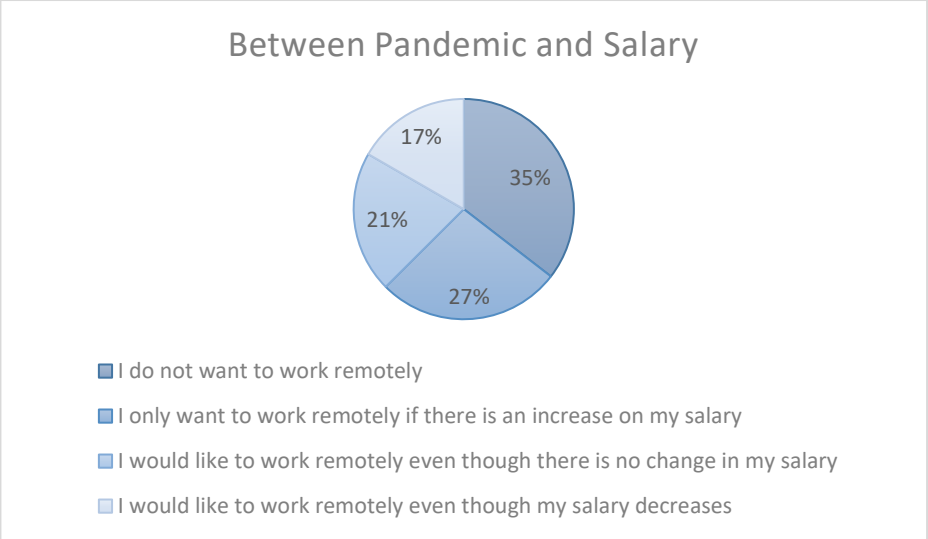


Figure 46. Participants' Consideration of Salary in Remote Work

For the twenty-ninth question, *'Between working from home and salary during the pandemic...'*, 35% of the participants said that they do not want to work remotely, 27% only wanted to work remotely if their salary increased, 21% said that they want to work remotely even if there was no increase in their salary. The vast majority, 17%, stated that they would like to work remotely even if their salary is reduced. In Figure 45, the changes between the participants' salary and remote work are shown in a pie chart.

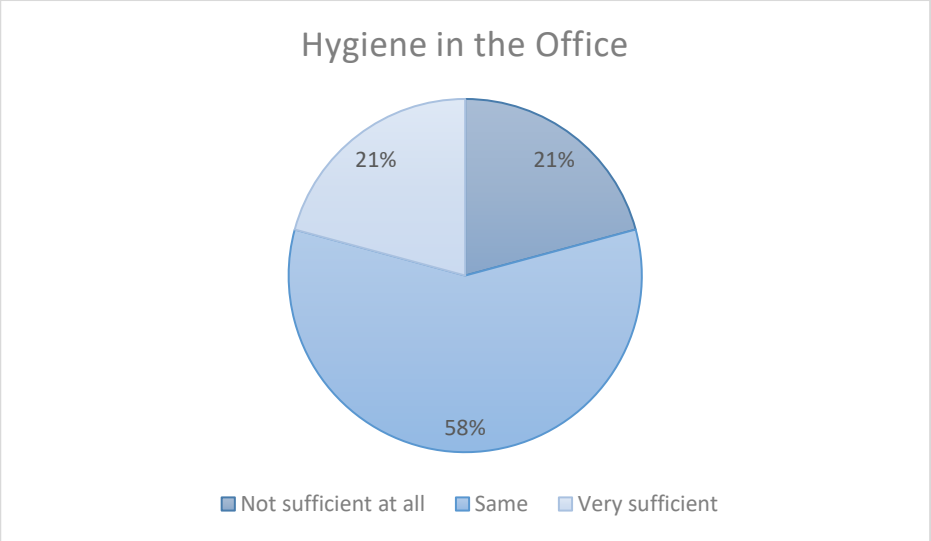


Figure 47. Participants' Consideration of Hygiene in the Office During Pandemic

For the thirtieth question, '*What do you think about the hygiene measures in the office?*', 58% of the participants stated that the hygiene measures were insufficient, 21% said there was no difference, and 21% found the hygiene measures sufficient. In Figure 46, the participants' opinions about the hygiene measures in the office are shown in the form of a pie chart.

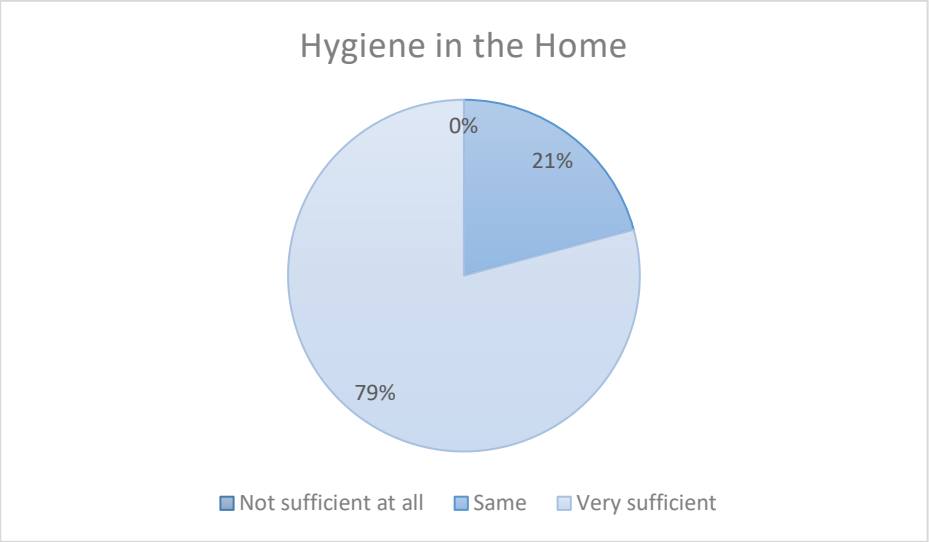


Figure 48. Participants's Consideration of Hygiene in Their Home During Pandemic

For the thirty-first question, *'What do you think of the hygiene measures at home?*', 79% of the participants stated that the hygiene measures at home were sufficient, and 21% said there was no difference. There is no one among the participants who think that the hygiene measures at home are not sufficient. In Figure 47, the participants' thoughts on hygiene measures at home are shown in a pie chart.

