

**REPUBLIC OF AZERBAIJAN**

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**ABSTRACT**

of the dissertation for the degree of Doctor of Philosophy

**IMPROVEMENT OF REGULATION MECHANISMS  
FOR COMMUNICATION SERVICES**

Speciality: 5312.01 – “Field economy”

Field of science: 53 – Economic sciences

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The dissertation work has been carried out at Scientific Research and Training Centre on Labour and Social Issues under Ministry of Labour and Social Protection of the Population of the Republic of Azerbaijan.

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## STUDY OVERVIEW AND BACKGROUND

**Relevance of the topic.** Communication, as one of the most important economic sectors, is essential to the smooth operation of all state and economic systems. It is one of the most lucrative and rapidly growing markets in the world. Moreover, as the most important component of economic growth, it serves as the foundation for Azerbaijan's entry into the global knowledge and economic space. As a result of global changes in the structure and scale of production, rapid scientific and technological growth, rising global business operations, rising cultural and educational levels, and evolving contacts at the international and national levels, the value of communication is rapidly increasing. Recently, the field of communications has been regarded as one of the republic's national wealth tools.

The communications market plays a unique role in the Azerbaijani economy, as its primary goal is to meet society's needs for information flow transmission.

Since quality communication infrastructure is an essential part of market relations and a powerful catalyst for accelerating growth, the position of communication services will always grow as market relations develop in the country. Simultaneously, contact networks are a critical component of effective commercial operation.

As a result, scientific research on issues of communication regulation and development is becoming increasingly important. The resolution of these problems, as a key factor in increasing the communications sector's production capacity, would enable the country's telecommunications system to be incorporated into the global information infrastructure and the global telecommunications system, allowing for more economic reforms.

From a theoretical and realistic standpoint, the above decides the research topic's importance.

**Study level of the problem.** Many well-known foreign scientists have studied the problem of improving the efficiency and quality of communications companies' work, as well as the formation of business relations in the region. Of these, L.E. Varakini, D.V. Vasilyevi, Y.A. Golubitskaya, S.A. Klepikov, T.A. Kuzovkova, V.V. Makarov, M.

Muller, E.K. Razroyev, L.D. Reiman, V.N. Solovyovu, N.Y. Chetyrkini, A.N. Bayrambekova, Y.B. Balyakinan, A.I. Bakitovan, J.M. Bekmambetovan, N.A. Vishnyakova, A.M. Gaysini, A. I.Y. Samani, A.M. Somovu, D.S. Staroverovu, T.F. Sharifyanov, A.Y. Shastitko, L.A. Allakhverdievani, J. Blackman, A. Fotouhi, M. Lewandowski, L. Montenegro, A. Otsetovani, R. Zhao and others. can be shown.

The study of the infrastructure areas of Azerbaijan's economy, including communication issues, was carried out by the country's scientists and experts - A. Abbasov, G. Jafarov, J. Jafarov, M. Ahmadov, A. Aliyev, H. Aliyev, A. Alirzayev, A. Asadov, E. Atayev, B. Akhundov, A. Babayev, G. Imamverdiyev, A. Ghahramanzade, A. Hasanov, B. Ibrahimov, N. Ismayilov, N. Nasrullayev, Sh. Masimzade, A. Muradov, Sh. Muradov, V. Novruzov, F. Rahmanov, Z. Samadzade, A. Shekaraliyev, X. Suleymanov, E. Suleymanov and others. scientific works are dedicated.

These scientists scientific works address a variety of current concerns in the service sector, including communications-related practices.

STP, on the other hand, regularly updates the nomenclature of contact services, competitive conditions, processes, and types of services offered to consumers. Furthermore, the ever-changing economic and organizational relationships necessitate improved regulation of both individual businesses and the communications sector as a whole. From the above-mentioned, it can be inferred that a thorough examination of the proposed scientific problem necessitates consideration of the realities of modern economic growth and practice in the region.

In order for the Azerbaijani economy to move to a direction of innovative growth, the issues of market creation and development for communication services must be resolved. The importance of addressing practical issues related to the development of successful organizational and economic measures in the field of communication regulation led to the selection of the dissertation research subject, goals, and objectives.

