

MINISTRY OF EDUCATION OF THE REPUBLIC OF AZERBAIJAN

AZERBAIJAN STATE UNIVERSITY OF ECONOMICS

INTERNATIONAL GRADUATE AND DOCTORATE CENTER

MASTER DISSERTATION

On the topic

**“THE CHANGING ROLE OF COMMUNICATION DURING
CORONAVIRUS (COVID-19) PANDEMIC PERIOD”**

Rafizada Mehdi Hijran

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Elm andı

Mən, Rəfizadə Mehdi Hicran oğlu and içirəm ki, “The changing role of communication during Coronavirus (Covid-19) pandemic period” mövzusunda magistr dissertasiyasını elmi əxlaq normalarına və istinad qaydalarına tam riayət etməklə və istifadə etdiyim bütün mənbələri ədəbiyyat siyahısında əks etdirməklə yazmışam.

“COVID-19 PANDEMIYASI DÖVRÜNDƏ KOMMUNİKASIYANIN ROLUNUN DƏYİŞMƏSİ”

XÜLASƏ

Tədqiqatın aktualığı: Azərbaycanda kommunikasiya proseslərinin yaxşılaşması biznes və cəmiyyətin inkişafını tətikləyir və gələcək potensial risklərin əksəriyyətinə hazırlıq yaradır.

Tədqiqatın məqsədi: Koronavirus pandemiyası ilə bağlı Azərbaycanda rabitə kanallarında tıxacların aşkar edilməsi, kommunikasiya prosesinin inkişaf etdirilməsi və gələcək risklərə hazırlıq tədqiqatın əsas məqsədidir.

İstifadə olunmuş tədqiqat metodları: İstifadə olunan tədqiqat metodlarına müqayisəli, korrelyasiya və konseptual tədqiqat metodları daxildir.

Tədqiqatın informasiya bazası: İlkin tədqiqat məqsədi üçün müxtəlif global mənbələrdən, verilənlər bazasından istifadə olunur. Onların arasında ən populyarları Yahoo Finance, Statista global platformalarıdır. Bundan əlavə, Azərbaycanda analoji vəziyyətlər baxımından ilkin təhlil üçün Azərbaycan Respublikasının Statistika Komitəsi tərəfindən toplanmış məlumatlar istifadə edilmişdir. Nəhayət, tədqiqatın əsas məlumat bazası sorğu vasitəsilə toplanmış məlumatlardır.

Tədqiqatın məhdudiyyətləri: İlkin olaraq, tədqiqatın məhdudiyyətlərindən biri oxşar mövzuda əvvəlki tədqiqatların olmamasıdır. Bundan əlavə, verilənlər bazası məsələsi tədqiqatın qarşısında duran digər bir maneədir. Nəhayət, yığılmış məlumatların şaxələnməsi əvəzinə kiçik auditoriya kütləsində konsentrasiyası da məhdudiyyətlər daxildir.

Tədqiqatın elmi yeniliyi və praktiki nəticələri: Araşdırmanın yeniliyi kimi, araşdırmanın Koronavirus pandemiyası dövründən sonra kommunikasiyanın inkişaf istiqamətləri haqqında fikirlər gətirdiyini göstərmək olar. Bundan əlavə, bu, cəmiyyəti ünsiyyət baxımından qeyri-adi vəziyyətlərə hazırlamaq üçün yol xəritəsi ola bilər.

Nəticələrin istifadə olunma biləcəyi sahələr: Tədqiqatın elmi əhəmiyyəti baxımından gələcək tədqiqatlar üçün əsas ola bilər. Çünki daha əvvəl də qeyd edildiyi kimi, qeyri-adi vəziyyətlərdə ünsiyyət hər hansı maneələrə hazır olmaq üçün kifayət qədər təhlil olunmur. Tədqiqatın praktiki əsası kommunikasiyada mövcud maneələrin tətikləyicilərinin müəyyən edilməsi, daha dərinə enilməsi və mövcud problemlərin effektiv həlli yollarının təklif edilməsidir.

Açar sözlər: Koronavirus, Covid-19, kommunikasiya, pandemiya, epidemiya

“THE CHANGING ROLE OF COMMUNICATION DURING CORONAVIRUS (COVID-19) PANDEMIC PERIOD”

SUMMARY

The actuality of the subject: Improvement of communication process in Azerbaijan triggers the development of business and society, and leads to preparation to majority of potential future risks.

Purpose and tasks of the research: Finding blockage on communication channels, developing communication process and preparing for the future risks in Azerbaijan related to Coronavirus pandemic are the main purposes of the study.

Used research methods: Used research methods are including comparative, basic correlation and conceptual research methods.

The information base of the research: For the initial study purpose which aims the general approach towards to the study, the database from different global sources is used. Among them most popular ones are Yahoo Finance, Statista global database platforms. Furthermore, for the initial analysis in terms of the similar situations in Azerbaijan again secondary data is used accumulated by the Statistics Committee of Azerbaijan Republic. Finally, the main database of the research is the accumulated data with the contribution of survey.

Restrictions of research: Initially, one of the research limitations is the lack of the previous researches in the similar topic which can be used as a base for continuing study. Furthermore, database issue is another obstacle in front of the research. Finally, accumulated data are including small range of potential audience and carriers somehow crucial concentration instead of differentiation.

The novelty and practical results of investigation: As a novelty of the study, it can be represented that research brought ideas about development directions of communication after the Coronavirus pandemic period. Moreover, it also can be roadmap in order to prepare the society for the extra-ordinary situations in terms of communication.

Scientific-practical significance of results: In terms of the scientific importance of the research, it can be base point for the future studies. Because, as mentioned before, Communication in extra-ordinary situations is not analyzed enough to be prepared for any obstacles. Practical foundation of the study is determining triggers of current obstacles in communication, digging into deeper and offering some effective solutions for existing problems.

Keywords: Coronavirus, Covid-19, communication, pandemic, epidemic

ABBREVIATIONS

AI	Artificial Intellegience
IoT	Internet of Things
OPEC	Organization of the Petroleum Exporting Countries
WHO	World Health Organization
OECD	Organisation for Economic Co-operation and Development

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INTRODUCTION

Relevance of the research topic: The history of communication lies till the starting point of the “human mind”. It takes its roots from the initial understanding process of the nature and surrounding by human beings. People of the primitive communities used the kinetic language which was a combination of gestures and short noises. However, in a long distance it was not useful. Therefore, people started to prefer to short words and afterwards, sentences. With the invention of writing a new age began in the process of communication. “Cuneiform” was one of the initial versions of writing. After the invention and development of alphabets and appearance of worldwide languages, communication passed the borders and turned something international.

Starting from the mid-20st century, people try to solve the problem related to the speed of communication. Introduction of mobile phones was the beginning of new era. Afterwards, the messaging apps including WhatsApp, Telegram brought high flexibility and comfortability towards to people’s life in terms of communication. With the contribution of video-conferencing apps, communication entered a new phase.

Currently, the main purpose in front of world is to establish a “formula” for communication that can get influenced with no external factor. In other words, it can be called “problem-free” or “barrier-free” communication. In order to achieve this goal, dependence of communication process from external factors must be eliminated till zero. Therefore, new roles, methods, channels, and strategies have to be determined for the communication process. Therefore, improvement of communication process in Azerbaijan triggers the development of business and society, and leads to preparation to majority of potential future risks.

The influence of COVID-19 on vulnerable populations would be determined in large part by the level of information concerning healthcare risks and consequences. Planning process should include how living circumstances, cultural practices, and risk awareness influence decisions during an outbreak.

Communication paradigm of study demonstrates, Communication about changing behavioral patterns, sociological commerce Generally, science and culture are summarized. Inadequate understanding of social, socioeconomic, behavioral, and medical aspects can undermine productive communication and coordination.

It is outlined the foundation for future success epidemic communication. Throughout an epidemic, managing psychology in all individuals is important, and a strong communication infrastructure is needed. If efficient communication is neglected, it will cause interruption for sensitive community and make countering the COVID-19 outbreak increasingly difficult.

In this circumstance, massive volumes of information concerning COVID-19 dominate the social media and news interactions. Reacting to COVID-19 necessitates significant planning and responsiveness, which involves good communication as a key technique. Communication refers to the process of conveying or exchanging messages through speech, writing, or any other means. Throughout a outbreak, communication involves more than just sending messages to people.

Statement of the problem and learning level: Since communication takes its roots from the beginning of human mind, research on it is very popular and there is enough exploration in different topic related to communication.

Majority of scholars who explored communication process are among Western researches heavily concentrate on Northern America. Froschheiser A., Lehman J., Morreale S., Rubin R., Backlund P., Shelby A.N., Zuboff S. and other scholars can be given as an example to these researchers. Moreover, although by Azerbaijan scholars the communication itself and different topic related to it was not explored as enough as Western scholars, there are some contemporary works which can be considered while study communication in Azerbaijan. These remarkable studies established by scholars including Gurbanova K. and Khanaliyev A.

On the other hand, Coronavirus is new obstacle for the overall world. Even its healthcare and biological side is not fully known to the world. Therefore, its effects

on different sectors and fields still under a huge question mark and waiting for the exploration. Role of communication during Coronavirus pandemic period is among these topics which are not explored enough. Although there is some remarkable works by Western scholar including Bawany S., Burke K., Christensen T., Laegreid P., for Azerbaijan case, study on communication during this outbreak is not explored enough.

Purposes and objectives of the research: One of the core initiations of any study is the clearly understanding of purpose and objectives of the research. The purpose of this study is to:

- understand the effect of Coronavirus pandemic to the communication and its role for people;
- finding problematic parts on the communication process;
- determining blockages on the way of any type of communication channels;
- offering some solutions for current problems;
- forecasting future development directions of communication process and expected risks;
- giving some recommendations for future studies related to communication itself and communication in extra-ordinary situations.

However, before coming to the main purposes of study, some initial tasks have to be fulfilled. These tasks include those ones mentioned below:

- Analyzing the development, shortages of communication process and its channels;
- Understanding lifecycle of communication before Coronavirus pandemic period;
- Determining effects of Coronavirus pandemic process on communication based on macroeconomics trends;
- Forecasting development directions of the communication for the post-pandemic period

Object and subject of the research: Main object of the study is development of problem-free communication process that targeting to become non-effected because of the any internal and external factors. The subject of the research is the theoretical and practical foundation of communication during Coronavirus pandemic period and development process of it.

Research methods: In order to examine the article a few research methods were applied. Initially, comparative research method was applied. In such type of researches selected variables are examined in terms of time span or situation. One object or notion is analyzed in different periods or conditions by changing time or variables. In this way the reaction of this object or notion is analyzed towards to trend and conditions. The comparative research method is used in order to look for signs of similarities and differences. For this study comparative research method was applied to, for example, usage of virtual communication tools before Coronavirus pandemic period and during it.

Furthermore, basic correlational research method is another way to find answer to research question in this article. This research method aims to establish sense from variables determined earlier. Although basic correlational research is not enough to come to the point of cause-and-effect relationships, it is important to determine if a relationship between variables exists or not. This research methods are expected to use, for example, in order to understand the existence of the relationship between governance of the situation by state and trust of nation to the government during Coronavirus period.

Finally, conceptual research methods are applied to this article. They determine the result by observing and approaching analytically to already given information on a presented topic. This type of research method involves no practical test for analyzes. For this type of research method, example can be given from some hypothesis like whether the number of internet users among elderly people in Azerbaijan is increasing or not.

Research database: For the initial study purpose which aims the general approach towards to the study, the database from different global sources are used.

Among them most popular ones are Yahoo Finance, Statista global database platforms. The data collected from mentioned platforms are heavily quantitative form, and all of the information are in the format of secondary data.

Furthermore, for the initial analysis in terms of the similar situations in Azerbaijan again secondary data is used accumulated by the Statistics Committee of Azerbaijan Republic. This information from committee is also mostly in the form of cleared quantitative data.

Finally, the main database of the research is the accumulated data with the contribution of survey. It is in the primary data form and collected by addressing to differentiated targeted audience. The accumulated data includes information both in the quantitative and qualitative form which opens new opportunities for the study. Major target of this survey is Azerbaijan and communication process in individual and corporate level during Coronavirus pandemic period.

Research limitations: Initially, one of the research limitations is the lack of the previous researches in the similar topic which can be used as a base for continuing study. As mentioned before, although communication is not new for scholars, Coronavirus is not analyzed by researchers enough in terms of all fields including communication. This situation establishes some obstacles for the research including having weaker base.

Furthermore, database issue is another obstacle in front of the research. As mentioned before, for the global purpose finding accumulated data is not so difficult since there is enough data providing platforms like Statista and Yahoo Finance. However, when case come for Azerbaijan, situation turns to a very difficult form. Global platforms collect less data about developing countries including Azerbaijan. Online wide source of information about Azerbaijan is National Statistics Committee which is also stays ineffective in some situations.

Finally, since the provided secondary data about Azerbaijan are not enough, it would be better to collect primary data with the contribution of different methods. The similar situation was done for this study. However, reaching too wide range of target group is very difficult with limited sources and in the limited time span.

Therefore, accumulated data are including small range of potential audience and carriers somehow crucial concentration instead of differentiation. With such kind of data there is a possibility of bias in the result.

Scientific novelty of the research: As a novelty of the study, it can be represented that research brought ideas about development directions of communication after the Coronavirus pandemic period. Moreover, it also can be roadmap in order to prepare the society for the extra-ordinary situations in terms of communication.

Scientific and practical significance of the results: In terms of the scientific importance of the research, it can be base point for the future studies. Because, as mentioned before, Communication in extra-ordinary situations is not analyzed enough to be prepared for any obstacles. Practical foundation of the study is determining triggers of current obstacles in communication, digging into deeper and offering some effective solutions for existing problems.

CHAPTER I. THEORETICAL FOUNDATIONS OF ROLES OF THE COMMUNICATION AND WORLDWIDE HEALTH CRISIS IN GLOBAL BUSINESS

1.1. Communication as an interrelated part of the business

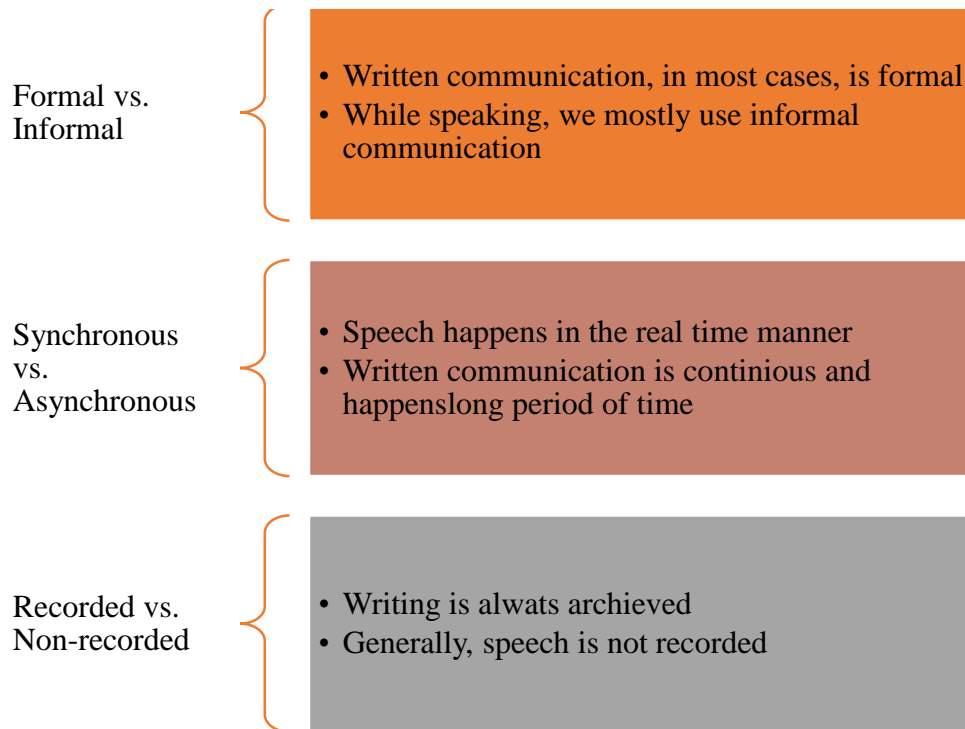
When people think of communication, they think of a message transmitted between a source and a receiver. "To make widely known," for instance, is a basic definition of communication. As a consequence, corporate communication is the integration field of the communication and management competencies for transforming information into a format that is easily understood in order to attain organizational objectives.

Communication is classified based on different criteria. One of them is form of communication. In terms of form of communication there are type types of communication including verbal and non-verbal ones. Non-verbal communication is form of communication using the contribution of facial expression, feets, hands and other parts of body, as well as, vocal quality.

On the other hand, coming to the verbal communication is indeed the most known and clear form of communication, and, therefore, it is definitely a strong tool in our communication "box". In a simple form, verbal communication is just the share of the information between two people just by using contribution of words and sentences. Although we mainly concentrate on oral speech, it's significant to remind that "writing" is also another type of verbal communication while focusing on verbal communication. Because writing is also collection of words.