4.2 Analyzing Survey Questions and In-Depth Interviews

4.2.1 Socialization

More than half of the people surveyed stated that they worked remotely for at least one month during the pandemic period, while the rest indicated that they worked from home a few days a week and from the office on other days in the hybrid system. In the two months when the survey was conducted, 33% of the employees stated that they continued to work from home. This statistic shows a high degree of isolation in sectors requiring communication and togetherness.

Looking at the survey results, more than half of the surveyed employees stated that they would be happier in the hybrid working system if the work-from-home scenario were permanent. These results show that the hybrid working system may be a more suitable system according to the employees' needs, problems, and expectations. Considering the number of people who have been able to set up the office work at home and think that they have the equipment in the office at home, the hybrid system is not a complex system to adapt to the home for technopark employees.

socialization with people * home office environment Crosstabulation

Count

		home office environment		
		yes	no	Total
socialization with people	alone	12	5	17
	family	14	9	23
	friends	5	3	8
Total		31	17	48

Figure 49. Participants' Socialization with People and Setting up Their Office Environment at Home

socialization with people * work/home productivity Crosstabulation

Count

		work/home productivity			
		more productive	same	less productive	Total
socialization with people	alone	11	1	5	17
	family	6	10	7	23
	friends	2	2	4	8
Total		19	13	16	48

Figure 50. Participants' Socialization with People and Remote Work Productivity

Most employees think they can adapt their office work environment at home during the remote work period. Such groups are employees who either did not socialize with anyone during the pandemic or socialized only with their families. However, those who have not socialized with anyone in this process are the group that gets the most efficiency from the office setting they set up at home. Those who socialize most with their friends think that they are more inefficient at home than in their working environment in the office. When looking at the lowest level of sociability, employees state that they are more productive with the remote work and can establish their working behaviour at home. Although it is said that technoparks are significant areas for socializing and working together, according to this information, it can be said that socialization during the pandemic period and productivity in working at home

are inversely proportional. Employees with low or no socialization frequency are more productive in remote work.

In a situation where the hybrid working system is valid, the employees' comfort in working from home and the social problems they experience while working remotely may be solved and balanced by looking at the survey results. Technopark offices, which require high interior and exterior design, have become questionable as employees are very comfortable and willing to work from home. Reasons such as distance restrictions in open areas, wearing masks all the time, and hygiene concerns have become factors that will reduce the need for socialization of employees. Considering the survey results, hygiene concerns and insufficient hygiene measures in the office are barriers to socialization.

4.2.2 Work Situation

working time at the current job * thoughts on remote work Crosstabulation

Count

		thoughts on remote work			
		home	office	hybrid	Total
working time at the current job	0-2 years	5	2	9	16
	2-5 years	3	5	7	15
	5-10 years	1	5	10	16
	10+ years	1	0	0	1
Total		10	12	26	48

Figure 51. Participants' Working Time at Their Current Job and Their Thoughts on Remote Work

insurance situation * remote work time Crosstabulation

Count

		remote work time					
		less than 1 month	1-3months	3-6months	6+months	other	Total
insurance situation	4a	6	6	9	8	9	38
	4b	4	2	2	1	0	9
	4c	1	0	0	0	0	1
Total		11	8	11	9	9	48

Figure 52. Participants' Insurance Situation and They Remote Work Time

Regardless of how long they have been working, employees stated that they would prefer the hybrid work system (working from home some days of the week, the rest of the days from the office) in any alternative working situation. The vast majority of employees surveyed are people with 4a insurance, meaning employees who work on a contract basis at a workplace. The surveyed employees are mainly working in the information and communication and scientific activities sectors. The employees who work in the information and communication sector generally think that their job is convenient for the remote work system. On the other hand, it is seen that for those working in the scientific activities sectors, half think that their jobs are not jobs that can be carried out remotely, and the other half agree on the contrary.

4.2.3 Monitoring

In the remote working scenario, monitoring and organization are fundamental concepts for employers. With the sudden integration of the system into our lives, employers, like employees, had difficulties adapting to this issue. The employees' lack of attention, even the fact that the employees are not working together, increases the burden of the employers' issues that need to be controlled. Working remotely is a system of trust. When this trust is not established between the employee and the employer, many critical factors, including work performance, are affected. This trust must be mutual. While it may be difficult for both parties to stay away, employees should feel responsible to their employers and provide information when necessary. Just like in the office layout, it should be accessible remotely during business hours, making building and maintaining trust easier.

On the other hand, it is not easy for employers to work from home and expect constant availability outside working hours. In order to overcome this, it is necessary to know the program of the employees well, and the responsibilities given should be realistic. According to a study made by Sharon K. Parker et al., almost 40% of 215 employers "expressed low self-confidence in their ability to manage workers remotely. 23% of managers disagreed with the statement ''I am confident I can manage a team of remote workers," and another 16% were unsure about this ability". This information shows that employers also have difficulties in remote working due to the necessity of adapting quickly. In the same study, employers indicated that they thought employees underperformed regarding telecommuting. When we look at the survey results conducted in Ankara technoparks, more than 70% of the employees believe that their job is a job that can be continued by working from home. Although they tend to work from home, they say they have difficulty with motivation.

Some employees do not think monitoring affects their job; I (2) states: ***"I don't think there is any change. After all, we are given a job; there is a release date, we extract it and send it on this release date. Control is provided in the same way. There is no***

e-mail, hard copy, and manual delivery period anyway. So I don't think it's a disadvantage".