**Purpose and objectives of the study.** The study's purpose is to establish theoretical and practical guidelines for regulating the Republic of Azerbaijan's organizational and economic mechanisms of communication services.

The dissertation set and seeks to solve the following objectives for this purpose:

- Explain the content and characteristics of communication services at the republic's current stage of market economy development;
- Assess the factors influencing the growth of the communications sphere in today's economic conditions;
- Study the forms and methods of state regulation of the market of communication services;
- Determine and systematize the key concepts governing the formation of the communication services sector in modern times;
- Identify the leading trends in the development of communication services and justify the need to create a universal service mechanism in the field of telecommunications;
- Study the processes of creating a competitive environment in the field of communication services;
- Develop the idea of communication sector development and substantiate the directions for its implementation;
- Elaborate methodical approaches on forecasting communication indicators and evaluating Azerbaijan's communication growth prospects;
- Determine the most important directions for developing the forms and methods of communication control, ensuring that the efficiency of communication services improves.

**Object of the research** – are the companies that provide communication and information services in the Republic of Azerbaijan.

**Subject of the research** – is a set of theoretical, methodological, and practical issues concerning communication regulation.

**Research methods.** The research's theoretical and methodological foundation is focused on communication issues, the growth of the communication services industry, the works of domestic and international scientists, legislative and other regulations regulating telecommunications operations, government records, and fundamental provisions of economic theory, business theory, marketing, and management.

Scientific research methods have been used to solve the theoretical and practical problems in the dissertation research include systematic approach, analysis and synthesis, statistical and expert methods, scientific abstraction method, grouping method of indicators, analysis of dynamic

and forecast series, tabular and graphical description of statistical indicators, organizational modelling method, etc. For data processing and statistical analysis, the SPSS application software analytical package has been used.

**The research's information database** comes from the State Statistical Committee's statistical collections, the International Telecommunication Union's materials, and the materials of the Republic of Azerbaijan's ministries and institutions as well as published literature, monographs and papers on research topics, periodicals, and Internet pages related to the research subject.

**The main provisions defended:**

The following main provisions containing new or innovative elements have been included in the defence:

1. The main framework of internal and external factors influencing communication growth, which characterizes the current environment of customers and providers of communication services and shapes the service offer and user behaviour.

2. Characterization and generalization of analytical approaches on the management in the field of communications.

3. Recognition of key factors that ensure the sector's long-term growth, including the development dynamics of Azerbaijan's communications sector in general, as well as the types of communications and informatization.

4. State regulation mechanism and control of market processes in the field of communications in Azerbaijan.

5. Structural-logical model of the republic's communication sector growth concept, which allows for increased productivity and, as a result, efficiency of agreed management decisions.

6. Model for forecasting indicators in the republic's communication field as a whole and in its various segments.

7. A model for improving Azerbaijan's communications regulatory framework, which identifies economic, organizational, legal, and institutional steps that contribute to the expansion of the spectrum of communication services, improved quality, infrastructure growth, and a more competitive environment in the market for communications products and services.

**Scientific novelty of the research.** For the first time in the work, a thorough analysis of the problems of improving the regulatory structures of the communications sector in Azerbaijan has been conducted, scientific substantiation of the parameters of potential creative development of this field has been given, and scientific ideas about socio-economic transformations have been expanded.

The following are the key findings that constitute the research's scientific novelty:

- the main internal and external factors of the development of communication, which characterize the existence environment of consumers and producers of communication services to a higher degree, which shape the offer of services and the behavior of users, are determined and systematized; accounting for these factors makes it possible to increase the level of accuracy of the forecasts of the republic's communication indicators.
- local and foreign experience related to the methods of regulation of the communication field, which allows for the selection of more efficient and effective forms of state support of communication enterprises leading to the stimulation of the solvent demand for communication services in the republic and the optimization of the offer, is summarized.
- In order to specify the tasks facing communication services, a classification of communication regulation methods was proposed according to the subject of management, i.e. according to the characteristics of regulation methods according to various functions of management. The presented regulation methods allow to adequately reflect the content and form of the implementation of communication development processes.
- The mechanism of state regulation and control of the market processes occurring in the communication field of the republic was discovered and characterized.
- The analysis of the main trends of the development of the communication field of Azerbaijan in general, as well as of individual types of communication and information was carried out, the internal and external factors of the activity of communication operators were characterized, the characteristics of