What creates the difference between written and spoken verbal commincation leads to other different classification of communication. These classifications are mentioned below:

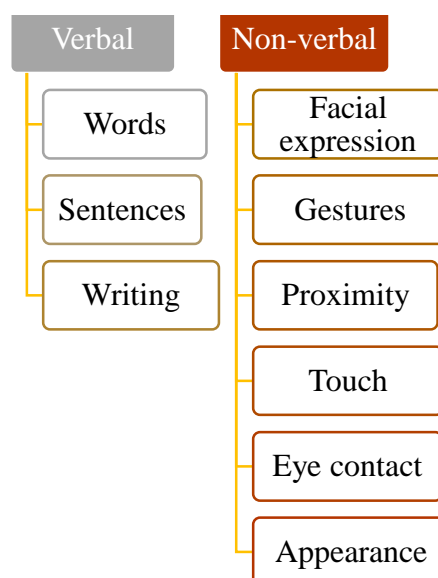
Scheme 1: Classification of communication



Source: Prepared by author based on the information obtained from Rosengren K.E., (1999)

Verbal and non-verbal communication forms also have their own sub-categories which are classified scheme below:

Scheme 2: Forms of communication



Source: Prepared by author based on the information obtained from Rosengren K.E., (1999)

Furthermore, it was in the mid-twentieth century that communication research began to focus on interpersonal relationships. Parallel to the management research, communication study shown that employees may be quite useful in developing processes if their suggestions are heard. Researches on communication studies have shifted to a more relationship-focused phase (Morreale S., Rubin R. 2002: p.2-4).

Mary Parker Follett was a business theorist whose research assisted business executives understand the importance of successful communication between people and the management. Her contributions on interpersonal communication skills and motivation are clear because they are based on good management. She is also known for giving the following wise counsel that management is the process of getting things implemented via people.

As the research of management and communication advanced at the same time, professionals became fully aware that communication is a critical skill for both management and the employees.

At all the tiers of any organization, including strategic, middle, and operational levels, management and communication concepts develop simultaneously. The study on relationship management as a result of team and interpersonal communication abilities was stated by some scholars (Morreale S., Rubin R. 1998: p.43-44).

Managers must handle disagreement, provide opportunity for people to voice different points of view, know how to assert themselves successfully, assess situations and circumstances, and share the information. Managers that effectively apply these qualities might be called effective communicators. The purpose of efficient organizational communication in the workplace is to help the company succeed by contributing in all possible ways (Morreale S., Rubin R. 1998: p.23-24).

Managers use their competencies, as well as resources, to accomplish corporate goals. It's impossible to conceive accomplishing any of these activities without goal-directed communication. According to some scholars, corporate leaders must encourage "communication, communication, communication". Each

employee must be aware of the strategic goals of the company (Froschheiser A. 2008: p.9).

Communication may be thought of as a "golden thread" that combines all of the administrative activities. For example, you may have a great idea, however the efficient interpersonal communication is highly essential for its implementation process. Imagining a plan is similar to communicating it on a personal level. In essence, most unsuccessful initiatives did something similar somewhere in the communication process.

We may understand communication responsibility at all levels of management using managerial communication theories (strategic, middle, and operational). Strategic management deals with conceptual issues and organizational direction at the highest level. At the tactical level, middle management is in charge of the organization's human resources. Operational managers utilize their technical talents on behalf of the company at the operational level.

About in early 1990s, effective communication was more focused on the practice of managers who needed to implement theoretical approaches from a more academic viewpoint rather than on the development of primary competencies, which itself is typically the focus of corporate communication. As a consequence, the manager of the corporation benefits from a foundation in basic communication skills and management concepts learned in an undergraduate program of study.

A manager's communication competency is the application of the principles of knowledge, attitudes, capabilities, and mindsets. If a manager wishes to achieve effective judgments, he or she must understand the organization's structure. The manager must be able to create goals for both himself and the organization for which he or she is responsible. The manager must then work as a team leader to carry out duties that will benefit the company itself and its subgroups achieve their stated objectives.

To become a brilliant manager, one must be skilled in many areas, including planning, communicating, and government, strategy implementation,

collaboration, self-management, and intercultural understanding. Communication competency includes both professional and casual communication as well as the ability to negotiate.

Information overload is a critical challenge in today's modern corporate environment. It must be determined which messages are important enough to spend more time on and which are merely "interesting to know" info that may be missed or eliminated completely. It takes a lot of effort and interaction to become an information user and rebrand it for anyone else. Communication policies assist all the individuals of any organizations or entities understand who they need to communicate with and when. An overload of data creates a lack of concentration. As a consequence, we must exercise extreme caution while receiving and transmitting information.

1.2. Impacts of Coronavirus (COVID-19) pandemic to overall global trade: comparison of globe and Azerbaijan

1.2.1. Starting point and further movement of pandemic

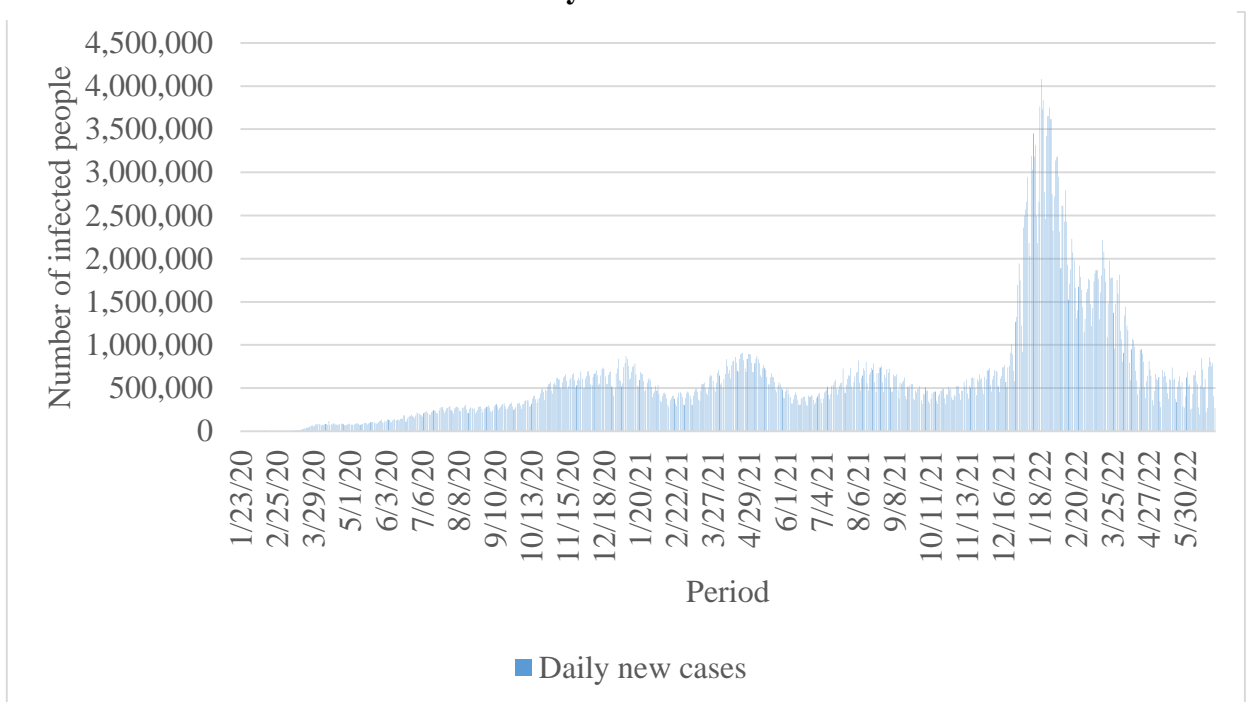
A "tale" of Covid-19 pandemic started from Wuhan, China at the end of 2019. While coming to March 2020, the number of cases was exciding 100k all over the 60 countries of the globe. In order to realize risks and afterwards, start the mitigation of them, accessibility of information is important at the beginning of the any struggle. However, majority of reasons related to high expansion speed of Coronavirus stay undiscovered. Only thing which has already been revealed is that Covid-19 pandemic takes some roots from face-to-face transactions.

In case of Azerbaijan, initial Coronavirus cases were observed at the beginning of 2020. While coming to second quarter of 2020, the daily new cases reached 3-digit numbers. That made the government move to lockdowns and restrictions, starting from late March and early April of mentioned year. With the contributions of harsh lockdowns, during summer period of 2020, the number of new cases hit to bottom again. However, as seen from graph below, during the last

phase of 2020, the cases started to increase, and for the first time Azerbaijan observed 4-digit numbers in terms of new infected patients. During that period, no doubt, death rate tripled comparing to that of previous periods. Indeed, the rocketed numbers is not surprising for that period when the effect of Second Karabakh War is considered. Unplanned mass meetings and celebrations of victory triggered the spread of Coronavirus pandemic. In addition to that, since those meetings carried national level importance, neither police, nor other state structures could successfully fulfill their duties in order to protect.

Although during April 2021, rate reached 4-digit number, period till August of that year could be considered success of Azerbaijan against Covid-19. The influence of vaccination also cannot be put away. Widespread vaccination gave the courage to government about loosening some restrictions started with opening free movement between cities and entrance to capital. Although loosening restrictions led to rise in the number of newly infected patients, majority of nation have already had immunity against Coronavirus pandemic, and they pass the quarantine period less harsh comparing to previous periods.

Graph 1: The number of daily infected people to Coronavirus pandemic in Azerbaijan from January 2020 till June 2022



Source: Worldometer Platform, (2022).

1.2.2. Initial fail in supply of core raw materials and ready products

Currently, undesirable impact of pandemic is heavily felt on all the economic sector. Covid-19, especially, damages the economy and trade of Far East. As a result, the maximum impact is observed on business which trade is heavily connected to Far East, especially, China. As China is one of biggest supplier of raw materials and ready products, as well as, destination for production, assembly, storage services and cheap labor force, missing of this superpower on global trade leads to loss of billions of dollars. Majority of big companies has concentrated considerably great portion of their production process in China. If some of these companies starts to think about moving their production out of China, it may also lead to folding struggles to double.

The fate of Middle East, especially, Arabian countries and Iran, are always correlated with oil price. Since global production faced with obstacles due to Covid-19 pandemic, oil lost the interest on it more quickly as an energy source. Starting from the beginning of pandemic period till mid 2020 the oil price and till late 2020 the natural gas price was decreasing intensively. Although starting from end of 2020 oil and natural gas prices increases, the intensive volatility in price still exists.

Azerbaijan is also considered one of the core suppliers of some raw materials. This list starts with oil and gas. Majority of European countries, especially, those who are specialized in aluminum and steel production (metal melting process requires high heating temperature that only be provided by oil or gas), are buyer of Azerbaijan oil and gas to use it in production process. As well as, European countries, despite of the movement towards to more green energy, still use non-renewable energies for households heating purposes.

Starting from the first day of worldwide pandemic, production process in all industries declined and that led to less demand for raw materials used either directly or non-directly in production process. Oil and gas were also among them. This harsh decline happened not only to Azerbaijan but also to all oil supplier

countries led by OPEC countries. As a result of low demand, the price of oil and gas hit the bottom. This, in its side, brought enough financial loss for countries like Azerbaijan which heavily focus on oil industries. All of these effects can also be observed from graph represented below.

Graph 2: Percentage change on export amount comparing with previous year



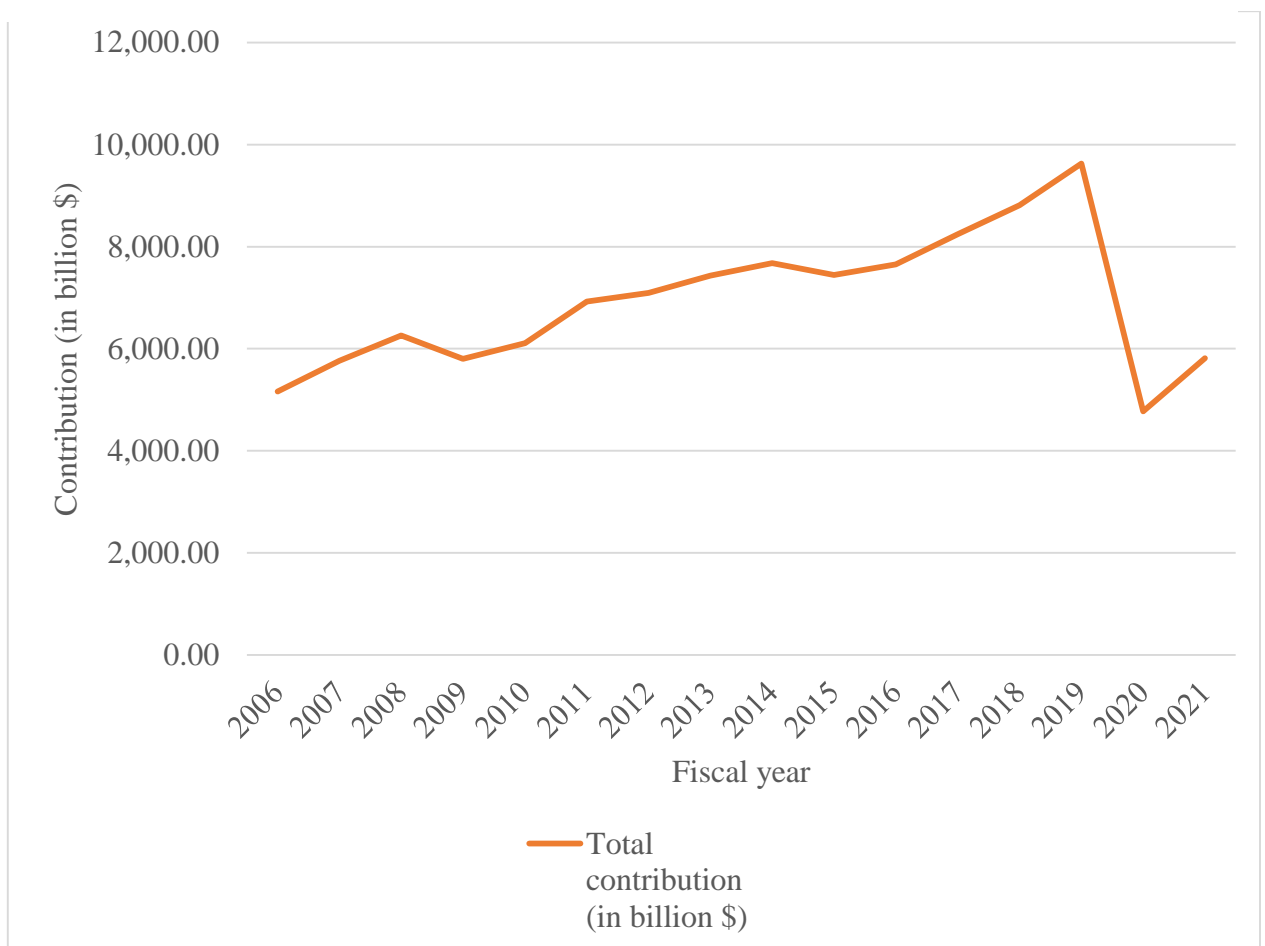
Source: Azerbaijan Statistics Committee, (2021)

1.2.3. Service sectors and education field during Covid-19

While turning to Europe, it is observed that majority of these countries are affected in terms of service rather than production. The main reason behind this effect is that major European countries has been specialized in service sectors, especially, tourism, recreation, entertainment and catering business fields. Since

coronavirus pandemic spreads quickly because of human face-to-face interactions, majority of European countries decide on either lockdown or restriction on movement between cities and states. By closing borders, there is a huge damage on international tourism. Especially, countries which have mild Mediterranean seaside (Greece, Croatia, France, Spain), snowy mountains (Austria, Switzerland, Italy, Norway, Sweden, Finland), historical monuments and museums (Greece, France, Italy, Spain, Germany, Great Britain) and entertainment places like casinos and attractions (Montenegro, Greece, Croatia, France), feel great portion of the damages on tourism. Majority of customers of restaurants and cafes are international tourists. Because of the lockdowns and restrictions, survival of the last is very harsh during and even post-Covid period.