On the other hand, I(3) say: ***"A bit about that, I'm a lucky employee because my project manager is already following these jobs. Normally, I'm also a release person, and I'm someone who can be more productive in that way. Since he already knew me, we proceeded in this period as "there are things to be done" rather than "did you do it or did you do it." Not exactly "is it done or is this done," but at the end of the month or at the end of three weeks, he was checking whether the work was done or not. And now, there is no methodology in the software industry in general. For example, there is a methodology called 'scrum,' which is generally done like this. There is an event called 'scrum' meeting in the mornings, people are communicating that we did the following yesterday, and we will do these things today, and people are actually followed from there. Again, there is a business development period in the 'scrum' method I call this. I'm shaking, two weeks also depends on the policy of that company. For example, we have three weeks. A three-week 'scrum' period leaves one week for updating what has been done in a week. In fact, 'scrum' meetings are held every morning in these three weeks, and at the end of these three weeks, the job is already done. In fact, it is followed from there. This did not change, in fact, it was like that when we were at the office, and when we went home".***

However, start-up firms have different opinions on remoting since there are fewer employees, so employers find themselves in every little detail. By that, it is almost impossible to miss any work. An employer from a technopark start-up firm I(4) explains: ***"For that situation, I can say that this situation may become a little more critical in companies that are one click larger, in companies with three, five or six or seven employees. In this process, since I am already in everything that we are in production, we follow the process instantly throughout the day. Since I am also involved in the business, I am constantly informed about what is at what stage, since I am involved not only in terms of manager but also in terms of production".***

The conclusion from those statements from employers and employees is that the monitoring depends on the size of the firm and the job. While some jobs and sectors require close monitoring from their superiors, others that need unique talents are not as much. The reason is that unique talents are expected to monitor themselves to finish their projects and such. Start-ups, on the other hand, are relatively small compared to other large firms. This smallness has its advantages in terms of well-knowing current works that the firm is dealing with, so monitoring is more manageable for the employers.

4.2.4 Security

In the remote working process, a number of difficulties have become an emerging issue for many companies in the security subject. Working with computers and the internet in the remote working process has caused serious security vulnerabilities. In order to minimize emerging security vulnerabilities, some companies have turned to high-security applications. Firms in the defense industry that cooperate with the state concern that they should be more careful about security. Technocity companies, which had to do business with most defense industry companies or one of the defense industries companies to prevent security gaps, had to hold these meetings face-to-face even if they were working from home.

In some in-depth interviews, employees stated that cyber security is the most critical factor in terms of remote and hybrid work. I(5) said that: ***"One of our customers is a customer from the defense industries, an institution, we do some work with him remotely, but we do most of the work from the company, and you have to pass some documents and certain qualifications before going to the company."*** This statement shows that cyber security is the most important factor in defense industries.

I(1) also adds: "***The pandemic has also taught companies that, especially in our sector, this is a very specific example, but the security of information has taught us that the most important sector is the cyber security sector at a time when the***

security of the system you have established is completely flowing to the computer. This paved the way for us in an incredible way. So people are starting to pay more attention to them now. Because now everything we do is in the cloud, in any drive, all the work we do is on the computer, and there is something like this in our industry: no system that goes to the internet is safe. Therefore, there is no internet in any defense industry. There is at most one or two devices that go to the internet, and they are already on a different network than that network. That's why it has emerged much more in the pandemic that this sector is very important. Therefore, companies have started to pay much more attention now, whether they have a budget or not. There are customers of 5,000 dollars, there are customers of 1 million dollars and 40 million dollars, let me tell you. The pandemic has brought forth very different needs and brought something to the fore that will be understood more clearly maybe 15-20 years from now".

Based on these employee concerns, it's clear what a vital vulnerability is for companies. In fact, many companies think that they cannot switch to a hybrid or fully remote working system for this reason. Employees in that companies that think this way have no choice but to commute to work every day. Since they cannot experience the hybrid working system, they cannot shape their ideas in that direction. In the process of working remotely during the pandemic period, it has become a critical situation to be cautious against any threat that may come from outside. Some programs have emerged that are used to provide communication within the company. These programs also help employees communicate securely with each other. The main objective is to ensure remote communication and security with these programs, in which employees who apply the remote working method carry out their daily work. These programs are often used by people working from the office.

4.2.5 Communication

Communication has become one of the most challenging issues for both employees and employers during remote working periods. Companies that communicated only from the office at the beginning of the pandemic had difficulties in establishing the communication system during the remote working process. After solving the video chat system with applications such as “ZOOM” and “Teams”, they tried to develop remote working systems based on these applications. The biggest problem experienced in this regard is that employees and employers can only gather in the form of 'meeting' regardless of the order they are used to in the office. Employees who can communicate socially with each other when they take a break from their work in the office can only communicate in writing while working remotely. Being able to communicate only in writing also caused some difficulties. In face-to-face meetings, while the issues tend to be resolved more quickly due to the dynamics of the conversation and facial expressions, communication based on guesswork and misunderstanding began to emerge when it was necessary to agree in writing.

I(1): “Now, everyone's temperament is different, some people maybe write something very well-intentioned in the e-mail or they don't think anything, but because that temperament is different and you don't know the person, there are problems there, bad communication problems arose. Therefore, there was a need for a continuous face-to-face meeting, face-to-face, via ZOOM, etc. Normally such things would not happen. You can understand what a person you see 24/7 already means when he writes something in an e-mail. Did he write it out of anger, did he write it with good intentions or did he write it maliciously. There was such a change in this process”.

As can be understood from this discourse, the problem of communication has become a fundamental problem in remote working. When employees come to the office a few days a week or once a month, this problem can be solved by switching to a hybrid system. For this reason, by enabling employees to come face to face on

certain days, both the demands of employees to work from home can be met and communication problems can be minimized.