the formation and development of the needs of the population and the economic structures of various sectors of the national economy for the services provided in the field of communication were determined. the key factors that ensure the sustainable development of the mentioned field have been revealed, which allows for the subsequent characterization of the volume of structural components of the communication field and development rates for the nearest and more distant perspective.

- In order to form a unified theoretical approach to the regulation of the communication field, the author proposed the concept of the communication development of the republic, which consists of its purpose, main directions and elements, the problem area, as well as a general theoretical understanding of the processes taking place related to the development of communication in the republic, and the mechanisms of state regulation of the communication field. the methodological principles based on its improvement have been characterized. The concept of the development of the field of communication will become such a tool, the use of which will allow effective interaction between communication operators and state bodies for the purpose of implementing first-class and socially significant projects in the field of communication and ICT, as well as serving to create preconditions for the realization of public-private partnership will do.
- taking into account the revealed nature and regularities of the development of the field of communication and its individual segments, a system of forecast calculations was developed and approved, which adequately describes the prospective state of the field of communication, and in which forecasts are mutually resolved in a step-by-step manner. consists of connected blocks.
- In accordance with the strategic priorities of the development of the republic's economy, a model of improvement of the mechanism that can be applied in the direction of the regulation of the communication field has been developed, which allows creating the outlines of the framework of transformation actions on the studied segments of communication and other characteristics of the field. In the model, the key directions of the activity proposed by the



author for the improvement of the organizational-management mechanism of that field in order to transform the field of communication into one of the highly effective and competitive segments of the socio-economic system of Azerbaijan have been characterized.

**The study's theoretical significance** is systematization and extension of established scientific knowledge about communication as a whole, rapidly evolving system, as well as expansion of the theoretical base of science in the field of communication and its growth.

**Practical significance of research.** The analytical methods and practical guidelines can be used in policy formulation at different levels of government - national and regional - as well as marketing research by communications firms to broaden the spectrum of services and improve their efficiency.

The most important provisions and conclusions of the dissertation are used in the teaching process of the Azerbaijan Sports Academy and the Academy of the State Customs Committee.

**Approval of research results.** The justification and correctness of the analytical basis of the dissertation, the stated provisions and recommendations are determined by the compliance of the dissertation work with the general logic of scientific research, as well as by the use of classic and modern scientific works of local and foreign scientists in the field of communication economics, official statistics and works of leading institutions in the field of economics and national economic management. , as well as the discussion of research results at international and national scientific-practical conferences.

The main provisions and separate results of the dissertation were presented at international, republican scientific conferences and seminars, including II. International Congress of May 19 Innovative Scientific Approaches (Turkey, Samsun-2019), III. International Battalgazi Scientific Studies Congress. (Turkey, Malatya-2019), International Paris Conference On Social Sciences – IV (France, Paris-2020), EU 2 nd International Conference On Health, Engineering and Applied Sciences (Serbia, Belgrade-2023) commented, discussed and approved .

The scientific results of the dissertation have been published in articles, theses of scientific reports, and scientific-methodical literature.

The main provisions of the dissertation were expressed in 24 publications with a total volume of 7.4 printed pages.

**The organization where the dissertation work has been carried out.** The dissertation work has been carried out at Scientific Research and Training Center on Labor and Social Issues under Ministry of Labor and Social Protection of the Population of the Republic of Azerbaijan.

**The structure and scope of the research work.** The dissertation consists of an introduction (16091 marks), 3 chapters (Chapter I - 92873 marks, Chapter II - 90964 marks, Chapter III - 82740 marks), conclusion (9246). Excluding 19 diagrams, 18 tables, 3 graphs and a 183-item bibliography, the dissertation consists of 271,009 characters.