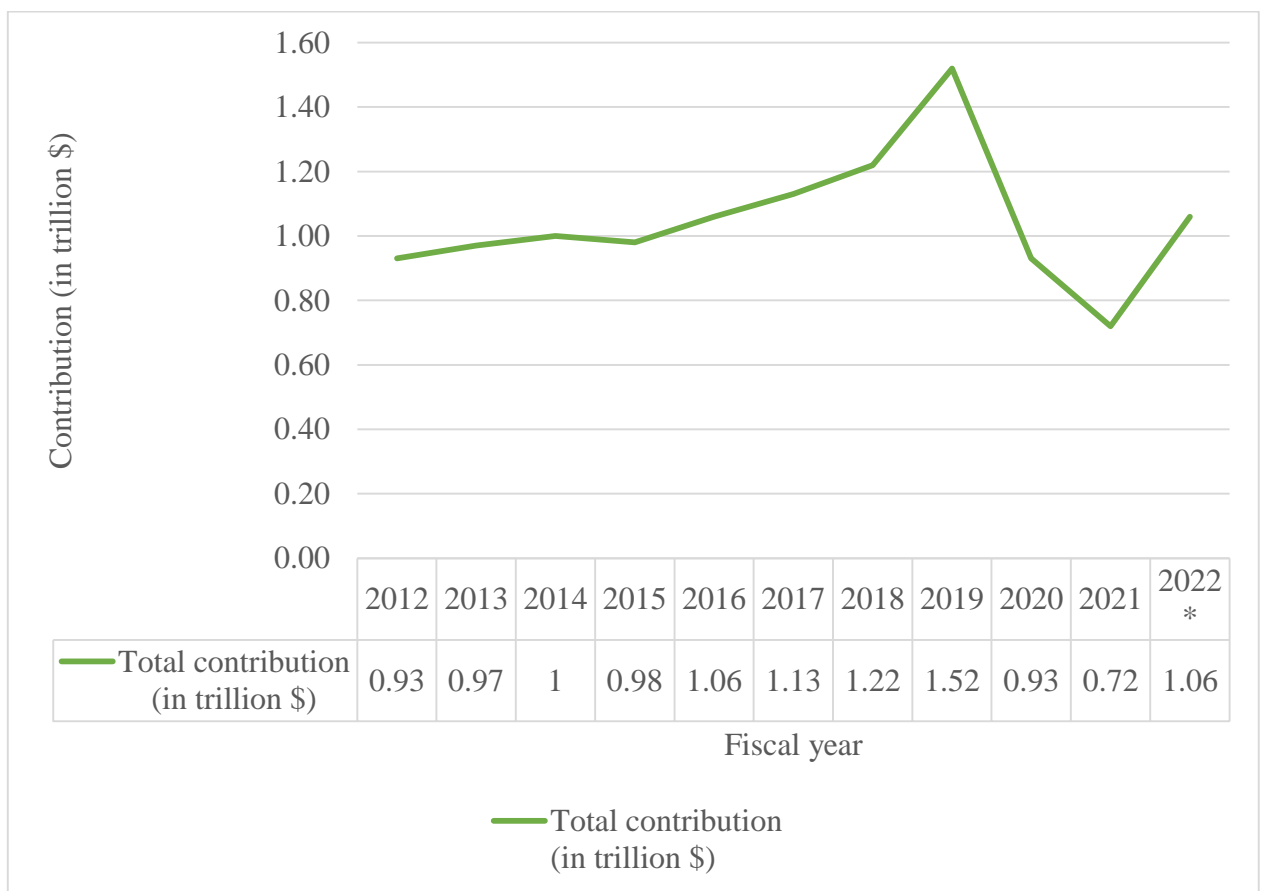
Graph 3: Contribution of tourism to total GDP of world



Source: Statista platform, (2022)

Tourism sector is also very significant for Azerbaijan. Before Coronavirus pandemic period Azerbaijan was one of most visited destination by regional tourist, especially, from nearby countries. In addition, local visitors had enough economic contribution to the prosperity of this sector. With its recreational and historical potential, Azerbaijan was attracting many people every year. Moreover, some worldwide events including Formula1, FIFA Championship – some parts of which was held in Azerbaijan, were triggering that potential. When Covid-19 pandemic came to the scene, it didn't leave that sector without influencing. Even in some points, tourism reach to failure. For example, Sheki region (among most visited places in Azerbaijan) stayed under lockdowns for a few months because of the restrictions towards to even local visitors to come which was harsh damage to the tourism potential of that region. Furthermore, closed borders and risk of pandemic kept international tourist away from country.

Graph 4: Market size of hotels and hostels (in trillion \$)



Source: Statista platform, (2022)

Another income source for European countries is education and students themselves. Renting houses, hostels to and catering services for students are major portion of mentioned education business. Moving towards to online education, travel restrictions, decreasing interests on studying abroad by international students; these are major effects of Covid-19 pandemic felt on education business. With the decreasing number of applicants, universities lose some part of their major income source. In order to solve this problem some of them choose remote education which decrease quality of education while some others follow the way of decrease on fees and increases on offered scholarships which are also financial deficit for these education centers. This problem hits not only traditional education centers in Europe like London, Munich, Berlin, Frankfurt-Main, Bologna and Paris, but also new players such as Budapest, Rome and Warsaw, that about to come to the scene as a competitor just before the pandemic period.

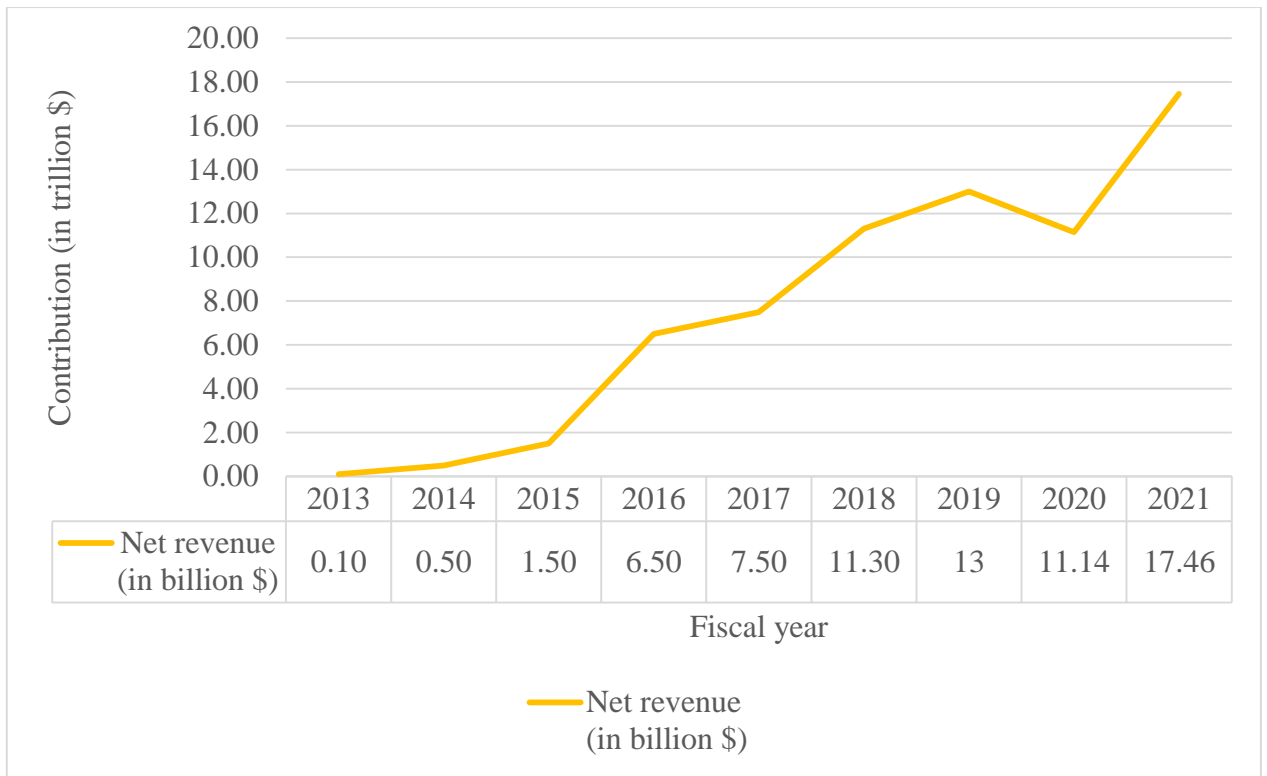
Although education business in Azerbaijan cannot be compared that of Europe (since majority of universities are either state, or offer tuition-free spaces), in terms of financial manner education related sectors were influenced more than education business itself. Among them, catering services and house renting business were one of the most visible ones. Since education system moved to online system for more than a year, majority of students didn't feel the need of going outside or if they come from outside of capital, they don't think any necessity for leaving their districts. In addition to that, in Azerbaijan majority of customers of cafes and restaurants are young people, especially, those who are in the university ages. During pandemic period, effect coming from closing catering services centers was doubled when they lost these great target group because of online education mentioned above.

Travelling and tourism cannot be imagined without proper transportation. Starting from small taxi services companies to international airline organizations using huge Boeings, lost a number of customers since Covid-19 pandemic brought travel restrictions to worldwide, especially, Europe, Northern America and China. While companies such as Flix-Bus, Uber and Bolt, lost their customers from local

restrictions (inside of one settlement, travel restrictions between cities or within European cities), airline companies like Turkish Airlines, Air France-KLM, Ryanair and Lufthansa Group were affected from both local and international obstacles. Considerably high decline in international shipping is another threat for marine and airline business fields. Its heaviness is specially felt since Europe intensively import ready products from outside of zone.

Respiratory diseases take it high spread speed from people that gathered in a mass in some places. Public transportations can be given as an example to these places. Therefore, starting from 3-digit numbers of daily infected cases in Azerbaijan, public transportations were closed, and their usage restriction stayed for a long period of time. Although, in some point local and international taxi service companies (Maxim, Uber, Bolt), tried to take the share remained from public transportation, they were also damaged by Coronavirus pandemic and its restrictions. That was the face of local transportation in Azerbaijan, especially, in Baku during pandemic period. Moreover, since students are in the top of the list among users of public transportation, losing that target group also showed its influence. Coming to international transportation, decline in international tourism, closed borders and risk of Coronavirus spread, also made a target unreachable because of pandemic.

Graph 5: Net revenue of Uber



Source: Statista platform, (2022)

CHAPTER II. RESEARCH ON THE ROLE OF THE COMMUNICATION BEFORE AND AFTER CORONAVIRUS (COVID-19) PANDEMIC PERIOD

2.1. The role of communication in business before Coronavirus (COVID-19) pandemic period

Managers take on a variety of responsibilities in the workplace, including critical thinker, investigator, researcher, critic, and fortune teller. Managers, on the other hand, are all just human, therefore they require two-way communication to properly understand what is really going on in their workplace environment. Prior to the Covid-19 outbreak, a manager's biggest communication mistake was supposing everybody had received and comprehended the message. On the other hand, just like any other job posting will demonstrate, a manager's most critical skill—and the one majority executives search for in university graduates the capacity to communicate. Using excellent fiction, presenting, having to listen, and nonverbal abilities to convey organizational concepts into productive worker activities directly contributed to a healthy bottom line (Bell R. 2009: p.45).

Until the Covid-19 case, an interaction and communication were characterized as a message that had been perceived in the manner intended by the sender and left the source and destination on good terms. These communication success criteria were aligned with some scholars' opinions on integrated structures of control of the organization and the executive's most essential responsibility. Managers in this capacity facilitated the downstream, horizontal, and upward sharing of information, as well as the transfer of content, through internal or external channels, allowing the objective to be met (Zuboff S. 1988: p.182).

Efficient leadership communication was fundamental to fulfilling any company's objective, and without it, no manager could accomplish in the fundamental management responsibilities of planning, coordinating, driving, and supervising. A manager might assist the company exhibit a beneficial influence on the society in which it was based while also still being as productive as possible for

its shareholders by communicating effectively with team members, intermediate, and front level, as well as across internal borders and interculturality (Barnard C.I. 1968: p.75-77).

Communication scholars released publications in the mid-1980s that established the limits of variety of professional disciplines in the subject of communication. Professional communication is sometimes separated into four sections for scientific investigation: organization, commercial, corporate, and administrative communications. These domains are not mutually exclusive (executives can participate in two or more modes of communication at the same time), but they are varied enough to be regarded separate specialties inside that area (Shelby A.N. 1993: p.255).

Corporate communication is the concerned with how individuals communicate and receive information while working in a system-oriented and sophisticated workplace, as well as the impact it has on the corporate structure. At the administrative level, communication might entail the implementation of linked control functions.

Corporate communication studies the fundamentals of both verbal and nonverbal communication abilities. For example, corporate communication refers to the development of fundamental formal communication concepts such as consistency, harmony, grammar, focus, the design of documentations commonly used in a professional context is, positive news and bad news messages—reprimands, performance reports, and job-hunting abilities including such recruitment application letters and curriculum vitae. Corporate communication is similar to professional and organizational engagement in that these papers provide the basis for the company's past.

Organizational communication aims at developing an image of the business and intended international reputation. A manager of organizational communication, for example, would be responsible for managing and providing guidance on the drafting of the organization 's internal and external papers, like the financial statement.

Employee engagement is a combination of business communication, internal communications, corporate communication, and administration. Employee engagement integrates communication and administrative principles in the workplace to help executives perform as organizers, leaders, planners, and supervisors of a company's limited resources in order to achieve stated objectives. In fact, no leader at any level of management can operate without effective communication.

Ex ITT executive Geneen remarked that in order to organize thoughts to get something accomplished, to attain something that yourself, or the team of employees, intend to accomplish, that certainly is deserving of your attention. All of the above definitions agree on one thing: managers work for company owners, primarily in profit-seeking enterprises (Geneen H., Moscow A. 1984: p.105).

2.2. Influence of Covid-19 pandemic on macro economics trends of communication

All good partnerships have always relied on communicating effectively. Many people are working from home during the obligatory lockdown, having little or no face-to-face contact but with their own families. Some researchers attempt to explain how the unusual coronavirus outbreak has greatly influenced the way we communicate and the important impact it has had on our regular communication abilities.

The most important distinction is that all of us have much less face-to-face, in-person communication with everyone, or when we are doing, we wear a mask. We communicate with fewer people aside from those whom we stay with, so we spend much more time on Zoom, Skype, as well as other audiovisual systems. It is obvious that social isolation is indeed not sustainable long term, although it is successful in the short run.

Furthermore, some fascinating and essential research has been conducted on the influences of public isolation on communication. One outcome is that the less we interact with other people, the much more skeptical we become of them. This

could also drive others aggressive, resulting in a self-fulfilling cycle wherein isolation contributes to mistrust, which generates hostility, which strengthens the mistrust and ultimately to even more isolation.

One benefit is that several people have been getting more skilled when using communication systems, which would be more useful for the future. It is assumed that many have taken Zoom brief sessions over the last several months, Levine added. There has been a lot of commentary on Zoom ethics, including such switching off the microphone since you're not talking. Zoom holiday parties or tea breaks are a unique idea in our view. It is exceptionally imperative to just be attentive of all other people's welfare and convenience. Becoming kind is definitely more essential than ever before.

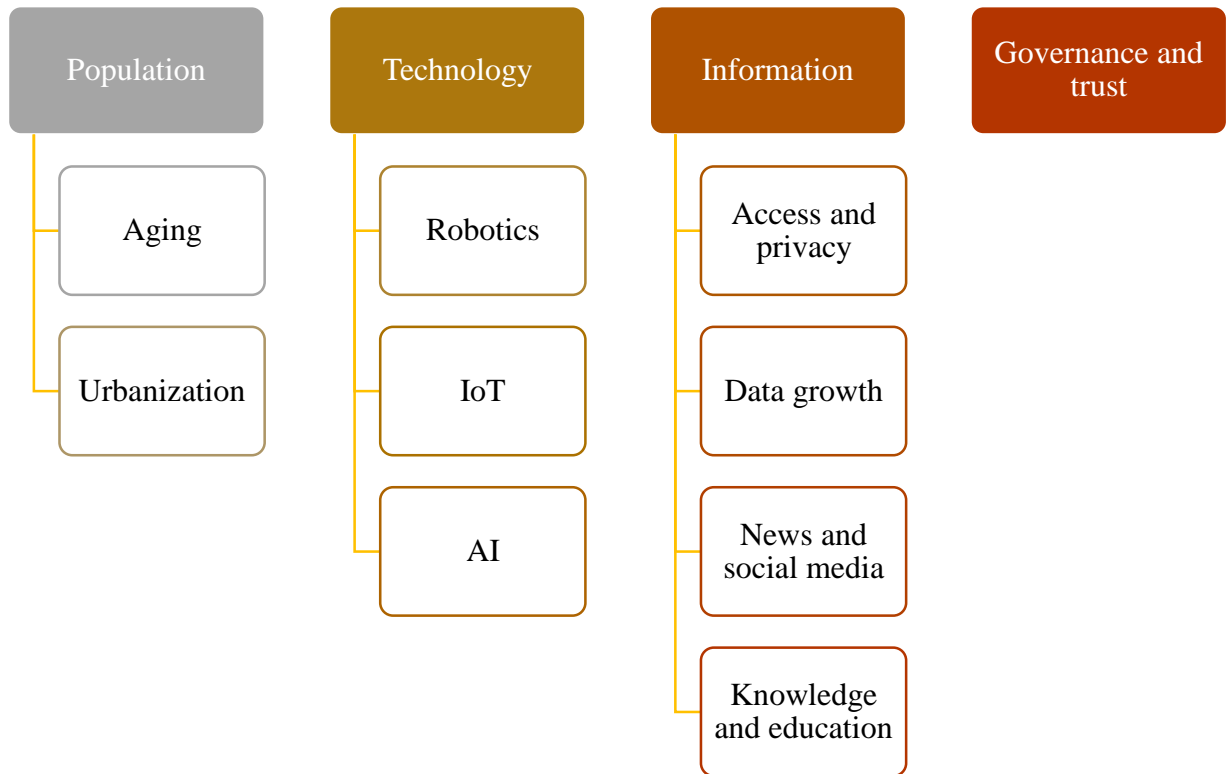
It is essential that people keep in touch with friends and family and neighborhood as often as possible in order to retain a sense of stability. Keeping in contact with people, either through telephone, mail, texting, or ancient letters, is perhaps more essential than ever before.

Returning to normality would most likely be a slow change, although it is necessary to keep in mind that what's really "ordinary" varies throughout time, even in the absence of epidemics. Internet and mobile media will undoubtedly continue to be relevant in the near future. Nevertheless, it will not even be likely to substitute face-to-face communication.