Problems in innovation and productivity may vary according to the sectors and the home environment of the workers. For example, in the surveys, it was concluded that the employees working in the software industry work more comfortably and efficiently at their home. This means that they can work with the same momentum in sectors where innovation is high. Employees who generally must work with a team, state that their productivity has decreased especially due to the lack of communication between the team.

People who work from home with their young children stated that their interest in work is not at a high level because they cannot create an office environment at home Therefore, they experience difficulties in their productivity. Likewise, employees who are alone at home and need socialization also experience challenges in productivity. The main point here seems to be to establish the office environment at home. Even if they are busy with other people at home, employees who can establish the office organization at home can also maintain productivity in the office. Employees who cannot maintain order at home and feel the need to come together in the office strongly stated that they cannot show the necessary productivity because they always feel alone and disconnected at home.

In some in-depth interviews, the employees stated that the adaptation for remote work is directly about the characteristics of a person. For example, ***I(3): "When I was a student at the university, I stayed in the dormitory. I think it probably helps. Because after all, you have to make your own plan there. Today, I will go to class, go to the dormitory, do the laundry, eat, study, because the planning was already in advance, these changes did not affect me much. Of course, in the office, I saw that those who did not have such experience in the team before were stunned. There were friends who acted as if it was a vacation and a leave when they were at home. But, as I said, people who have such a predisposition and can plan were not really impressed, and even worked harder. Cause let this end, end this too so I can***

relax”. Therefore, it is seen that the decrease in productivity depends on many parameters. Productivity depends on the character of the employee, the work discipline, the job he or she works for, and the strong communication between his or her colleagues and superiors. It can be concluded that all these parameters are somehow interconnected.

4.2.6 Equipment

High-tech industries are more serious about providing equipment at home than other industries. However, when analysed under the title of productivity, it is seen that the productivity of the employees who think that they cannot provide the equipment in the office at home has decreased. In this case, a situation that is more dependent on the company arises. Where the firm tends to work remotely, they also need to provide equipment, so they must have created an environment to expect work done in the office to be done the same way at home. Company employees in companies that leave all office arrangements think that they falter after a while. However, when we look at the interviews, it is seen that companies in high technology-oriented sectors show some sensitivity in this regard.

4.2.7 Transportation

It has been observed that employees do not complain much about transportation during hybrid or remote working periods. In the answers given in the survey, it was stated that although the distance between the employees' home and work is more than 5 km, they mostly use their personal vehicles and then buses. The answer to whether they had transportation difficulties was "I never had any difficulties." Although it is thought that transportation is the most difficult subject for employees who are generally satisfied with the hybrid or remote working system, it is seen that this thought does not exist in the surveys and interviews. The biggest reason why those who work in transportation do not have difficulties is that they usually

commute with their personal cars, so they feel safer in terms of health. The transportation problem comes after the mask-distance and hygiene issues in terms of the problems experienced in the office for the employees. In in-depth conversations, it hardly takes place. When this collected information is examined, it is concluded that these demands of employees that are keen on hybrid or remote working are not due to transportation problems.

4.2.8 Hygiene

One of the biggest reasons why employees do not want to work from the office during the pandemic is that they do not want to be in crowded environments with their colleagues. When the answers given in the survey are examined, it is seen that the most common complaints of the employees in the office are mask-distance and hygiene. Since pandemic habits are well established in daily life, it has been inevitable that the cleaning measures at the beginning of the pandemic will not continue in the same way. In this period, it is of great importance that the employees are not worn out and that the effects of the disease are alleviated to some extent. In the interviews made a few months after the survey, it is seen that the hygiene concerns have decreased. This situation can be considered as a situation that will cause employees to change their minds about working full-time in the office. I(1) said***, "Our office is disinfected every Thursday, cleaners wipe the office every day, etc. As I said, usually because the company executives are older and they don't see it when they spend money on certain things, they don't want to have the slightest problem with it."***

I(2) said, ***"Since the normalization process is currently underway, we were paying close attention to things like intermittent sitting at work when we arrived right after. But now, a period of full normalization has passed. I think we are back to the same as before. Humans can adapt very quickly to their location. Now, if the pandemic breaks out, we will switch to the other mode again. I don't think there is a situation that creates a change about him at the moment."***

The areas where basic habit changes occur as a result of hygiene concerns are high-design common areas and meeting areas, especially offices. It is a situation that can occur in the form of working from the office after the pandemic in order to reduce the use of common space and prevent employees from experiencing such hygiene problems Thus, the concern about the use of common space, which has emerged as an obvious effect of the pandemic, will not be an important situation for the future. However, when the in-depth interviews were examined, it was concluded that the employees did not complain about the common areas, and even wanted to continue using them in some way, with some precautions.

I(3) said, ***"For example, before the pandemic, everyone was taking water from the carboy. For example, while everyone is filling their own bottle with water, of course, everyone touches the bottle of the carboy. Then the office switched to plastic bottles, they started to buy one-litter plastic bottles, and everyone started using it from there. For example, the second change, what I have heard already, turned into things like when there is a person inside, no other person should enter. Also, for example, it was said to disinfect your hands before buying tea and coffee, and things like disinfectants were placed.***

With the disinfection measures taken, the question marks in the use of common areas for employees are reduced. It has been concluded that there will be no harm in using it as long as the hygiene measures are observed. in the reorganization of the offices, it is seen that the common areas can continue with the same high design and these areas should not be restricted.