## **The structure of the dissertation**

Introduction

Chapter 1. Theoretical and methodological foundations for communication service regulation

1.1 The essence and organizational & economic features of communication services

1.2 Communication services market

1.3. State regulation of communication services

1.4. International experience in the regulation of communications

Chapter 2. Organizational and economic problems of communication development

2.1. Analysis and assessment of the state and development trends of the communications sector in Azerbaijan

2.2. Mechanism of regulation of market processes in the field of communications

2.3. Current situation of the communication sector in the liberated territories

Chapter 3. Regulation of the communication services field directions for improvement

3.1. The idea of communication creation and the ways in which it can be realized

3.2. Indicators of communication services forecast

3.3. Perspective directions of improvement of mechanisms of regulation of communication services

The results

Appendix

## MAIN CONTENT OF THE STUDY

### **1. Research of methodological bases of regulation of the communication market.**

The dissertation delves into the characteristics of the formation of conceptual foundations and scientific methods, as well as the theory, technique, and practice of communication science. The nature and organizational-economic features of communication services, as well as the roles of the communication sphere and the purpose of operation are defined. Communication, like other infrastructure areas such as transportation, electricity, gas, and other sectors, has all of the infrastructure's distinct characteristics. At the same time, the field's unique characteristics draw interest.

The intangibility of the finished product, the simultaneous production and usage of services in the form of services, the duality of information transmission, and its unequal access to time and only space are all essential characteristics of the field of communication. There are also features such as necessity.

The aforementioned characteristics necessitate the complex and proportional construction of various types and sub-sectors of the sphere of communication services, as well as telecommunication network elements and rings.<sup>1</sup>

According to the research, the process of forming and developing consumer ties in the field of communications has a range of distinct characteristics that are dependent on the details of service production and consumption. These characteristics must be considered when analysing the communications services industry, since they will define the directions, processes, and frameworks for enhancing the communications sector's activities.

Furthermore, these characteristics are dependent on the development of the finished product, the technical features of the organization of production of this product, and other characteristics, such as the overall communication infrastructure.

To completely meet high personal and public needs, such a

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<sup>1</sup> Голубицкая, Е.А. *Экономика связи: учебник для студентов вузов;* - М.ИРПИАС, – 2006, – 488с.

situation necessitates the use of specific research methods relevant to the condition and growth of the communications industry, as well as more effective and full use of market regulators to improve labor productivity in the communications field.<sup>2</sup>

The problem of broadband research is part of marketing research, which includes:

- 1) Study of the influence of market processes and market factors on market elements (demand, supply), determination of their interaction;
- 2) Assessment of the condition of market elements arising from this problem;
- 3) Forecasting of market processes and perspective conditions of market elements.<sup>3</sup>

The solution of these issues makes it possible to get real ideas about the real volume, structure and balance of demand and supply, to determine the cause-and-effect relationships and the future state of market mechanisms.

During the targeted approach to researching the communication market, the research process consists of data acquisition, processing and analysis.