Like other pandemics Coronavirus also changes lives by converting nations, political structures, societies, rules, economies, and governments. The way of selecting political methodology carries importance for defining the results. It is obvious that quick, intensive and early performance is needed. However, the net outcome is that Coronavirus is intensively devastating in a short run and very difficult for prediction from the medium term to the long run across each of the analyzed macrotrends below in terms of communication. Because of this uncertainty and disparity, the trajectory of challenge increases (Morrison J.S., McCaffrey A. 2020: p.24).

The list of the mentioned macroeconomics trends represented below:

Scheme 3: List of the macroeconomics trends



Source: Prepared by author based on the information obtained from Morrison J.S. and McCaffrey A., (2020)

2.2.1. Population

Aging

Covid-19 infected people in terms of the structure of their demographic variety. For the first time over 2 centuries, in 2020, people over 60 years old outnumber those who are aged below 5 years over the world. Majority of them intensively focuses on highly developed countries. Unfortunately, coronavirus carries high risk exactly for mentioned growing population of elderly people. For instance, in the United States over 50 percent of death related to Coronavirus

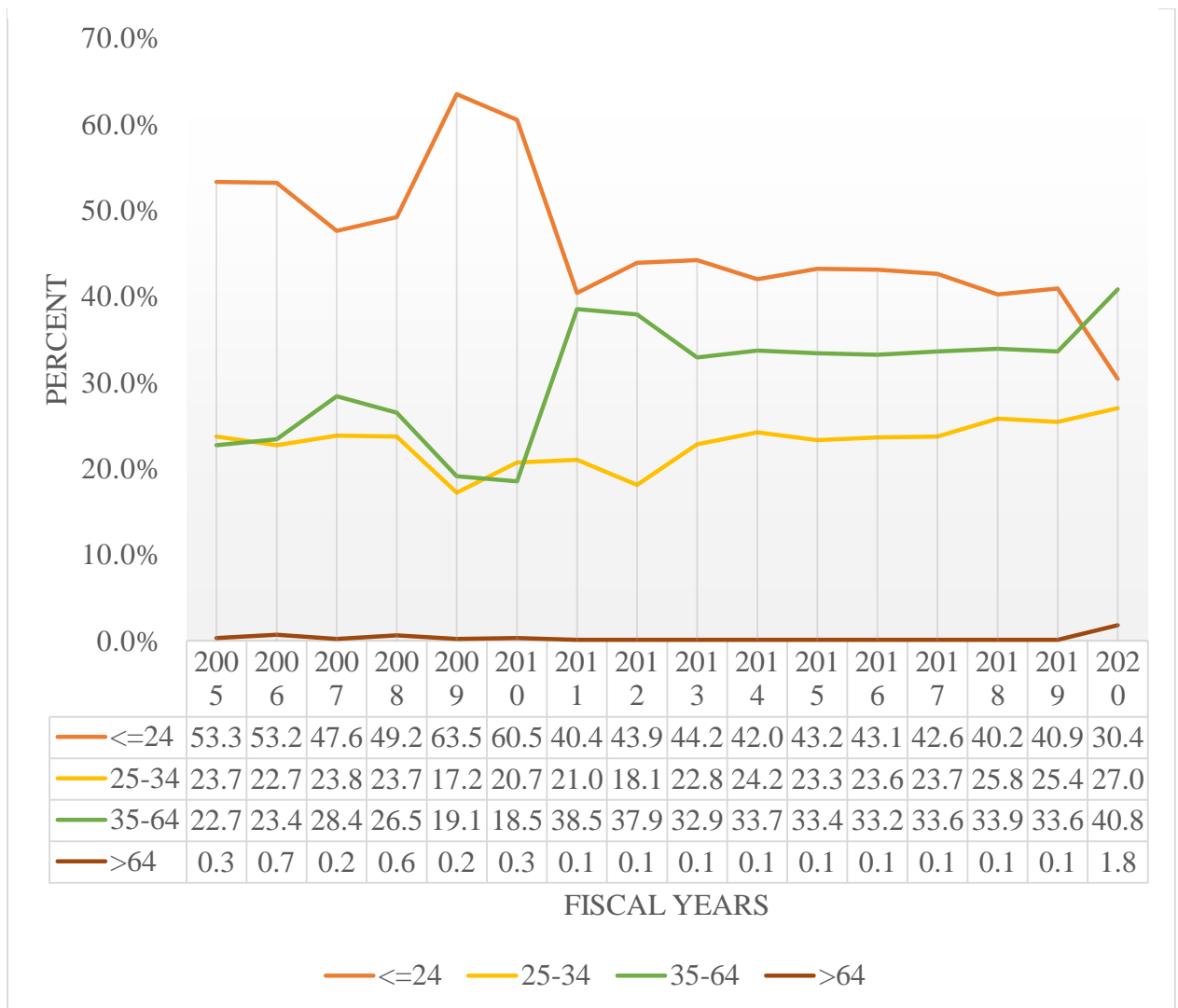
appeared among people above 65 years old. In Italy about 85 percent of Covid-related deaths are among those who aged 70 years old and more.

Because of the high mortality rate among elderly people, restrictions, especially, target them. Spending majority of their time inside home, they lose opportunity for face-to face communication. Meanwhile, almost all people in these ages have less skills and information on technological know-how. As a result, using too complicated communication technologies and apps is just impossible for them.

In addition to that, with little know-how on communication technologies, access of elderly people to caregiving and healthcare services from home is very difficult which is not surprising case for Azerbaijan too. Highly vulnerable facilities for eldercare can be considered main trigger behind the outbreak of clusters and high fatality rate.

However, usage of communication technologies and IoT was triggered in Azerbaijan during pandemic period among elderly people. Those measurements represent that electronic know-how among elderly people, especially, aged more than 64, increased intensively, visible from numbers below. Although elderly people are still the least interactive group comparing to others, their knowledge increasing over period. In addition to that, it is also visible from graph that people between 35 and 64 years old show development in terms of knowledge and usage of communication technologies and IoT even before Coronavirus pandemic period.

Graph 6: Weight of each age group among computer users



Source: Azerbaijan Statistics Committee, (2021)

Urbanization

Coronavirus has proven that disorganized high-density populations are one of the main triggers for the spread of disease. Currently, about half of the population worldwide settle in urban areas. This measurement is predicted to reach 66 percent till the mid of 21st century. Majority of this growth is expected to come from developing countries like Azerbaijan. Not surprisingly, hypocenter of Coronavirus pandemic – Wuhan, China, is mega-police with population exceeds 11 million. Another example – New York is also megacity with high-density population. For

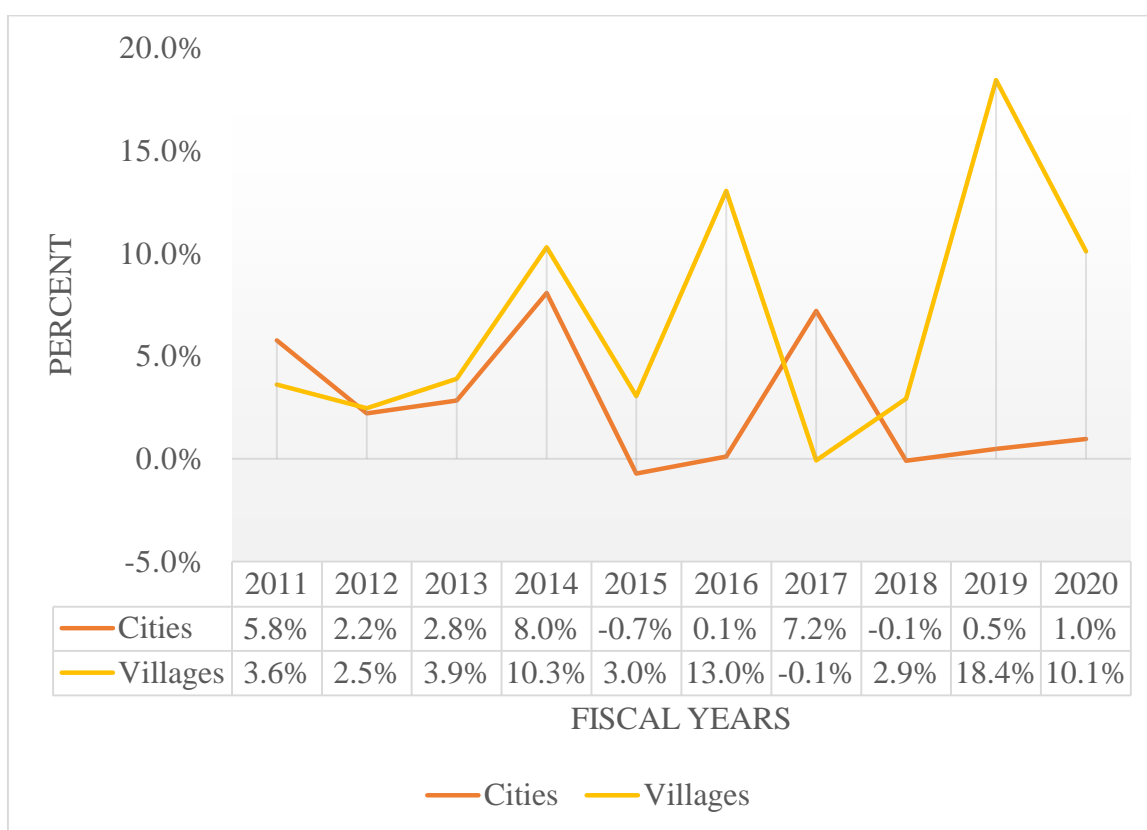
Azerbaijan, we can consider Baku-Sumgayit-Absheron triangle which is very suitable for the problems mentioned just above. Especially, Biladjary and Khirdalan suburbs are very risky settlement places for the intensive spread of Coronavirus pandemic.

It is a usual case that pandemics always change cities, as well as, way of living of people in cities. Street cleaning process, development of hospitals, repairing system of water drainage, determining the structure of garbage disposal, and nationwide systems of public health, these are all people's responses to previous diseases and pandemics. However, Coronavirus brought a new trend for people which is related to urbanization. This is migration from cities to suburbs or rural regions with health and less stressful environment.

Starting from middle of Coronavirus pandemic period, in Azerbaijan people's interests on suburbs and rural areas which consist of more green areas, suitable natural environment and healthy lifestyle, are increasing day by day rather than city centers. However, in newly industrialized and developing countries like Azerbaijan, these settlement places are not so developed as central places. Not only infrastructures, utilities, transportation are less qualified, but also telecommunication systems are so primitive and less developed. Low speed of internet, loss in connections can be shown as an example to these problems. Therefore, local governments and companies face to a new target to establish strong telecommunication systems in these areas. Even they have already started to systemic telecommunication networks for regions represented numbers below.

As visible from graph starting from 2012, development of internet access of villages exceeds cities (besides 2017). More interestingly, percentage change of internet access in villages represents positive number almost every year. It means that in none of these years, people in villages use less internet comparing with previous year.

Graph 7: Weight of internet access in cities and villages in Azerbaijan over years from 2011 to 2020



Source: Azerbaijan Statistics Committee, (2021)

2.2.2. Technology

Robotics

Likely other forms of automation, utilization of robotics is also about to fasten during Coronavirus pandemic period. Over the period of the Covid-19 pandemic, robots intensively used in giving some services in terms of communication, disinfecting places in the usage of public, and contributing healthcare employees in order to keep the spread of the virus under control. In the pharmaceutical businesses, the Coronavirus pandemic is increasing the speed of the cooperation between robots and human-beings in hospital operations on a daily bases and driving improvements in applications that might contribute highly efficient

diagnosis, check-up, and health care. For instance, researchers from China are developing new generation of robots which take blood samples, and also implement mouth swabs without transition of human-beings.

On the other hand, in Azerbaijan usage of robotics for communication purpose is very rare. Since communication is mental process rather than physical one, it seems very difficult to facilitate with the contribution of communication. However, it is not fully impossible and, maybe, communication is one of the significant process which requires robotics and automation.

As we know high spread speed of Covid-19 pandemic is correlated to human face-to-face transactions. In some services (for example, checkup, hospital services), it is somehow impossible without communication of human-beings. However, some of the services like call center agents, initial consultations can be implemented with the contribution of robotics. Therefore, any facilitation process (such as, automation of some parts of process in order to decrease face-to-face communication) can be very effective tool for mitigation of spread risk of Coronavirus pandemic in Azerbaijan.

IoT

In spite of a fact that during Coronavirus pandemic period digitalization is very intensive mostly including remote working structure, networks of VPN, and communication tools like video conferencing, (IoT) is highly away from influence by Coronavirus pandemic. Currently, IoT is connecting more than 1 trillion devices worldwide, interrelating fields and industries and bridging as a connector between the offline and online worlds. In spite of the fact that Coronavirus got moved majority of commercial and social activities to the online form, devices that connected to the IoT, are circulating somehow similar weight of information as they did before the pandemic crisis.

However, in a long run influence of Coronavirus pandemic on IoT is still obvious, especially in the communication side of each sector. In Azerbaijan, big

organization and even government itself have increased their reliability on the IoT and digital devices during Coronavirus pandemic period. Therefore they are expected to maintain more intensive speed of digitalization even after the recovery from pandemic. For instance, demand for digital consultation portals in health care sector is increasing day by day. Currently, in terms of telehealth usage for major online services more than 500 percent increase is recorded. It is not expected that technology and IoT will return to its dark period which was just before Coronavirus pandemic period. On the other hand, intensive demand by consumer for telehealth and virtual consultations will foster reliability on IoT.

In addition to that IoT is also used to communicate Covid-related issues and updates in Azerbaijan. For example, if someone with positive Covid-19 diagnosis has interaction with you just for a few minutes, you are receiving notification about it on e-Tebib application which can be considered the victory of health care, communication, technology and IoT.

AI

It is expected that until the first quarter of 21st century, AI could own a portion in world economy which in a value of \$15.7 trillion. It is obvious that Coronavirus pandemic period is increasing the utilization speed from AI and the overall technological innovation in every field. Most probably, Coronavirus pandemic will foster the integration of AI into communication more than that of any other sectors. Combined with robotics AI creates magnificent systems which is capable for interacting directly with the physical world and used in order to monitor communication trends, define barriers for current communication systems and channels and assume upcoming directions and risks.

Although usage of services of AI in Azerbaijan is not so popular as automaton or IoT, the pandemic has also accelerated the expanded use of digital assistance such as chat-bots which also can be considered as a communication tool between human beings and robotics. For instance, majority of banks and other service

providers use AI to respond to the customers instead of persona of call center and customer services. Robotics learn from previous responses and guess what to communicate to customers with provided algorithm.

On the other hand, Coronavirus pandemic brought some challenges to the development of AI. These problems keep world back away from fully automated and functioning systems that could run themselves without any dependency. It has been discovered that pandemic-related changes present diverse reactions in human behavior than expected. Panic communication can be a good example for these behavior. As a result of these unexpected behaviors, AI system can be confused and lead to wrong decisions. This might be a good area for future developments. One suggestion can be for these developments on AI can be realization of previous crisis like the Great Depression and 2008 Global Financial Crisis in order to perfectly forecast future behavior of human-beings.

2.2.3. Information

Access and privacy

Currently, about 50 percent of the population of world is online. It is assumed that till the first quarter of 21st century this measure will be left with only a little to reach 100 percent. Since connectivity of internet can be considered fully social good, it has also foster the spread speed of security and supervision measurements in terms of communication by states and organizations, similarly with implications for privacy.