Start-up firm Q(I) said***, "…the fact that the part we are in is a little quieter, that is, the tables around us are a little empty, frankly, we did not have such a concern. If it was full, maybe we could work at home a little longer and go in the evenings, depending on the situation".***

4.2.9 Office Need and Productivity

In the survey conducted for the study, questions were asked about the duration of remote working of the employees and whether their jobs are suitable for remote working. When the answers to these two questions are combined, it is observed that as the working time from home increases, employees think they are working in jobs suitable for remote work. This shows that when they get used to working from home, they realize that their jobs are ideal for working from home and face fewer challenges.

remote work time * productivity struggle Crosstabulation

Count

		productivity struggle			
		very	some	none	Total
remote work time	less than 1 month	7	2	2	11
	1-3 months	6	1	1	8
	3-6 months	4	5	2	11
	6+ months	2	4	3	9
	other	2	1	6	9
Total		21	13	14	48

Figure 53. Participants' Remote Work Time and Their Productivity Struggle

Questions ‘productivity difficulty in working from home’ and ‘whether the employees’ jobs are suitable for working in the same environment with their colleagues’ in the survey are combined. As a result, it is seen that the employees who have never experienced any productivity problems think that they do not do a job that requires them to work physically in the same environment as their colleagues. Employees with high productivity problems think they are doing a job that requires them to be physically in the same environment as their colleagues. This results in the conclusion that employees with high productivity difficulties experience this difficulty because they are alone.

productivity struggle * importance of physical work Crosstabulation

Count

		importance of physical work		
		yes	no	Total
productivity struggle	very	10	11	21
	some	4	9	13
	none	1	13	14
Total		15	33	48

Figure 54. Participants' Productivity Struggle and Their Thoughts on Importance of Physical Work with Their Co-workers

Another result combined from the survey is that none of those who think that working from home is more productive than working from the office believe that their work should be done only from the office. Almost all those who think that the way of working from home and the way of working from the office are the same do not think that their work can be done only by working from the office. As expected, those who believe that their productivity in the office is higher than their productivity at home thinks their work can only be continued by working in the office.

work/home productivity * convenient for office Crosstabulation

Count

		convenient for office		
		yes	no	Total
work/home productivity	more productive	0	19	19
	same	1	12	13
	less productive	12	4	16
Total		13	35	48

Figure 55. Participants' Remote Work Productivity and Convenience of Their Jobs for the Office

These results show that even if employees are doing the same or different jobs in the same place, the problems they experience in terms of productivity are personal. Those who do not have problems in terms of productivity also have a favorable view of working from home. Those with problems are not comfortable working alone and think their work should be done with their colleagues.

"First of all, as employers, the demand for hybrid work employees to have a work room and a balcony or open space in their homes while they continue to work from home has been very popular. Some people said that we live in small city centers 1+1 apartments, and we cannot continue working at home. This hybrid work affected the comfort and motivation of the employee a little. Likewise, when they came to the office for meetings and teamwork, they complained about the narrowness of open office spaces and meeting rooms. Even if we, as our company, cannot intervene in the house selections in order to motivate our colleagues to work remotely in the upcoming period, we may prefer offices with a wider reunion and recreation area".

-I (2)

One of the problems in the offices is that the office spaces are insufficient for employees and employers during the pandemic. Instead, those working in technology-focused sectors demand both larger workspaces and wide-open spaces outside of workspaces. Even if the anxiety about working together has decreased as the pandemic has passed, these demands of the employees play an essential role in the spatial organization design in the future of working life. At the same time, in the in-depth conversations, it is concluded that living in larger houses will be an essential factor in increasing their productivity when they work hybrid.

Productivity is considered to be the most decisive for employees and employers in remote or hybrid working model. This is because even if employees want to work from home, they will be more willing to work in the office due to their low productivity at home environment. Although the expected result at the beginning of the study is that there are many difficulties in terms of productivity and performance

for the employees, and therefore they do not like the idea of working remotely, however, when the results of the survey are examined, it is seen that they tend to work from home even though they have difficulties in productivity. Employees who think that they have problems with productivity, want to adopt the hybrid working system. According to the survey results, it is seen that most of the employees think that the way of working from home is more efficient or the same as in the office. At the same time, when the survey results are examined, it is seen that most of the employees think that their job is a job that can be continued by working from home, and they do not think that their job requires working in the same environment with their colleagues.

I(1) said***, "Therefore, from our point of view, it has been more efficient in terms of getting to know slightly different customers, examining their structures and repeating what we know a lot, but I think things like time efficiency and health efficiency are very lacking. They took a lot from our lives. The company has all kinds of advantages. Any way you look at it, it's advantageous."***

I(2) said, ***"I haven't had any major problems with efficiency. We are already work-oriented, we are given a job. We did this at home or at work, it doesn't change much for us. Since I am in the R&D sector, there is no such continuity, there is no continuous band, so I can't say that it affects me a lot. I think hybrid work is better. By hybrid we mean it: we can choose when to go to work, actually, that makes much more sense. For people, I think things like "you should come to work at this time" should not be."***

I(3) said, ***"I think three or two would be the most efficient. I believe it would be better to have three days of office and two days of home. Because being at home is also very bad, being in a full office is not a good thing either. But I think the best is the three-two, hybrid system."***

I(4) said, ***"But in terms of communication and efficiency, of course, working side by side is always a more advantageous process."***

Therefore, although there are different opinions about productivity among the employees, in general they think that the hybrid working system is more efficient. In a purely home-based scenario, more than half of the employees indicate whether their work will be positively affected or not in terms of productivity.

4.2.10 Mental Health

Mental health combined, with other parameters, creates a situation where problems are encountered for employees and employers during the pandemic process. It is the parameter that emerges with the pressures created by many issues such as productivity and motivation, hygiene concerns, safety concerns, communication problems and constitutes the most crucial share for the person to continue working. Considering the results of the survey, it is seen that the most common difficulty in working from home is the mental health related problems. However, as a result of interviews, it is seen that employees get used to this difficulty after a certain period and begin to ignore this difficulty. At the same time, factors affecting mental health have become more acceptable over time.