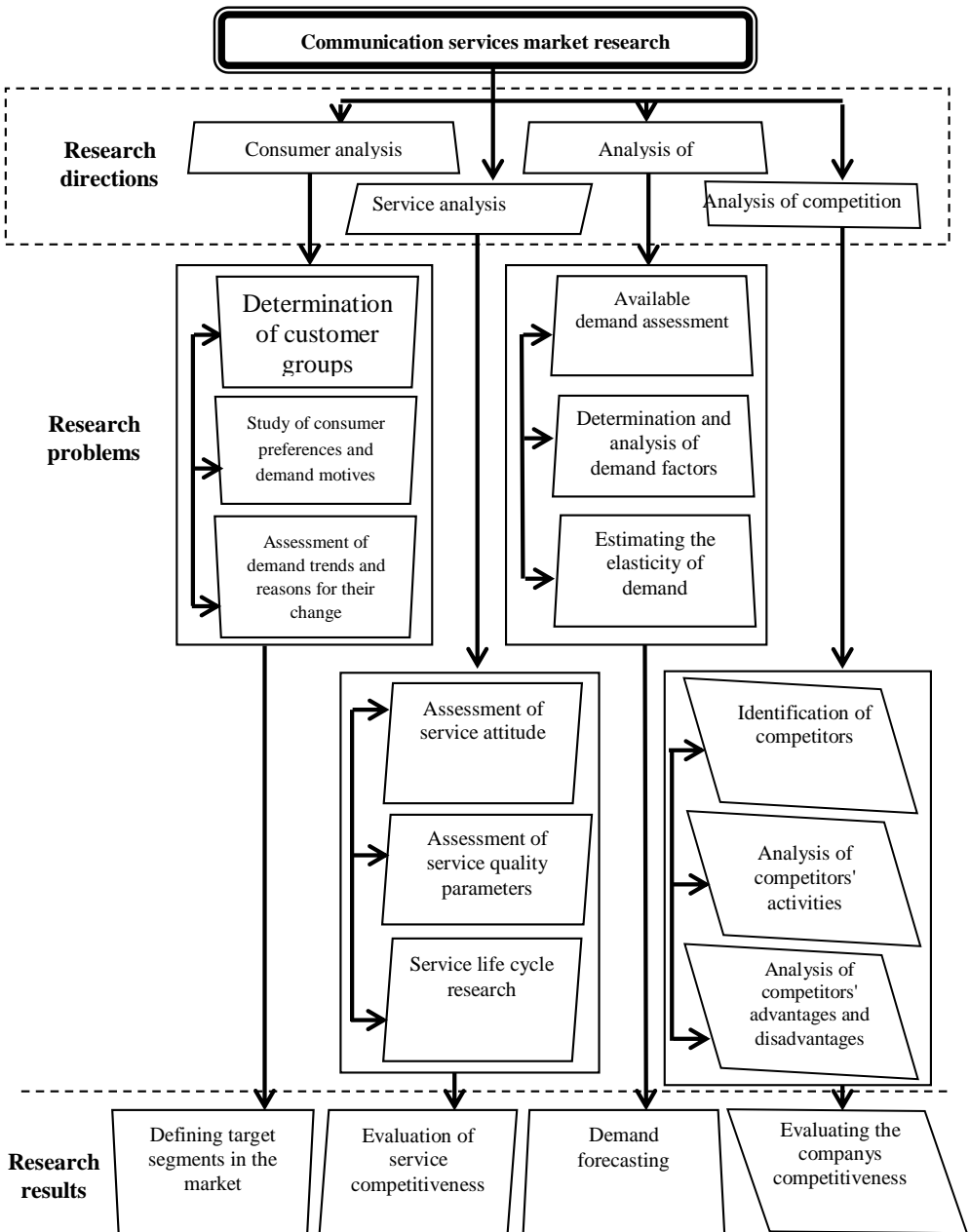
The importance of applying the communication market research methodology is to provide operator-companies with tools for obtaining information on development trends, quality changes and dynamics of important components of the market process and targeted research. This information is necessary for the full satisfaction of the demands of various consumer groups and the market in general, as well as for the implementation of buying and selling activities that serve to obtain maximum economic profit.

In general, the diverse analysis process for the communications services industry is made up of many interconnected fields (Scheme 1).

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<sup>2</sup> *Методические рекомендации по организации маркетинговой деятельности акционерных обществ электросвязи и изучению рынка услуг. –М. Минсвязи России, – 2009*