Data growth

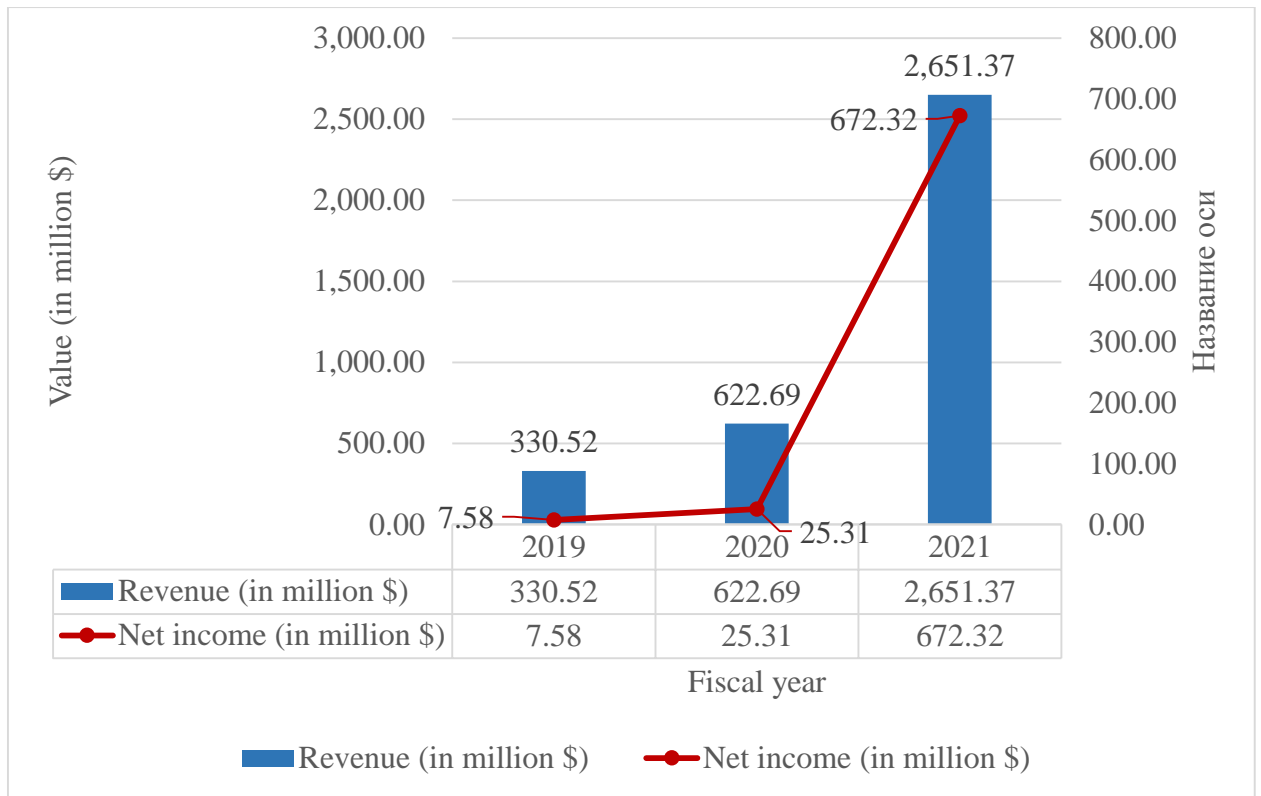
The digitalization process of commercialized and social sides of businesses, because of spread of Coronavirus pandemic and the increasing adoption process to technologies improvements like IoT and AI, is expected to lead to global growth of data. Since the virus itself and applied restrictions make daily activities move remote conditions, thousands of people are utilizing the contribution of the IoT and

communication technology for entertainment, social purposes and employment activities. This process leads to huge amount of data traffic and utilization of in-home data. It represents that how important communication infrastructure is for the future of overall world.

In comparison with exactly the same time in March 2019, utilization of in-home data rose about 20 percent in 2020. In terms of daily usage rates, it increased a little bit less than 40 percent (from 12 gigabytes in 2019 to 16.6 gigabytes in 2020). In addition, total usage of internet and data traffic have also rocketed by amount of 70 percent.

Moreover, telecommunication companies like Vodafone declared the increase of 50 percent in usage of internet since the Coronavirus pandemic established the greater need for the strong home networks. Several technology platforms are also seeing major increases in usage. In terms of the number of the daily users of Zoom, this measurement has been quadrupled during Coronavirus pandemic period, even in some points showing up to 378 percent increase comparing with last year. Moreover, usage of data itself has increased about 100 percent in comparison with 2019 (Revenue, Net Income and Stock price of Zoom have been presented below).

Graph 8: Revenue and net income of Zoom over the period between 2019-2021 (in million \$)



Source: Statista platform, (2022)

Graph 9: Changing stock price of Zoom (in \$)



Source: Yahoo Finance, (2022)

Furthermore, famous telecommunication apps such as WhatsApp and Microsoft Teams which are the leader in the market, are also representing an increase in traffic around 50 percent. It is possible that all of the above-mentioned cases can decrease after Coronavirus pandemic period. However, it is obvious that current period can nevertheless fasten the growth speed of data globally.

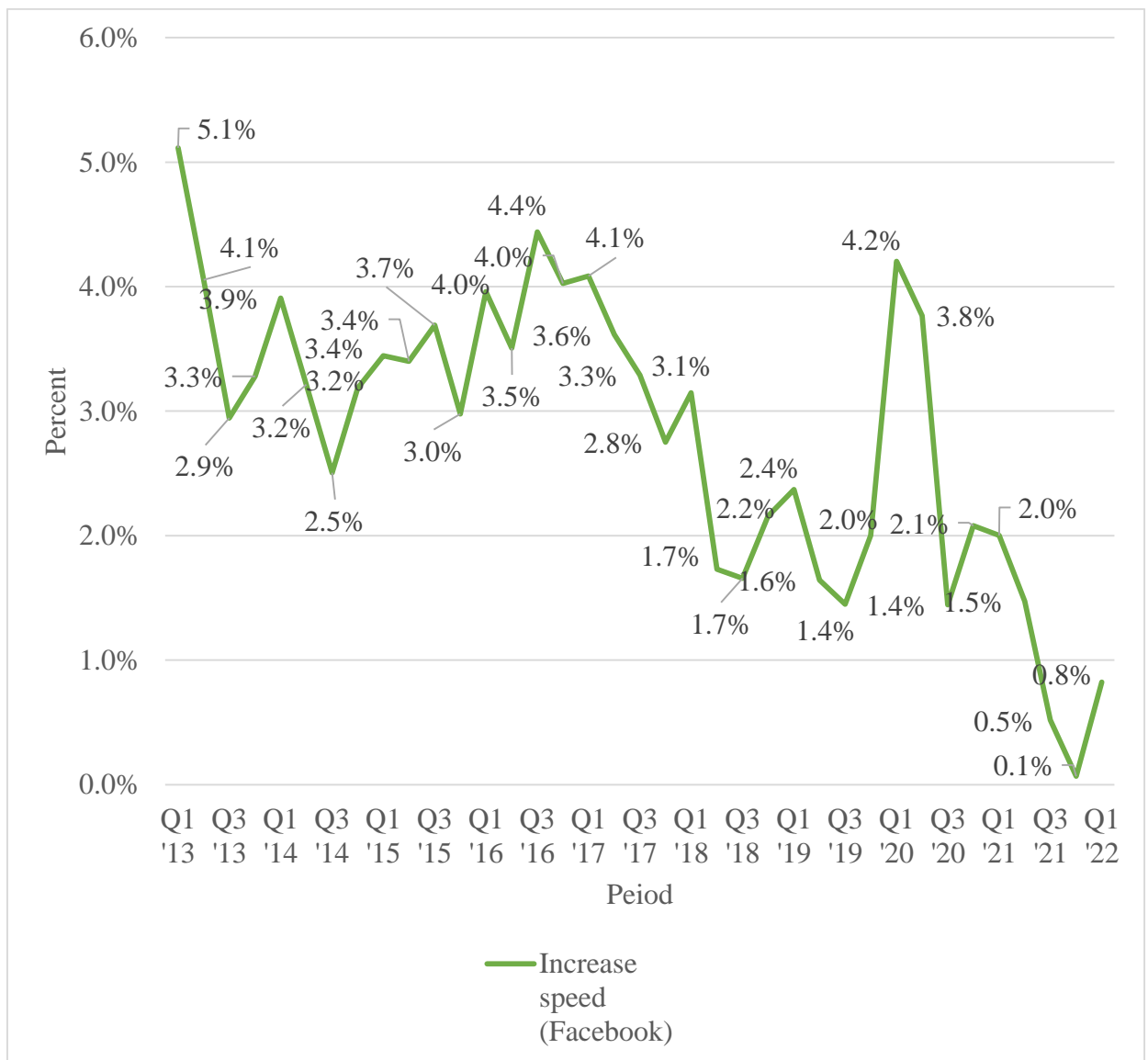
News and social media

Until January 2020, 3.8 billion people which are 49% of the world's population were active social media users. This measurement is around 9% (321 million newly admitted users) more than that of the previous year. This implies that, without depending on influence of Covid-19's, the number of social media users, which is one of the fundamental virtual communication tools, will be

substantially larger by the mid of 21st century. However, the pandemic is triggering time spent on social media and exposure to misleading news in the short run.

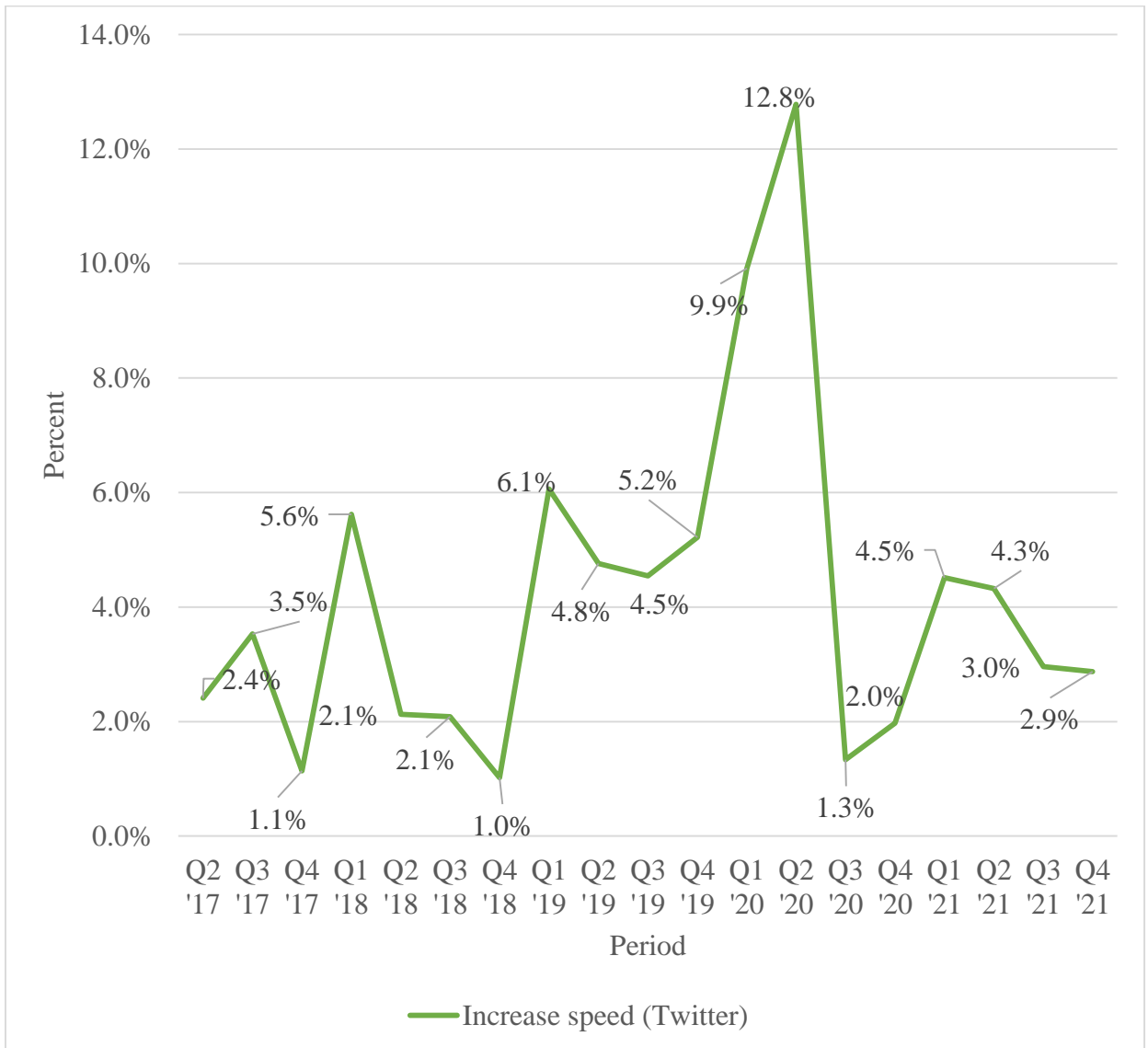
Represented graph below gives information about the percentage increase in the number of active users of Facebook in overall world. As visible from graph below, at the beginning period of Coronavirus pandemic, increasing speed of usage of social media doubled, since people tried to reach more info by using contributions of social media.

Graph 10: Increase speed of the number of the active user of Facebook



Source: Statista platform, (2022)

Graph 11: Increase speed of the number of the active user of Twitter



Source: Statista platform, (2022)

Disinformation which is intentionally misleading and misinformation that is inadvertently false news directly linked to Coronavirus pandemic have been multiplied since the virus's emergence. Fake news is not a new phenomena; however, it has been fostered in scale and speed by information and communication technology, a new system of "deepfakes", as well as, synthetic media, and, in some cases, government players aiming to change the facts. Even emerging countries like Azerbaijan are vulnerable in front of these risks.

Previous pandemic outbreaks have presented the dangers of health misinformation. During the period of Zika outbreak (pandemic in 2016), false information about the infection far outperformed those reliable ones did. The potential of fake news to spread farther, quicker, and more widely than true news complicates matters further. This tendency is likely to continue regardless of interaction of responsible governmental entities, public, society, international organizations, and private enterprise in Azerbaijan to keep the expanding of disinformation in a low level.

Knowledge and educational communication

The usage of the online education has had to accelerate because of Covid-19. In response to Covid-19, many universities and institutions throughout the world have already made the switch to online education. Whereas the quick changes have come about in excruciating alterations and highlighted inadequacies in Azerbaijan's unequal get to innovation, an unused cross breed show of instruction that combines the benefits of in-person instruction with online learning and virtual instructive communication is likely to be maintained.

E-learning has been steadily increasing since 2012. In 2018, over 34% of students in the United States were enrolled in at least one online course. Several prominent public colleges have embraced a hybrid education model: Arizona State University nearly increased its online enrollment up to 100 percent between 2015 and 2018 while maintaining cost management, while Florida International University boosted its online enrollment by around 50 percent.

In general, enrollments to the universities in the United States have decreased by 11 percent in the last eight years and may continue to diminish as online education and communication become more affordable and accessible. Since internet and communication technology enabled systems demand fewer resources for maintaining facilities and paying personnel and teachers, e-education has the potential to lower tuition fees. It also allows for larger classrooms.

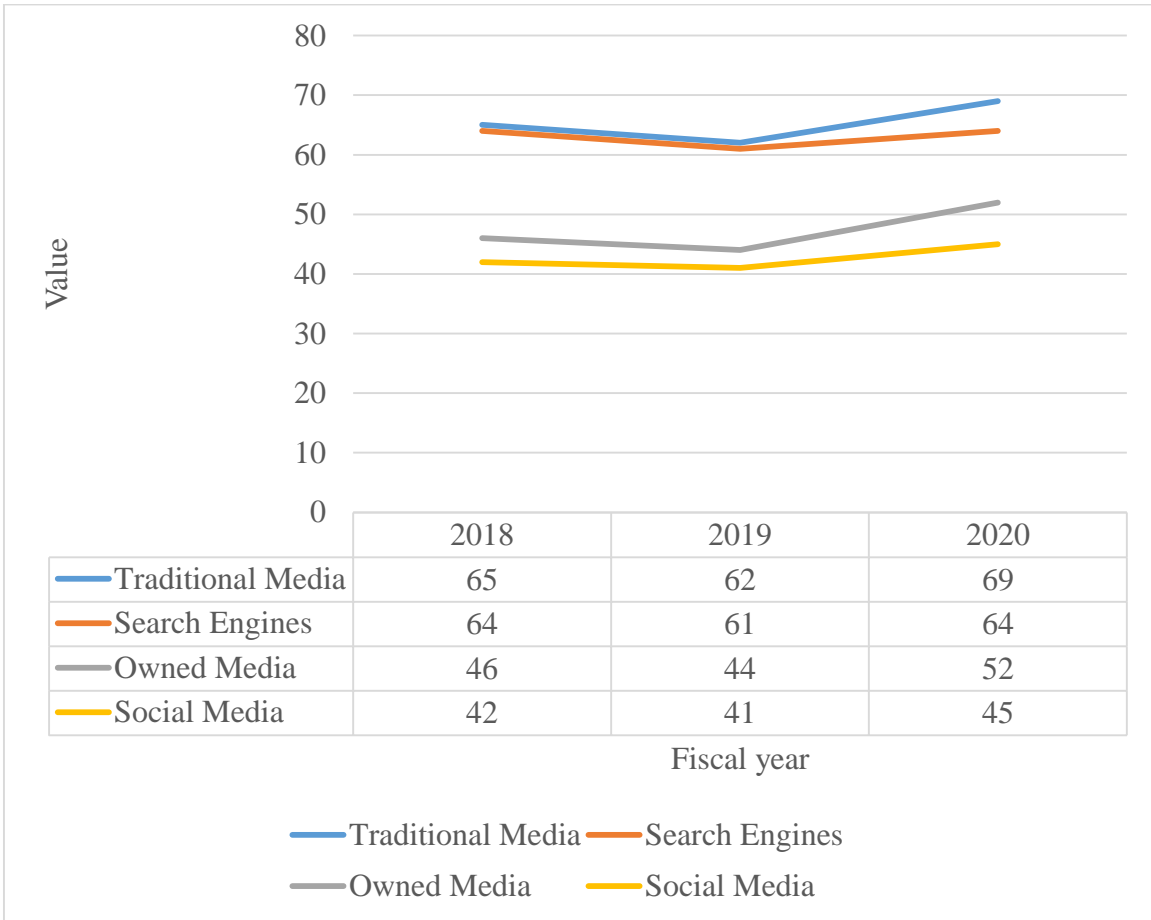
The Coronavirus pandemic may force a better understanding of institutional factors that limit the efficiency and reach of online education in Azerbaijan, such as a lack of managerial and marketing contributions, instructors' and faculty's lack of understanding of online learning formats and communication methods, and employers' negative opinions about online degrees. It may also lead universities to reevaluate tuition fees as a result of decreased student demand because of a less attractive educational experience.