CHAPTER 5

CONCLUSION

5.1 Main Research Question and Findings

This research aimed to identify the *respecialization of work change in technology-based creative sectors after the COVID-19 pandemic and the ideal spatial organizational design for the Ankara case*. Based on quantitative and qualitative analysis, it can be concluded that technology-oriented creative sectors are demanding a hybrid work system with a spacious office layout, open areas to take a break, and expansive conference rooms to hold meetings in the office. Contrary to expectation, employees and employers did not demand a smaller office while working hybrid. The results indicate that technology-based creative sector members could set up their office environment in their homes, and similar to office demands, they consider moving to a larger home. As mentioned in the study, it is seen that the remote working models in the literature have changed and developed over time. Many models related to remote working have emerged, and these models have led to different experiences, especially during the pandemic period. Remote working models, which have various pros and cons, notably for creative sector employees, have revealed the need for a new spatial organization. While remote working models were only seen as a possible alternative to working when they emerged, they have become an obligation in employees' lives during the pandemic.

Looking at the results of the survey, it is seen that the employees mainly work in the information and communication sector. Tech-focused industry workers surveyed are primarily subject to 4A insurance status. Participants in the survey have experienced working from home for at least a few days during the pandemic process. They experienced the most mental difficulties, productivity difficulties and motivation

difficulties while working from home during the pandemic period. While working from the office, they had the most problem with hygiene, social distance, and mental health. When this survey group is examined, it is seen that there is a group that has transportation difficulties but goes to their workplaces with their cars. Despite the mental difficulties they experience while working from home and the hygiene problems they face while working at the office, they mostly think that working from home is equally efficient or more than their way of working in the office. At the same time, many of the respondents think that their job is a job that can be continued by working from home.

Employees said that if they continue to work from home, their jobs will not satisfy them, or they will not experience any changes. In a scenario where they work entirely from home, their thoughts are primarily that their work will be positively affected or that their work will not be affected. They think they can establish their working order in the office at home, and they stated that they have the equipment in the office at home. This shows that they generally do not have problems with the lack of equipment at home. They have spent most of the pandemic process alone or with their families, and they stated that they mostly talked to their families during the pandemic process. Since the frequency of socializing with people they know during the pandemic process is relatively low compared to the past, it is seen that they have difficulties in socializing. When the company they work for makes working from home permanent, the employees mainly state that they will continue to stay at their home in Ankara. They mostly find it suitable for large companies to make working from home permanent. When they have alternatives to continue working from home after the pandemic process, it is seen that they mostly look at hybrid working more. They think that it will be essential for them to have the alternative of working from home in their next job. Also, office and home areas would be preferred to be more spacious, not congested, with large gathering and common areas, and open and green areas.

- ***Which working model has the creative class found more efficient during the ongoing pandemic period? (Remote work, hybrid work…)***

As a result of all this information, the demands of technology-oriented sector employees working in Ankara focus on the 'hybrid working system,' which consists of working from home a few days a week and the rest of the days from the office. Employees in the hybrid working method find themselves more productive and think that they can carry out their work faster. Employees state that their relations with their bases improve somewhat during the working from the home period. Although they have communication problems with their colleagues from time to time, there is no disconnection. In a situation where hybrid operations apply, it is necessary to make arrangements for the offices. Considering the survey and interviews, the biggest concerns of the employees in the office during this period are related to hygiene. Distance plays a vital role in office arrangements as well as hygiene measures, even where the office is only visited a few days a week. It is very important to have social areas such as meeting areas in high-design offices. With the hybrid working system, interventions such as protecting these social areas, increasing them even more in some cases, and placing them to open spaces are required. Thus, it will be possible to create a calmer environment in the office for both employees and employers. This spatial arrangement will ensure the sustainability of the working environment in a disaster scenario such as an epidemic or pandemic.

- ***What kind of work habits have the creative class obtained during the pandemic period?***

When looking at the basis of hybrid work, individuals living alone or with their families during the pandemic think that they become asocial when they work entirely from home. In this case, the title of mental health emerges as the biggest problem. Employees who do not experience difficulties in transportation in Ankara do not have any issues coming to the office. For this reason, it is thought that the hybrid system will be the most suitable system. From the employer's point of view, it is believed that it would be more convenient for the employees to be in the office in

terms of supervision, but larger meeting areas may be needed. This idea also supports the foresight that there is no need for offices to become smaller in terms of space, and on the contrary, meeting, or social areas should be expanded to prevent gathering problems. Fulfilling these demands plays an important role in planning so that the employees in Ankara can work more comfortably and efficiently in technology-oriented sectors with a very high rate of return. The information and communication sector, which contributes the most to the creative sector in Ankara and has the highest LQ coefficient, makes these arrangements in a way that ensures spatial continuity, and it is possible to create a more comfortable environment for employees and employers.

- ***In the pandemic process, did it affect employee's job choices if companies support remote work? Will it affect employees' future job choices?***

Looking at the surveys, 20.8% of the people surveyed want to continue their work remotely, and 54.2% want to continue their work in a hybrid manner after the pandemic. On the other hand, 54.2% of employees care about having a remote working alternative in their next job (hybrid or fully remote working). Looking at the results, it is possible to deduce that the problems experienced by those working in technology-oriented creative sectors regarding remote working models have been improved over time. According to these results, it is necessary to prepare the offices for remote working infrastructure and to reconsider the offices in line with the demands of the employees.

5.2 Contribution and Recommendations

The importance of the creative industries in major metropolitan cities worldwide is enormous. For this reason, cities regularly publish creative sector reports every year, revealing the contribution of these sectors to the economy. In this way, the importance of these sectors will be understood, and the demand for these sectors will increase. Since such a situation does not exist in our country, the visibility of the

sectors is very low. There is also a lack of work in these sectors. Creative sectors have a significant contribution to both Türkiye and Ankara's economy. This contribution has the potential to play an essential role in the strengthening of our country. When we look at Türkiye, it is of great importance that this study, which was carried out only in Izmir, is carried out in big cities with high creative potentials, such as Ankara and Istanbul. Thus, the sectors will gain a deeper meaning.