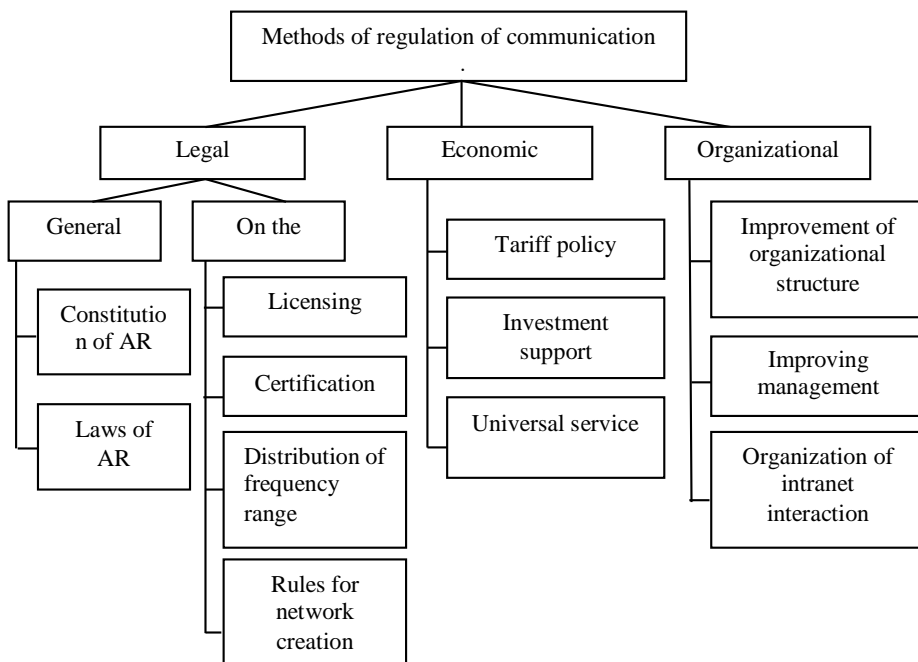
<sup>3</sup> *Резникова, Н.П. Маркетинг в телекоммуникациях. –М.ЭКО-Трендз, –2002.*



## **Scheme 1. The main directions of complex research of the communication market**

*Source: It was compiled by the author as a result of research*

In order to define the tasks in the field of communication services, we believe it would be prudent to use the classification of regulatory methods according to different management functions according to the topic of management. Scheme 2 depicts this classification.



## **Scheme 2. Methods of state regulation of communication services classified by functional sign**

*Source: It was compiled by the author as a result of research*

Regulatory approaches are divided into three categories in this classification: economic, legal, and organizational. The classification's functional features serve as aspects of the communication area. As a result, the approaches provided represent the development process's content and mode of implementation. For example, economic methods of

regulation decide the model for determining network connection tariffs, the existence of inter-network contact within organizational methods, and legal methods determine the preparation and approval of legal and regulatory documents that govern network connection laws.

Thus, there is a need to develop and implement an effective state policy to create a modern and developed communications market.<sup>4</sup> This need is expressed in the development of a regulatory framework that governs the activities of operators in the communication services industry, the establishment of equal communication service rates, and the introduction of incentives that enable communications companies to expand infrastructure.

## **2. Analysis of organizational and economic problems of communication development.**

The work describes the development dynamics and current state of the republic's key segments of the communications sector; the field is marked by little-studied financial, personnel, and state policy issues. In the 1970s, Azerbaijan's new communications system started to take shape. Until that time, the country's level of communication and communication networks was extremely low, the industry's content and technological base was underdeveloped, and the level of automation of production processes was extremely low.

The communications sector's dynamics increased steadily between 2005 and 2023, contributing to the country's GDP growth rate. The informatization's technical and industrial foundation has been greatly improved, and sales of communications equipment, including domestically manufactured computers and equipment, have been steadily rising.

The communications industry became an annual revenue-generating sector during that period, with an estimated annual revenue growth of 11.9%. By 2023, the overall amount of communications would have increased by 5.2 times from 2005 to 1.8 billion manat. Local telephone service revenues in cities rose by 2.8 times to 55 million manat.

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<sup>4</sup> Rəhmanov.F.P. *Sosial Sfera və Sosial Siyasət. Dərs Vəsaiti*, "MSV NƏŞR", Baki 2021, səh-436.



In the field of postal services, there is also a rise. Compared to 2005, the income increased 7.0 times and reached 49 million man. was.

Radio communications, radio broadcasting, television, and satellite communications revenues raised 25.1-fold to 150 million manat. The explanation for the rise in revenues in the communications sector is that the sector has made significant progress and growth by attracting both foreign and domestic investment. In 2023, businesses spent 376.4 million manat in fixed capital, which is 6.2 times more than in 2005.