2.2.4. Governance and trust

The Coronavirus pandemic caused a significant increase in trust in nations throughout the world at the onset, reversing long-term decreases in faith in governments and institutions in many countries. Overall, people's faith in experts and scientists grew since they became more reliant on information and opinions provided by medical specialists and government officials seeking to contain the pandemic.

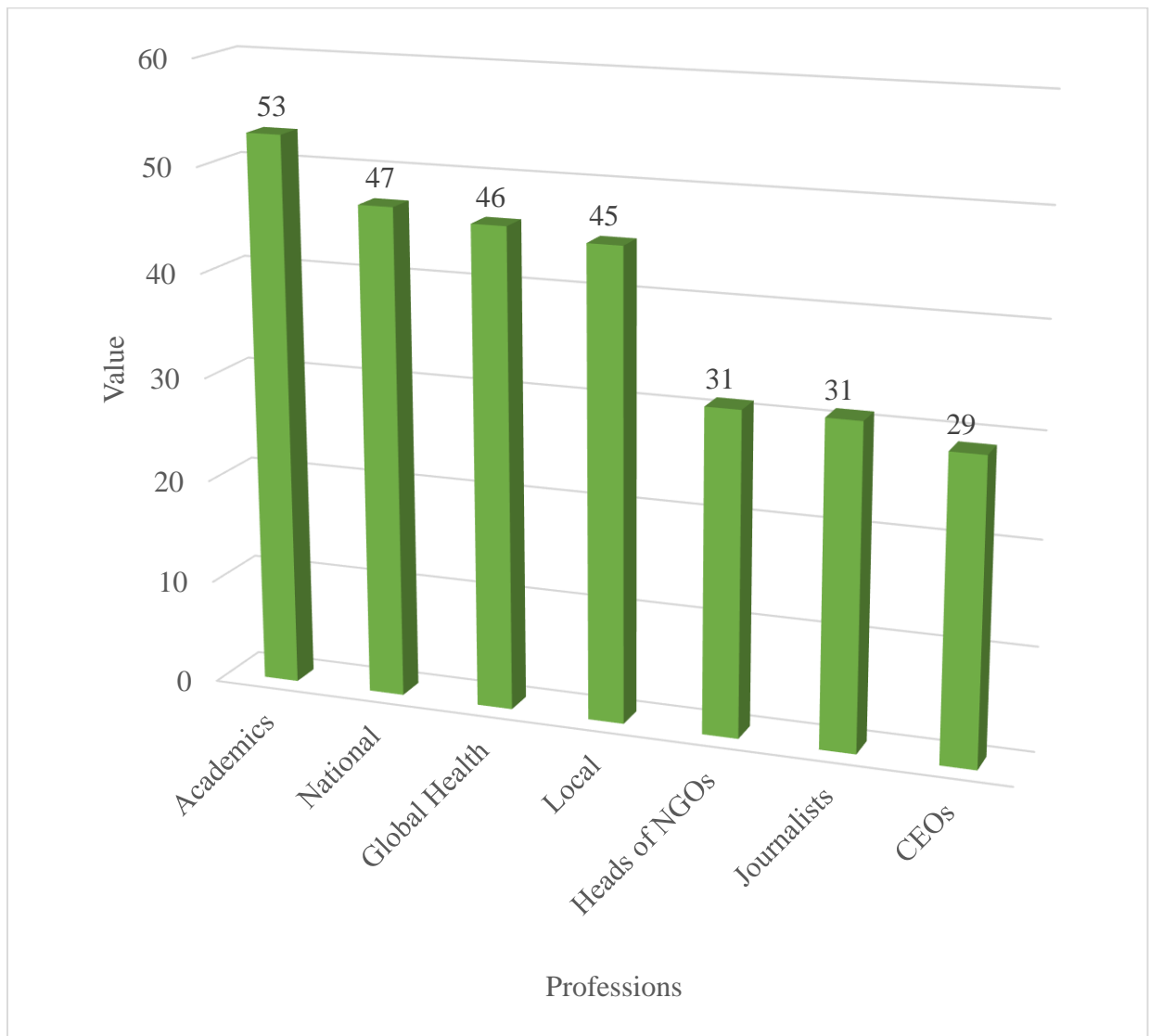
Furthermore, social media communication and extensive virtual contact have a significant influence on this result. In democratic cultures, polling revealed a dramatic rise in trust in scientists, political officials, and the local community. In a mid-April 2020 survey, Edelman discovered that trust in national government institutions had reached an all-time high in the history of their "Trust Barometer," more than 60 percent of people around the world confirming trust, by 11 points from January 2020, including in the United States, where credibility increased from 39 till 48 percent.

Graph 12: Trust to the different types of media



Source: Edelman “Trust Barometer”, (2020)

Graph 13: Trust to government by different types of professions in 2020



Source: Edelman “Trust Barometer”, (2020)

Governments, corporations, institutions, and individuals which are the most disciplined, rigorous, and honest in their way of organizing and oversight of the communication crisis in the overall world during Coronavirus pandemic period, will experience emerging victory. The future can be actively shaped by actions and inactions of people, especially, during times of enormous volatility and uncertainty, such as this one which we are passing through. Rather than obeying

the challenges described here, it has to be considered how to actively construct and shape the sort of the communication environment society want, whether in Azerbaijan or globally—one that prevents a recurrence of the catastrophe that is currently challenging overall world.

CHAPTER III. FUTURE IMPROVEMENT DIRECTIONS OF COMMUNICATION PROCESS

3.1. Development perspectives of communication channels during post-pandemic period

As mentioned before, there is enough research targeting developed countries in terms communication. While coming to Azerbaijan case, it is a little bit difficult to find detailed exploration related to communication process, especially, workplace one. In addition to that, since Coronavirus pandemic is new for the world and Azerbaijan, its future effects, and ways to avoid from them is not explored enough. Especially, developing countries like Azerbaijan has enough problems related to database issues in terms of communication. Therefore, in order to analyze communication during the Coronavirus pandemic period in Azerbaijan primary data was accumulated.

In order to accumulate data related to communication, survey was used. With this purpose, Google Form survey application was used. Prepared survey offered in two languages which are English and Azerbaijani in order to grab attention of more respondents and access much wider target audience. After the preparation of the survey, it is shared on social media accounts like Facebook, Instagram, communication apps like WhatsApp and Telegram. Moreover, in order to access more respondents, professional platforms such as LinkedIn was also used.

As a result of those implementations, small sampling data with different criteria were collected. Accumulated data includes both of the qualitative and quantitative data which opens opportunities for different types of methods of analysis. Examples of both qualitative and quantitative variables of accumulated data are represented below:

Scheme 4: Forms of accumulated data

Quantitative

- Ages of Respondents
- Ratings of some variables in terms contribution to the development of communication in Azerbaijan

Qualitative

- Respondents employing sectors
- Changing in the utilization of communication channels because of the Coronavirus pandemic
- Intensity of the usage of Zoom or Teams before Coronavirus pandemic and after it

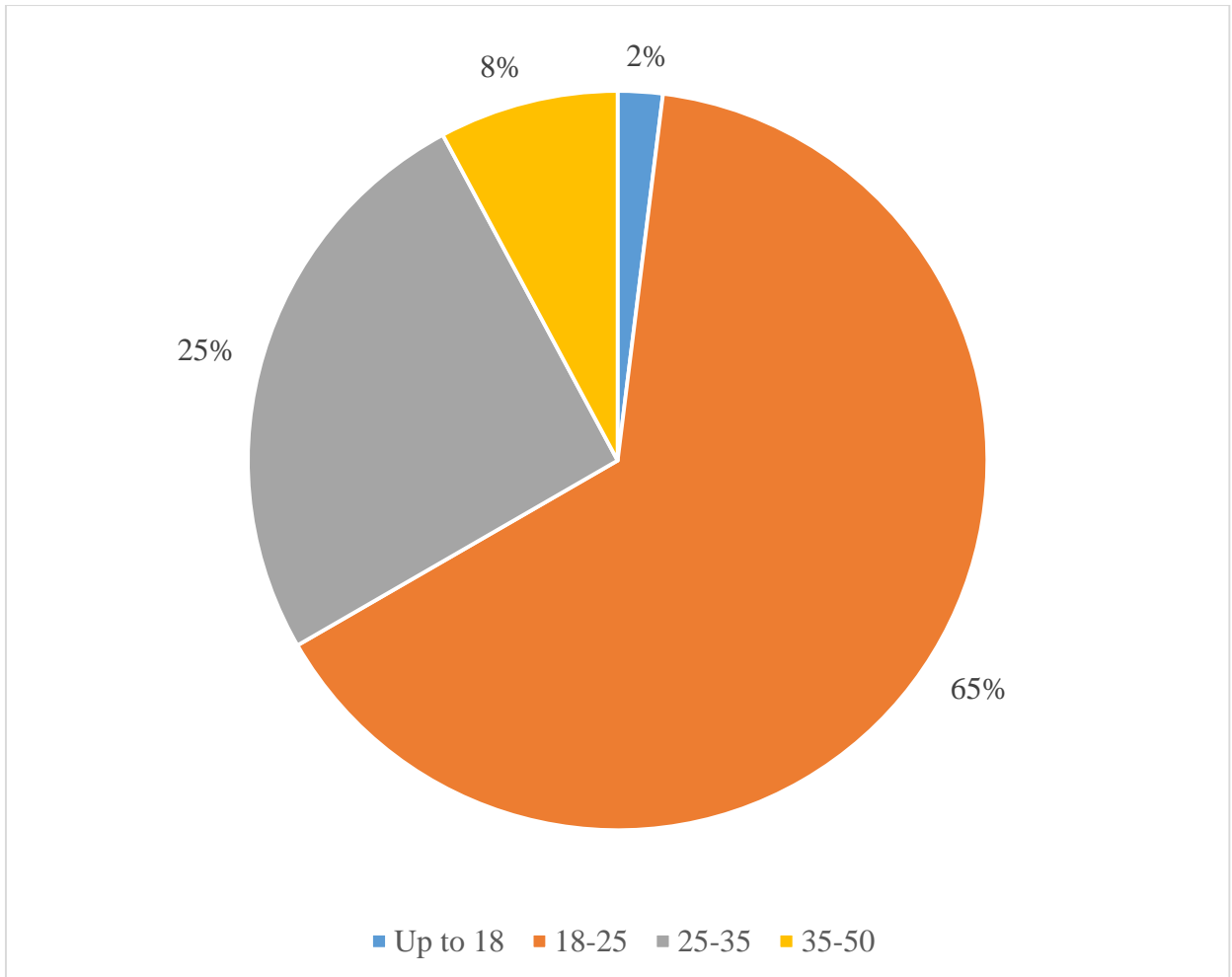
Both the qualitative and quantitative

- Opinion about some hypothesis in terms of communication and its development perspectives

Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

As mentioned before, collected data consists of samples from different categories. It would be better to start analysis from observing the diversification and, as well as, concentration of sampling data. Initially, it can be started from age concentration of respondents:

Graph 14: Concentration of respondents based on their age buckets



Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

As visible from the pie-chart above, majority of the respondents heavily focuses on the age group of 18-25 age group with concentration of 65%. Age group of between 25 and 35 is in the second place in terms of collected data with 25% of overall respondents. It gives enough opportunities for analyzing the topic since people between 18 and 35 are those who have considerable wide range of know-how related to technologies. They are intensive users of virtual communication apps even before Coronavirus pandemic. This makes them easily observe the changes in the virtual communication process related to the Covid-19 pandemic.

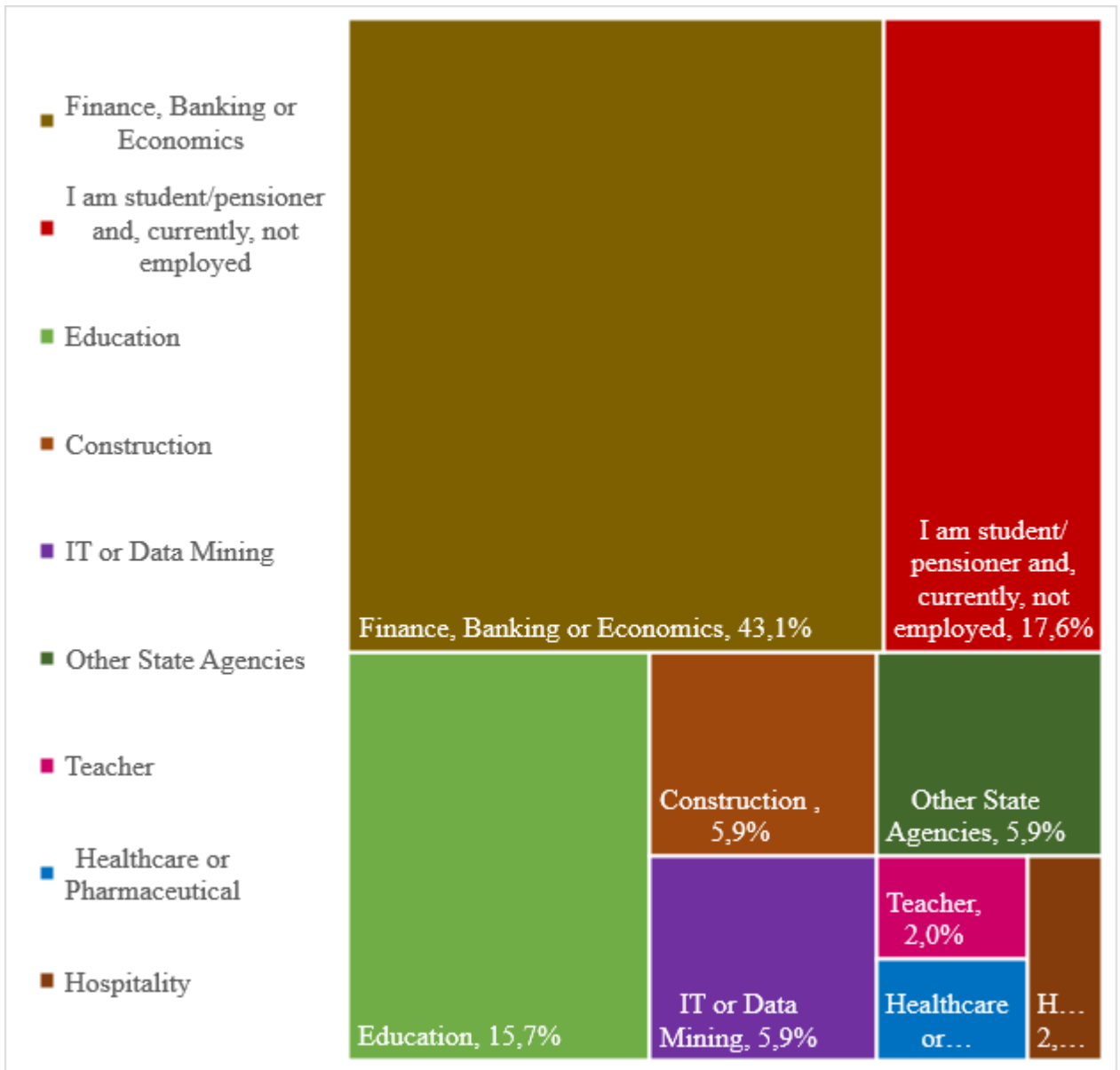
In addition to that there is also a small group of people among respondents who are below 18 with the weight of 2%. They are most probably those respondents who are from primary schools. As well as, they have intensive user of virtual communication apps, especially, Zoom and Microsoft Teams because of the educational purposes.

Finally, the remaining of the respondents are accumulated in the age group over 35 and below 50 with the weight of 8%. These group has fewer comparative advantages in terms of knowledge of virtual communication prior to pandemic than other age groups. Because they own less knowledge about modern technologies.

On the other hand, these respondents in the last mentioned group are very good at face-to-face communication prior to the Covid-19. During the pandemic period this age group also used virtual communication tools intensively. Therefore, it can be very beneficial to use the opinion of that group. They can be very effective in terms of comparison of traditional and virtual communication methods. Furthermore, with the contribution of these people, the advantages and disadvantages of all the communication methods can be analyzed effectively.

The next variable from the accumulated data is the employing sphere of respondents. By understanding the workplace concentration of respondents, it can be easily understood that to what extent the respondents are using communication tools and apps, as well as, modern technologies. Workplace divisions are represented in tree-map or heatmap below:

Graph 15: Concentration of respondents based on their employment activities



Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

As visible from heatmap above, majority of respondents are from finance, economics, and banking sphere with the measure of 43,1%. They are heavily focused on some specific employers including Kapital Bank, Pasha Bank, International Bank of Azerbaijan Republic, Bank of Baku, and Big4 Companies, especially, EY. These companies are among those ones that have wide range of

network with international companies which makes them use virtual communication apps and programs even before Coronavirus outbreak. This leads them easily to realize the changes in the all-communication process related to the Coronavirus pandemic.