Although the origin of the remote working habits that came with the pandemic dates back almost forty years, these working models were not on the agenda before the pandemic. Although various examples exist worldwide, employees and employers do not know about hybrid working. The difficulties experienced by employees and employers in all sectors during the pandemic progressed for a long time in the form of trial and error, as an infrastructure for remote working was not established. This sometimes hurts productivity. With the habit of working remotely and the restrictions remaining, the hybrid system, which is the system where employees go to the workplace for a few days and work from home for the rest of the days, has become widespread. With the hybrid system, the demands of the employees who went to the office during the pandemic process, such as width, green spaces, and cleaning, began to emerge. Since the offices did not receive such requests, they fell short of meeting the employees' expectations.

This study aimed to reveal the difficulties or conveniences experienced by the creative class working in technology-oriented sectors at home and in the office. Thus, it is essential to understand the contribution of the creative sectors to the economy and rethink their spatial spaces in cities. These spatial organizational design findings, shaped by the demands of employees and employers, have the qualities to give an idea for future studies. With the increasing literature on remote working habits after the pandemic, it becomes possible to understand the demands of employees. In future studies on this subject, since the lack of literature is now reduced, the office concept can be redefined by focusing on spatial arrangement. Significantly if the work in the creative sectors in Türkiye increases, the reorganization of the offices for these sectors will become meaningful. It is crucial that the creative sectors, which

contribute to the economy so much and whose spatial importance in big cities is undeniable, maintain their hybrid working habits even after the pandemic. Thus, metropolitan cities will continue to be spiky societies and increase their accessibility with zero marginal cost. Combining these two concepts will ensure that the quality of the elements in the creative sector will improve. Thus, spatial arrangements for creative sectors in cities will become worth rethinking.

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APPENDICES

A. Survey Questions

1. Age

- □ 20-25
- □ 26-35
- □ 36-45
- □ 46-55
- □ 55+

2. Gender

- □ Woman
- □ Man

3. Sector

- □ Information and communication (Software, Computer, Telecommunication, Electric…)
- □ Manufacturing (Machine and Equipment, Medical, Food, Agriculture, Automotive, Pharmaceutical…)
- □ Scientific Activities (Energy, Chemistry, Architecture, Engineering, City Planning…)
- □ Civil Work
- □ Energy Sector

4. Profession

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5. Insurance situation

- □ 4a
- □ 4b
- □ 4c

6. Time you worked at your current job

- □ 0-2 years
- □ 2-5 years
- □ 5-10 years
- □ 10+ years

7. How long have you worked from home during the pandemic process

- □ Less than 1 month
- □ 1-3 months
- □ 3-6 months
- □ 6+ months
- □ Hybrid

8. Do you continue to work from home?

- □ Yes
- □ No

9. Difficulty level when working from home during the pandemic

	Motivational Challenge	**Mental Challenge**	**Productivity Challenge**	**Equipment Challenge**
Very difficult	□	□	□	□
A little difficult	□	□	□	□
Not difficult at all	□	□	□	□

10. Difficulty level when working from office during the pandemic

	Transportation	**Hygiene**	**Mask & Distance**	**Ventilation**
Very difficult	□	□	□	□
A little difficult	□	□	□	□
Not difficult at all	□	□	□	□

11. Distance between work and home

- □ 0-5 km
- □ 6-10 km
- □ 11-15 km
- □ 15+ km

12. The means of transport you use to go to work

- □ Personal car
- □ Bus
- □ Minibus
- □ Motor, bike
- □ Metro

13. The way you work from home is _____ than the way you work in the office

- □ More productive
- □ Same
- □ Less productive

14. I think my job is a job that can be sustained by working remotely.

- □ Yes
- □ No

15. I think my job is a job that can only be sustained by working in the office.

- Yes
- No

16. I think my job is one that requires me to physically work in the same environment as my co-workers.

- Yes
- No

17. How do you think your job will affect you if you continue to work from home?

- My job will not satisfy me
- My job will satisfy me
- There will be no difference

18. How do you think your work will be impacted in terms of productivity in a scenario where you work entirely from home?

- I think my job will be impacted positively
- I think my job will be impacted negatively
- I do not think my job will be impacted

19. Do you think you can set up your work environment in the office at home?

- Yes, I do
- No, I do not

20. Do you think you have the equipment you need in the office at home?

- Yes, I do
- No, I do not

21. I have spent the pandemic….

- By myself
- With family
- With friends

22. I have seen ____ most in the pandemic

- Family
- Friends
- Co-workers
- Nobody

23. Compared to the past, your frequency of socializing with people you know during the pandemic process

- Less
- Same
- More

24. In a scenario where the company you work for makes working from home permanent

- I will continue to stay in the house I live in Ankara
- I live in another house in Ankara
- I move to another city and if necessary, I go to Ankara for a few days

25. Do you support the decision of many large companies (Twitter, Facebook, etc.) to make working from home permanent?

- Yes
- No
- I do not have an opinion

26. When you have an alternative to continue working from home after the pandemic process

- I would like to work from home
- I would like to work in the office
- I would like to work hybrid (some days of the week from home, the rest at the office)

27. Do you think that working from home will be a permanent alternative after the pandemic process?

- Yes, I think
- No, I don't think so
- I do not have an opinion

28. Would it be important for you to have an alternative to working from home in your next job?

- Yes, it would matter
- No, it would not matter
- It would not affect my decision

29. Between working from home and salary during the pandemic period…

- I would like to work from home even if my salary is reduced
- I would like to work from home only if my salary increases
- I would like to work from home even if there is no change in my salary
- I do not want to work from home

30. Do you find the hygiene measures in the office sufficient?

- Yes
- Same
- No

31. Do you think you take adequate hygiene measures at home?

- Yes
- Same
- No

B. Anket Soruları

1. Yaşınız?

- 20-25
- 26-35
- 36-45
- 46-55
- 55+

2. Cinsiyetiniz?

- Kadın
- Erkek

3. Çalıştığınız sektör?