The figures of foreign investments for the years of the analyzed period are as follows: in 2005, 17.8 mln. Man., 19.8 million in 2021. man., 38.7 million in 2022. man, and in 2023 this figure will be 13.8 mln. has been banned.

Currently, 33,052 people work in the field of communication, this indicator can be compared with those working in the field of tourism (23,500 people), electric energy and gas supply (27,200 people), administrative services (26,100 people).<sup>5</sup>

Table 1 depicts the country's communication service system based on recent official statistics. According to the table, the share of phone and paper communications has been steadily declining in recent years, while smartphone and Internet usage has been steadily increasing.

**Table 1**

**The structure of communication services between  
2015 and 2023 as a whole, in %**

	<b>2015</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Total	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Post-office	2,1	2,4	2,6	2,9	2.4
Documentary telecommunications	0,1	0,1	0,1	0,1	0.1
Long-distance and international telephone communication	1,1	0,4	0,2	0,2	0.2
Urban-rural telephone communication	4,6	3,1	3,1	3,0	3.0
Radio communication, television and radio	1,0	3,0			

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<sup>5</sup> *Azərbaycanın Statistik Göstəriciləri // Statistik məcmuə. – Bakı: – 2023, – 725 s.*

broadcasting and satellite communication			2,6	2,4	1.9
Mobile phone communication	84,7	79,5	78.0	76.2	75.1
Internet	4,2	9,0	11,4	13,5	15.5
Data service	0,9	2,1	1.6	1,0	0.8
other services	1,3	0,4	0,4	0,7	1.0

Source: *It was prepared by the author based on the data of ADSK*

In today's competitive world, the Azerbaijani telecommunications industry is one of the most lucrative and rapidly evolving markets, according to the report. It should be noted that the communication market in our country has characteristics that set it apart from other economic sectors.

These are:

- High growth rate;
- High level of competitiveness of the offered and provided services;
- A sharp increase in the number of companies and, as a result, increased competition;
- Virtually all companies offering telecommunications services are national in terms of capital - mixed, in terms of scope -;
- The lack of large telecommunications equipment manufacturers in the country is also noteworthy. <sup>6</sup>

At the same time, it should be noted that the country's telecommunications sector is unevenly developed by region.

### **3. Mechanisms of regulation of market processes in the field of communications of the republic**

The dissertation examines current concerns such as the relationship of state and market systems, competition policy, and media regulation in the republic. Economic policy to achieve sustainable development of the communications sector is applied, according to the report, through a collection of instruments, procedures, and tools at the state's disposal that influence economic processes and the actions of economic agents, such as rules, presidential decrees, government regulations, acts, state

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<sup>6</sup> Əliyev, Ə.B. *Xidmət sahələrinin iqtisadiyyatı. Dərs vəsaiti.* / Ə.B.Əliyev. – Bakı: "Təhsil", –2017, – 136s.

programs, current operational orders, and state body decisions. All of these steps, as seen in the dissertation, have a synergistic impact on business growth and help to build a favourable business climate in the country.

In light of the realities of the communications sector, it is worth noting that the problem of the market-to-state regulator ratio is solved based on the sector's intent, its position and function in the national economy, its value, the current economic framework and its capabilities, and the sector's readiness for new conditions and economic liberalization.

The communications sector in the Republic of Azerbaijan has advanced to a new level of growth as a result of the introduction of an important strategy. The country has built a substantial infrastructure in the field of ICT and has implemented a variety of state-sponsored initiatives aimed at advancing communications and information technology.

The creation of target programs is the key mechanism by which the governing bodies in the Republic of Azerbaijan exert control on the communication market. A variety of large-scale state projects have been introduced during the years since independence, and a diverse range of programs are currently being implemented. These initiatives represent the challenges of expanding the communications sector.

These are, first of all, the State Programs for Socio-Economic Development of the Regions, the State Program for Poverty Reduction and Sustainable Development, as well as state documents of conceptual and strategic papers, such as “the Azerbaijan 2020: Vision for the Future”, “Strategic Roadmap for Development of Telecommunications and Information Technologies in the Republic of Azerbaijan”, "Azerbaijan 2030: National Priorities for socio-economic development", the Strategy of socio-economic development of the Republic of Azerbaijan in 2022-2026, the State Program for the development of social services in the Republic of Azerbaijan for 2023-2026, the Great I State Program on Return.