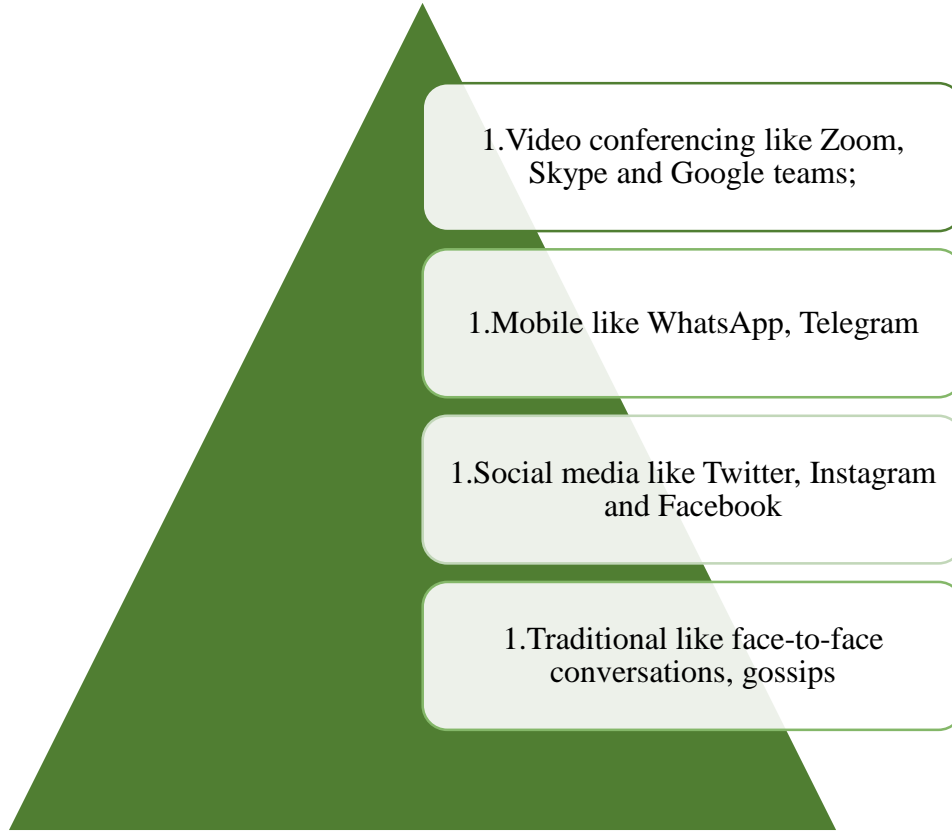
The next group is those people who have no proper employment activities. Those people are mostly students from bachelor studies. Among them students from ADA University and Azerbaijan State University of Economics carry out considerable high weight. These two universities are the initiators of distant learning system in Azerbaijan. Therefore, it is obvious that those students are very beneficial in order to analyze the lifecycle of virtual communication during Coronavirus pandemic period. These university students are the representatives of practical changes in communication, especially, virtual one.

3.2. Targeted improvement of each individual communication channel for the period after Coronavirus

Any hypothesis can be proved either with tests or some statistics. In order to deeply understand mentioned topic and suggest some solutions to problems data collected with the contribution of survey. This survey includes around 70 responses. Majority of the respondents are between 18-30 years-old and heavily employed by finance-banking sphere.

In previous chapter, communication channels were point of analysis. While considering modern communication process, communication channels can be divided into 4 main groups:

Scheme 5: Types of communication channels



Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

In accordance survey result, around 48% of respondents think that their usage of video conferencing tools has been increasing during pandemic period. While taking a look to different age groups, this number is 42% for people up to 25 and 73% for people between 25 and 35.

During pre-Covid days people were using mobile communication tools, especially, WhatsApp intensively. Therefore, only 35% of them accepts the increase in usage of WhatsApp, Telegram and Twitter during Coronavirus pandemic period. Since people in higher age groups have more gaps to fulfil, group representing age over 25 shows 75% increase in usage of mobile communication apps.

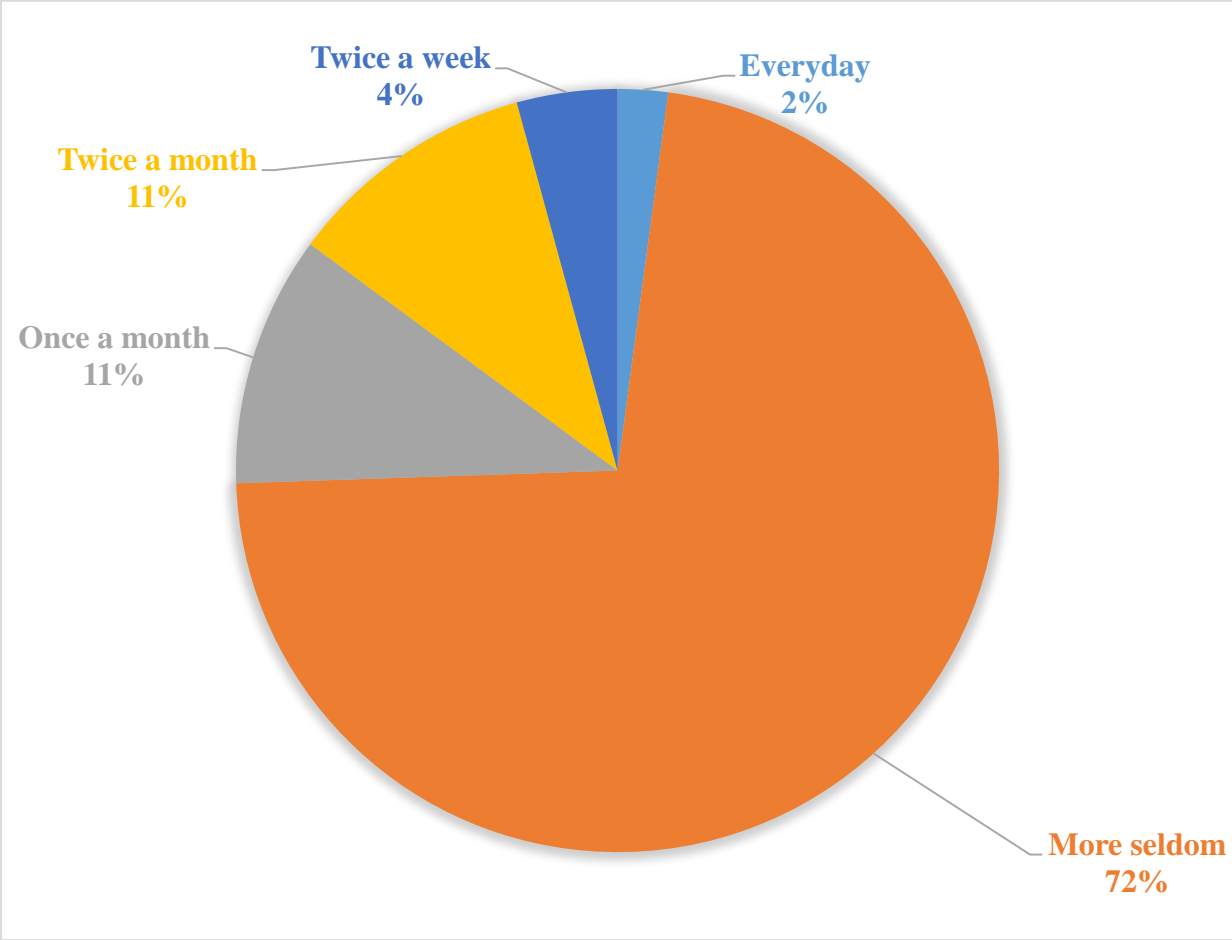
Social media usage surprisingly represents different reaction than expected. Only 30% of respondents are believing in increase in usage of social media while 20% agree on not changing of this trend. It is understandable that social media was trend even before Covid-19 and there is less gap for increasing its usage.

Coming to traditional communication (face-to-face) 65% believe in decrease in usage during Coronavirus pandemic period. This number heavily focuses on upper ages with statistics around 80%. In lower ages it is around 60% as younger people prefer social media and mobile communication apps rather than face-to-face conversations.

3.3. Future utilization methods of video conferencing apps

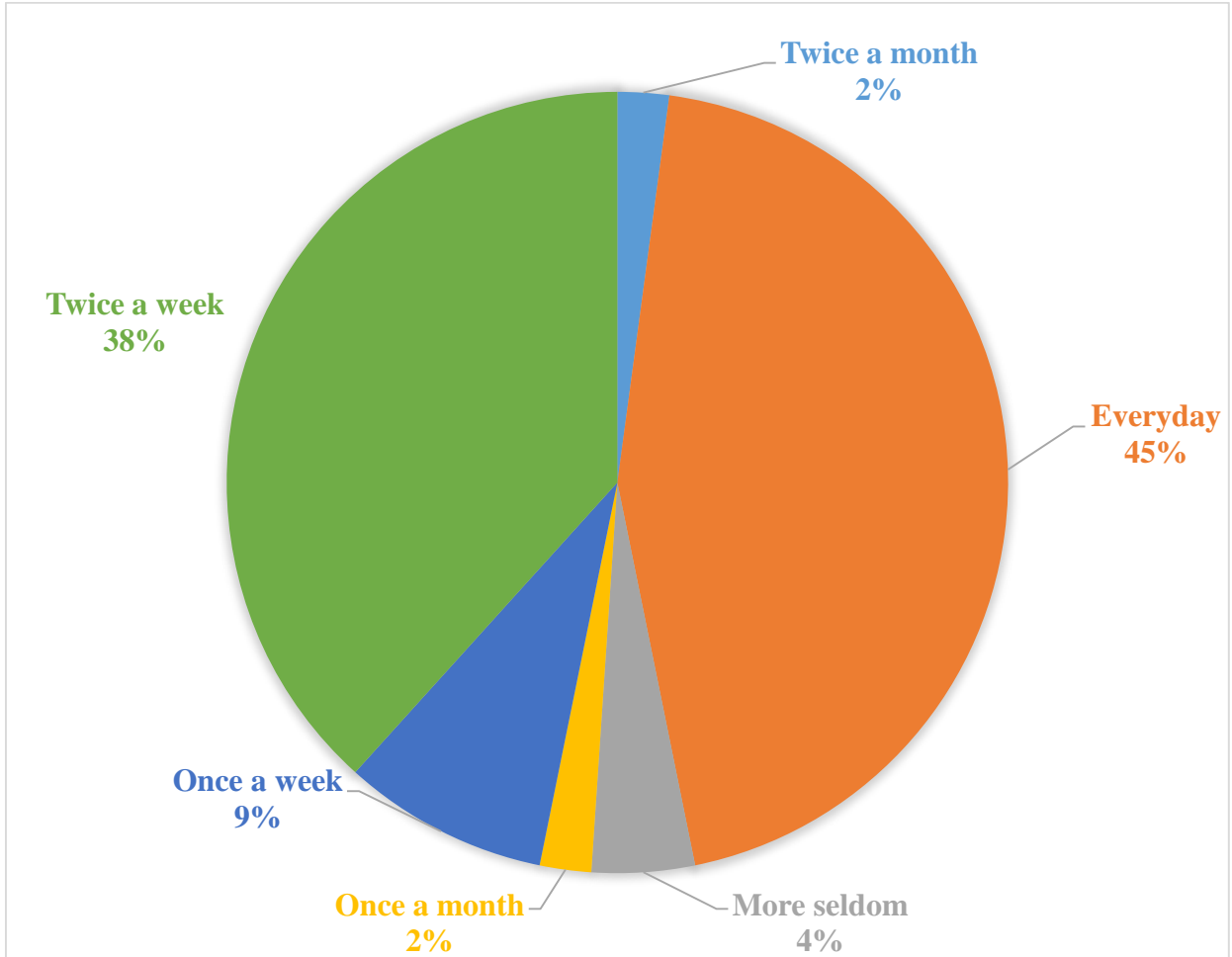
As seen statistics mentioned above video conferencing apps are among highly used tools in order to break block in front of communication. Even people used these tools more seldom, increase their density. In order to show this hypothesis, pie charts which data obtained from survey, are presented below. It is asked from respondents how often they used video conferencing apps before and during pandemic. Comparison is given below:

Graph 16: Usage of video-conferencing apps before Coronavirus pandemic period



Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

Graph 17: Usage of video-conferencing apps during Coronavirus pandemic period



Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

As seen from pie charts before Covid-19 pandemic 72% of respondents were using video conferencing apps more seldom than once a month. Coming to Covid-19 pandemic period this number declined to only 4% giving its position to everyday usage with 45% and usage of twice a week with 38%. Interestingly, before pandemic only 4% of respondents were using video conferencing apps twice a week.

In the table below, the transaction from one density to another can be easily observed. As seen 32% of respondents who were using video conferencing apps more seldom transmit to the group of everyday users. Moreover, 30% of users of twice a week are coming from again more seldom users.

Table 1: Movement of the users among video-conferencing apps because of the Covid-19 pandemic

		During Covid-19						Total
		Twice a month	Everyday	More seldom	Once a month	Once a week	Twice a week	
Before Covid-19	Everyday	0,0%	0,0%	2,1%	0,0%	0,0%	0,0%	2,1%
	More seldom	2,1%	31,9%	2,1%	2,1%	4,3%	29,8%	72,3%
	Once a month	0,0%	6,4%	0,0%	0,0%	0,0%	4,3%	10,6%
	Twice a month	0,0%	4,3%	0,0%	0,0%	4,3%	2,1%	10,6%
	Twice a week	0,0%	2,1%	0,0%	0,0%	0,0%	2,1%	4,3%
	Total	2,1%	44,7%	4,3%	2,1%	8,5%	38,3%	100,0 %

Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

3.4. Potential tools utilizable for the development of communication

It is understandable that without proper strategy no any development process can be implemented. However, just by determining strategy it can not be considered as a completed task. In order to achieve successful development of communication in Azerbaijan, especially, in Coronavirus pandemic period,

development tools which can be utilized through the process, have to be selected carefully.

In accordance to the opinion of respondents of survey, for current period best tools for developing communication start by the education and knowledge. 20,8% of respondents agree that practical and theoretical know-how can establish enough perspectives for the current communication process. It is obvious that in Azerbaijan knowledge of individuals and their educational level related to the communication itself and its technologies is very low. As a initial step improving educational and practical level can be selected.

Furthermore, according to the respondents, privacy and security threats is also huge barrier in front of development of communication. 19,8% of sampling data give a result in favor of privacy and security of communication process. Indeed, in Azerbaijan privacy issues receive even less attention than that of worldwide average. While selecting communication apps, people appreciate this issue very high and, this blocks the introducing new communication channels to the public by business managers.

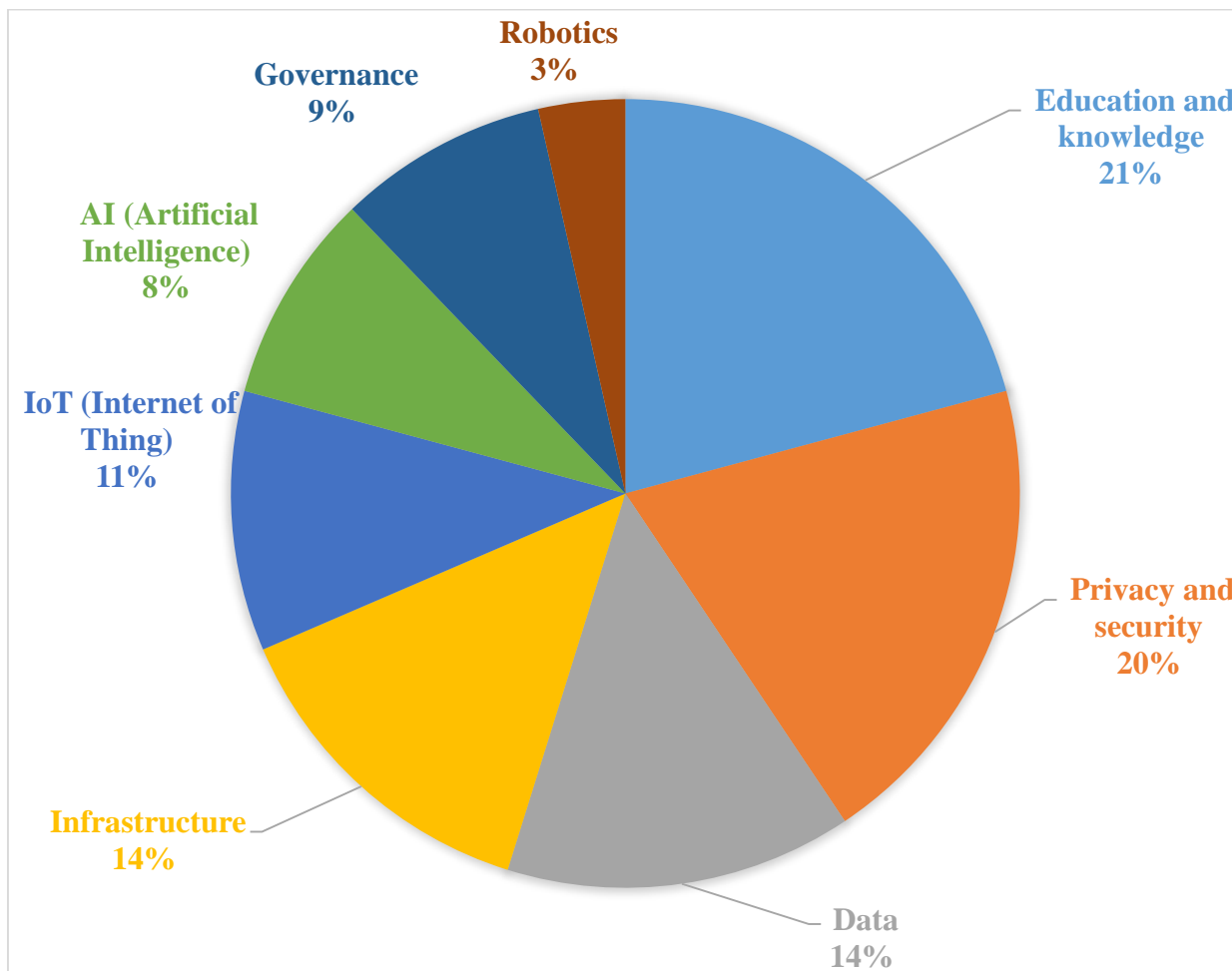
In order to achieve the development of any infrastructure in Azerbaijan, as well as, in any place of this world, proper database is must. By owning clear and reliable information sources, you can easily understand what your customers want and how can you satisfy their needs. Therefore, survey respondents appreciate data collection tool in the third place among development tools of communication. The weight of this tool is 14,2% as visible from pie chart below.