- Bilgi ve İletişim (Yazılım, Bilgisayar, Telekomünikasyın, Elektrik…)
- İmalat (Makine ve Teçhizat İmalato, Medikal, Gıda, Tarım, Otomotiv, İlaç…)
- Bilimsel Faaliyetler (Enerji, Kimya, Mimari, Mühendislik, Şehir Planlama…)
- İnşaat
- Enerji sektörü

4. Mesleğiniz?

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5. Sigorta durumunuz

- 4a
- 4b
- 4c

6. Bulunduğunuz işte çalıştığınız süre

- 0-2 sene
- 2-5 sene
- 5-10 sene
- 10+ sene

7. Pandemi sürecinde ne kadar süre evden çalıştınız

- □ 1 aydan az
- □ 1-3 ay
- □ 3-6 ay
- □ 6+ ay
- □ Hibrit (Haftanın birkaç günü evde, diğer günler ofiste çalıştım

8. Hala evden çalışmaya devam ediyor musunuz?

- □ Evet
- □ Hayır

9. Pandemi sürecinde evden çalışırken yaşadığınız zorluk seviyesi

	Motivasyon Zorluğu	**Mental Zorluk**	**Verimlilik Zorluğu**	**Ekipman Zorluğu**
Çok zorlandım	□	□	□	□
Biraz zorlandım	□	□	□	□
Hiç zorlanmadım	□	□	□	□

10. Pandemi döneminde ofiste çalışırken yaşadığınız zorluk seviyesi?

	Ulaşım	**Hijyen**	**Maske Mesafe**	**Havalandırma**
Çok zorlandım	□	□	□	□
Biraz zorlandım	□	□	□	□
Hiç zorlanmadım	□	□	□	□

11. İş yeriniz ve eviniz arasındaki mesafe

- 0-5 km
- 6-10 km
- 11-15 km
- 15+ km

12. İşe giderken kullandığınız taşıma aracı

- Özel aracım
- Otobüs
- Dolmuş
- Motor, bisiklet
- Metro

13. Evden çalışma şekliniz, ofiste çalışma şeklinize göre…

- Daha verimli
- Aynı
- Daha verimsiz

14. İşimin, uzaktan çalışarak devam ettirilebilecek bir iş olduğunu düşünüyorum

- Evet
- Hayır

15. İşimin, sadece ofiste çalışarak devam ettirilebilecek bir iş olduğunu düşünüyorum

- Evet
- Hayır

16. İşimin, iş arkadaşlarımla fiziksel olarak aynı ortamda çalışmamı gerektirecek bir iş olduğunu düşünüyorum

- Evet
- Hayır

17. Çalışmaya evden devam ettiğiniz durumda işinizin sizi nasıl etkileyeceğini düşünüyorsunuz?

- İşim beni tatmin etmez
- İşim beni tatmin eder
- Bir değişiklik olmaz

18. Tamamen evden çalıştığınız bir senaryoda işinizin verimlilik açısından nasıl etkileneceğini düşünüyorsunuz

- İşimin olumlu etkileneceğini düşünüyorum
- İşimin olumsuz etkileneceğini düşünüyorum
- İşimin etkileneceğini düşünmüyorum

19. Ofisteki çalışma düzeninizi evde kurabildiğinizi düşünüyor musunuz

- Evet, düşünüyorum
- Hayır, düşünmüyorum

20. Ofiste ihtiyacınız olan ekipmana evinizde sahip olduğunuzu düşünüyor musunuz

- Evet, düşünüyorum
- Hayır, düşünmüyorum

21. Pandemi sürecini

- Tek başıma geçirdim
- Ailemle geçirdim
- Arkadaşlarımla geçirdim

22. Pandemi sürecinde en çok

- Ailemle görüştüm
- Kendi arkadaş çevremle görüştüm
- İş arkadaşlarımla görüştüm
- Kimseyle görüşmedim

23. Eskiye göre pandemi sürecinde tanıdığınız kişilerle sosyalleşme sıklığınız

- Daha az
- Aynı
- Daha fazla

24. Çalıştığınız firmanın evden çalışmayı kalıcı hale getirdiği bir senaryoda

- Ankara'da yaşadığım evde kalmaya devam ederim
- Ankara'da başka bir evde yaşarım
- Başka bir şehire taşınırım ve gerekirse birkaç gün Ankara'ya gidip gelirim

25. Birçok büyük firmanın (Twitter, Facebook vb.) evden çalışmayı kalıcı hale getirme kararını doğru buluyor musunuz?

- Evet, doğru buluyorum
- Hayır, doğru bulmuyorum
- Bir fikrim yok

26. Pandemi sürecinden sonra evden çalışmaya devam etme alternatifiniz olduğunda

- Evden çalışmak isterim
- Ofiste çalışmak isterim
- Hibrit (haftanın bazı günleri evden, geri kalan günler ofiste) çalışmak isterim

27. Pandemi sürecinden sonra evden çalışmanın kalıcı bir alternatif olacağını düşünüyor musunuz?

- Evet, düşünüyorum
- Hayır, düşünmüyorum
- Bir fikrim yok

28. Bir sonraki işinizde evden çalışma alternatifinizin olması sizin için önemli olur mu?

- Evet, önemli olur
- Hayır, önemli olmaz
- Bir etkisi olmaz

29. Pandemi döneminde evden çalışmak ve maaş arasında

- Çalışma ücretimde azalma olsa da evden çalışmak isterim
- Yalnızca çalışma ücretimde artış olursa evden çalışmak isterim
- Çalışma ücretimde değişiklik olmasa da evden çalışmak isterim
- Evden çalışmayı istemem

30. Ofisteki hijyen önlemlerini yeterli buluyor musunuz

- Evet
- Aynı
- Hayır

31. Evde yeterli hijyen önlemleri aldığınızı düşünüyor musunuz

- Evet
- Aynı
- Hayır

C. Interviewee List

Interviewee Number	Occupation	Sector
1	Software Developer	Video Games
2	City Planner	City Planning
3	Electric Electronic Engineer	Defense Industry
4	Software Developer	Siber Security
5	Mechanics Engineer	Defense Industry