Infrastructure is a sign of practical success and implementation by responsible parties. In Azerbaijan, although city centers have proper communication infrastructure, suburbs like Khirdalan, Biladjari, Masazir and regions suffer from lack of even basic ones. Therefore, respondents also consider infrastructure as a key element for development of current communication process with the weight of 13,7%.

Not surprisingly, proper internet connections just follow the infrastructure problem in the ranking with 10,7% weight. The remaining part of the respondents

concentrates on AI, robotics and governance in the last three places with overall weight of 20,8%.

Graph 18: Weight of each tool for the current development of communication process in Azerbaijan



Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

After the determination of current tools for the development of communication process in the perspectives of Azerbaijan, it would be better to understand future tools of the same scenario. Therefore, the respondents were asked to select best tools for the development of the communication process for the upcoming four years.

According to their responses to the survey, the AI have to take the advantage for the upcoming years. The weight of this variable is 19,8%. It can be considered successful result by scholars that in the national level, people clearly understand the emergency of AI and seek for the movement of all the business and social process towards to it.

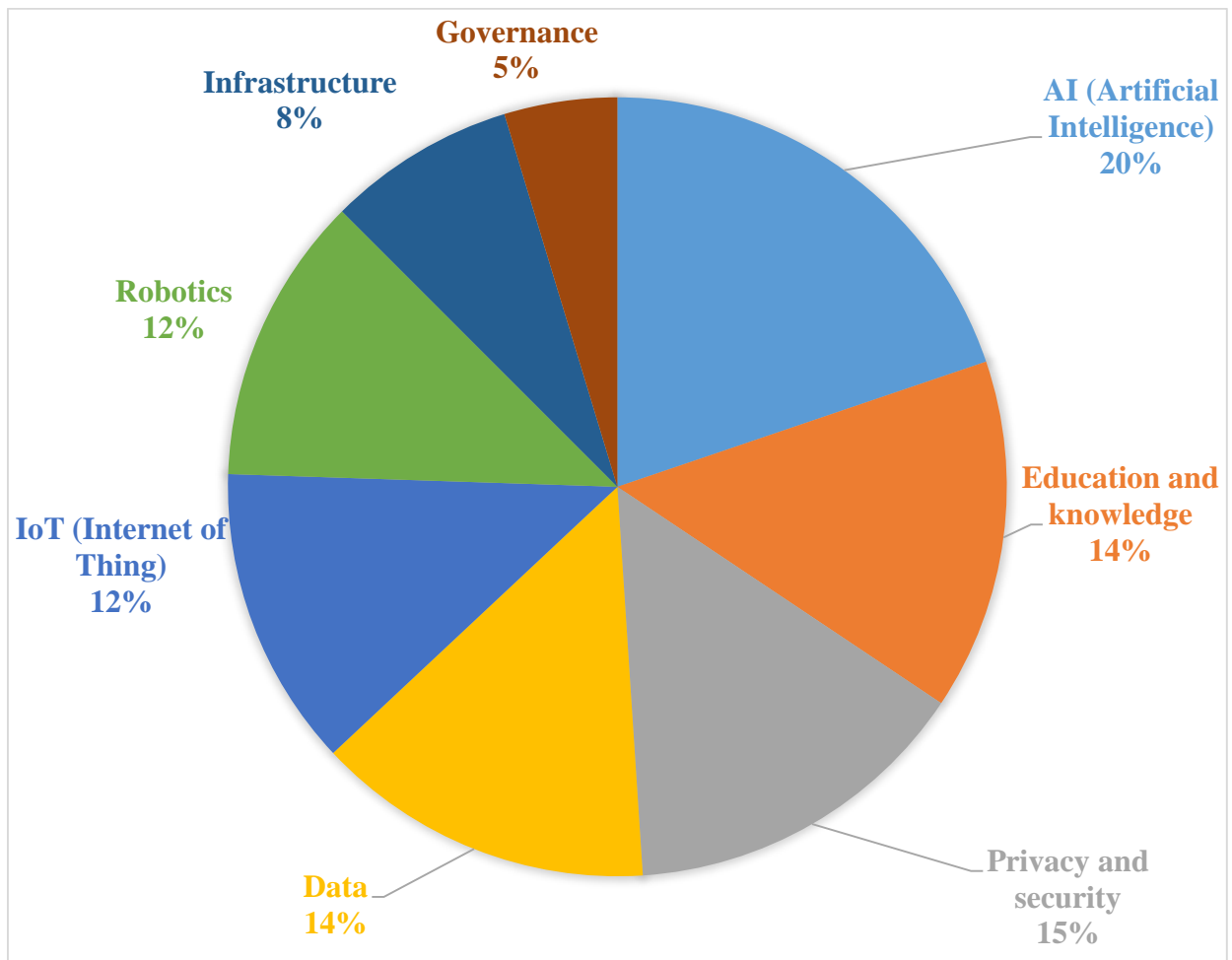
Next selected tool is education and knowledge again with measure of 14,6%. It is obvious that world is developing continuously and most speedy improvements are observed in the line of technological innovations. In order to catch this line proper educational level, have to be achieved, and lifelong learning should be applied.

Development always brings its negative sides with itself. Therefore, privacy and security of communication should always be considered in first three tools among development of process. As visible from pie-chart, respondents also appreciate the privacy issue very high and put it in the third place with weight of 14,6% as same as knowledge.

Owning proper database is also among top rated tools for the development of communication during upcoming years. As mentioned before without knowing the needs and wants of customers, proper solutions can not be offered. Therefore, database is always needed in order to develop communication process. As seen from pie-chart its weight is 14,1% which is just a little bit less than privacy and education issues.

The remaining of the future development tools include IoT, Robotics which can be considered as an innovation of every period, and infrastructure and governance respectively in their ranking.

Graph 19: Weight of each tool for the development of communication process through of upcoming four years in Azerbaijan



Source: Prepared by author based on the information obtained from accumulated primary data, (2022)

CONCLUSIONS AND RECOMMENDATIONS

Most people assume that Covid-19 brought some new problems to communication sphere. However, negative effect of Covid-19 is heavily felt from the side of previously existing problems. Coronavirus pandemic intensively triggered communication problems which existed even before pandemic itself.

Firstly, communication obstacles related to aging factor rocketed. As mentioned before, elderly people mostly prefer traditional communication methods. Less technological know-how is also another reason of this issue. Not surprisingly, survey result also confirms this lack in terms of knowledge. 79% of respondents agree that elderly people have less knowledge about technology and virtual communication tools. Although 52% of respondents think that elderly people has gained more knowledge about modern technologies during last 3 years, this cannot be enough to deal with Covid-related problems.

During the period of mass lockdowns and afterwards restrictions in Azerbaijan most people either lost or get restricted in terms of their face-to-face communication. Obviously, most effected party among them is elderly people. In accordance to survey, 53% of respondents agrees that most damaged party from the side of communication is people over 60 years old. People from other age groups somehow compensate lack of traditional communication by virtual one with the contribution of gained advantages of technological know-how; however, the same notion cannot be used for elderly people as mentioned before.

In addition to that, movement from city centers to suburbs and rural regions is another trend which obtained during pandemic period in Azerbaijan. On one hand, some workplaces moved to remote employment type and it brought some opportunities for flexible working. Those who are seeking a chance to run away from crowd and environmental problems of city centers, found flexible working form very suitable for movement.

On the other hand, companies also understood the cost benefits of remote working and decreased spaces and funds used for large offices. All of these

triggered people's movement to regions and suburbs. It is also understandable from the result of the survey. 48% of respondents think that in Azerbaijan habitants' movement between cities and regions changed vice versa during pandemic period.

However, in Azerbaijan regions and suburbs are not well developed. Especially, technological improvements are so weak comparing to city centers. Moreover, with less developed infrastructure regions contain many problems for virtual communication. Low speed of internet, interruptions in connections, damaged and old-dated infrastructure are some of these problems. Moreover, telecommunication companies of Azerbaijan pay less attention to the improvement of regions. 46% of survey respondents disagree the hypothesis that telecommunication companies pay more attention to the development of regions. 37% of them are neutral with this opinion and only 17% of respondents believe that regions get more attention.

Last but not least, similarly to other countries, in Azerbaijan communication security and privacy are problematic case. Development of technologies bring new methods and tools for virtual fraud cases. During pandemic period most employment activities moved from office-based form to virtual one as mentioned. This opened more opportunities for hackers. Such kind of countries like Azerbaijan with less technological knowledge and care, communication privacy issues are among top 10. The survey also represents 54% confirmation for this privacy issue.

Initially, it would be better to start from problems of elderly people. One suggestion to their obstacles is to teach them technological and communication tools and increase their knowledge about it. However, learning process for people over 60 years-old is very difficult. Therefore, only 49% of respondents of survey consider this solution highly important for development of virtual communication among elderly people.

Furthermore, another solution can be more contemporary and suitable which is introduction of user-friendly apps. If the interface and usage of communication apps are not so complicated for elderly people, this can be more effective to

increase their involvement. Not surprisingly, majority of respondents (68%) highly rate user-friendly apps as a solution to this problem.

Another problem of communication in Azerbaijan as remembered is low development of regions, as well as, city centers. One solution for this problem is to decrease telecommunication prices for the regions. As financial solutions are the most attractive for people in Azerbaijan, 72% of respondents highly recommend this solution. Moreover, not only for regions but also for city centers pricing solutions can be considered. One offer is the change on balance between internet speed and price. It is recommended that it should be offered high speedy internet connection with comparable low price. 75% of respondents highly welcome this suggestion.

However, price related solutions are not a contemporary solution and can lose their effect too fast. They don't combine value added for customers too much. Therefore, another solution is offered for this problem which is far from cost benefits. As a part of investment benefit it is offered that telecommunication companies have to spend more funds for regional developments. Around 80% of respondents find it highly suitable for effective solution of problem.

There is no any problem that can't be solved with the contribution of technological know-how. New face of modern IT is robotics and AI. Comparing to traditional communication, virtual communication is more suitable for this solution. However, comparable low knowledge in IT in Azerbaijan, can present negative effect for this solution. Therefore, only 58% of respondents see the solution of virtual communication problem in Azerbaijan from utilizing robotics and AI.

Information is one of the most valuable owning of current world. With the contribution of IT, many technological and apps can be established. However, without information and data, they are useless and can be ineffective. Data is an input for IT based solutions. Therefore, if we aim to solve the virtual communication problem in Azerbaijan, it has to be existed clear and detailed data to use. The similar result is obtained from the survey. 66% of respondents

underline the effectiveness of data accumulation process for virtual communication.

Finally, knowledge itself is very crucial for any development process. Without proper know-how neither IT, AI, nor data collection process can give its desired effect. In Azerbaijan, locals also are aware of low technological knowledge and gaps in education systems about it. Therefore, more than 70% of respondents highly recommend to add more subject about IT and telecommunication to education curriculum.

To sum up, in Azerbaijan virtual communication is facing to infrastructure and education problems mostly. The most effective solutions for them are utilization of robotics, AI and investing more fund for data accumulation process. However, until these development processes, there is education and knowledge gaps which have to be solved. Therefore, initially, solutions for educational gaps have to be given high priority and afterwards we have to turn to IT related solutions.

REFERENCES

In Azerbaijani

1. Bayramqızı Ə. (2020). “Azərbaycanın Covid-19 həqiqətləri dünya mətbuatında”. "Azərbaycan" jurnalı, 37(1), s.4.
2. Kulakov A. (2021). “Strateji kommunikasiya prosesinin əsas prinsipləri”. Avropa İttifaqı Mədəniyyət və Yaradıcılıq Mərkəzi jurnalı, 13(3), s.20-21.
3. Məmmədli N. (2021). “İşgüzar və akademik kommunikasiya”. “Birlik” jurnalı, 11(2), s.16.
4. Qurbanova K. (2020). “Qeyri-verbal kommunikasiya üsulları: istiqamətləri, hədəfləri və problemləri”. “İnformasiya Texnologiyaları” jurnalı, 12(3), s.6.

In English

1. Alcaro R., Tocci N. (2020). “The European Union in a Covid-19 world”. Istituto Affari Internazionali, 12(4), p.1-15.
2. Barnard, C.I. (1968) “The functions of the executive”, Cambridge, Harvard University Press, 521 pages.
3. Bawany S. (2020) “Leadership in disruptive times”, New York, Business Expert Press, 523 pages.
4. Bell R. (2009). “Dialing in to the hidden hierarchy: a content analysis of culture content in popular press business books”. Journal of Leadership, Accountability and Ethics, 3(1), p.41-60.
5. Burke K. (2020). “The secret ingredient for good crisis communication”. Inc Journal, 4(2), p.17.
6. Christensen T., Laegreid P. (2020). “The Coronavirus crisis: crisis communication, meaning-making, and reputation management”. International Public Management Journal, 4(1), p.713-729.
7. DeFillippis E., Impink S. (2020). “Collaborating during Coronavirus: the impact of Covid-19 on the nature of work”. Harvard Business School Journal, 9(2), p.10-15.

8. Drucker P.F. (1954) "The Practice of Management", Burlington, Elsevier Ltd Press, 265 pages.
9. Dworkin A. (2021). "How Europe can rebuild multilateralism after Covid-19". European Council on Foreign Relations, 12(1), p.3-20.
10. Frisch B., Greene C. (2020). "What it takes to run a great hybrid meeting". Harvard Business School Journal, 12(1), p.14-15.
11. Froschheiser A. (2008). "Communication, communication, communication: the most important key to success in business leadership". Supervision Magazine, 10(1), p.9-11.
12. Geneen H., Moscow A. (1984) "Managing", New York, Doubleday Press, 223 pages.
13. Gore E. (2021). "How to lead with humanity through crises". Inc Journal, 5(1), p.23.
14. Gregsz D., Thomas K. (2020). "Coronavirus infects the global economy: the economic impact of an unforeseeable pandemic". Konrad Adenauer Stiftung, 10(2), p.2-13.
15. Joly H. (2020). "Lead your team into a post-pandemic world". Harvard Business Review, 11(3), p.22-25.
16. Larson B. (2020). "A guide to managing your (newly) remote workers". Harvard Business Review, 9(1), p.2-6.
17. Lehman C. (2010) "Business communication", London, Cengage Learning, 656 pages.
18. Lewis N. (2020). "Challenges and responses to Covid-19: experience from Asia". East-West Center, 6(2), p.12-16.
19. Miller E. (2020). "Drawing on lessons from West Africa's experience with Ebola to tackle Covid-19". Institute for Defense Analyses, 13(2), p.24-25.
20. Morreale S., Rubin R. (1998) "Speaking and listening competencies", Washington, The National Communication Association Press, 412 pages.

21. Morreale S.P., Backlund P.M. (2002). "Communication curricula: history, recommendations, and resources". *Communication Education*, 51(3), p.2–18.
22. OECD (2020). "Transparency, communication and trust: the role of public communication in responding to the wave of disinformation about the new Coronavirus". *OECD Journal*, 3(1), p.4-7.
23. Shelby A.N. (1993). "Organizational, business, management, and corporate communication: an analysis of boundaries and relationships". *Journal of Business Communication*, 30(4), p.241–67.
24. Strain M. (2020). "Covid-19's impact on small business: deep, sudden, and lingering". *American Enterprise Institute*, 12(2), p.19–23.
25. *The Economist Journal* (2020). "How the internet has changed during lockdowns". *The Economist Journal*, 10(2), p.22-23.
26. *The Economist Journal* (2021). "The lockdown has caused changes of routine". *The Economist Journal*, 12(1), p.5.
27. Wedel-Wedelsborg M. (2020). "How to lead when your team is exhausted — and you are, too". *Harvard Business Review*, 10(2), p.21-26.
28. West J., Gibbs S. (2020). "Digital internal communications: how organizations can stay connected within". *Harvard Business Review*, 11(3), p.9-10.
29. Yuan Z. (2020). "Returning to work after lockdown: lessons from Wuhan". *Harvard Business Review*, 5(1), p.39-41.
30. Zuboff S. (1988) "In the age of the smart machine: the future of work and power", New York, Basic Books Press, 235 pages.

In Russian

1. Антонова И. (2020) "Современные коммуникативные науки", Москва, "Российский Государственный Гуманитарный Университет" пресса, 219 стр.

In Spanish

1. Crospe J.L. (2022). “Employer branding y propuesta de valor al empleado en códigos éticos” facultad de ciencias económicas”. Universidad Nacional de Colombia, 32(3), p.51–62.

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