Measures to improve economic efficiency and socioeconomic effects through the use of ICT in the field of communications and other economic and social spheres are defined for each point. Measures to enhance the standard of communication services offered to the republic's citizens and increase the population's access to these services take a

special position among these measures.

The analysis reveals that management structures, especially software developers, pay little attention to the organization of situation monitoring. For example, there are fragments in reports on the field of communication where there is insufficient knowledge about the field. As a result, given the importance of the communications sector's continued growth for society and the state, a centralized monitoring framework for the communications sector is urgently needed.

#### **4. The concept of development of the communication sphere and directions of its realization**

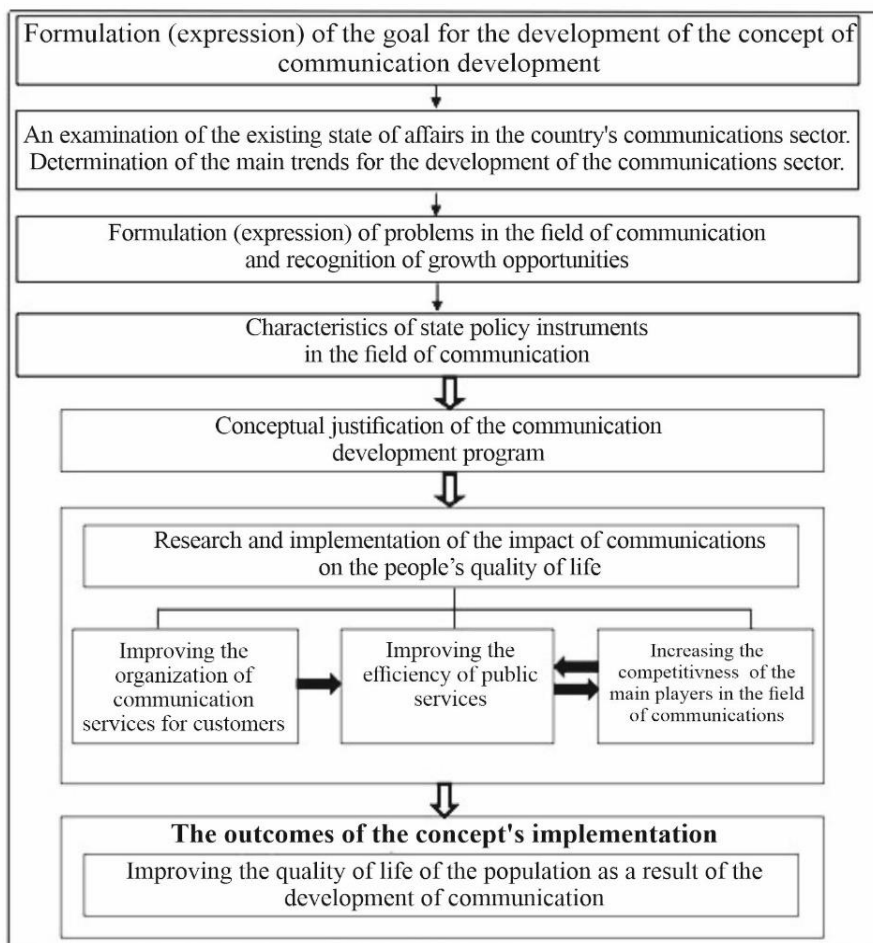
The dissertation focuses on the goal of improving the communications sector's regulatory performance. In this regard, the necessity of establishing a Communications Sector Growth Concept as a foundation for long-term innovation programs in this field is justified. In order to effectively develop the communications sector in the Republic of Azerbaijan, a unique and important definition must be created.

The dissertation substantiates the existence of a number of objective conditions that necessitate the development of a new concept. The first is that, as a result of market change, communication services have turned into a product, or an object of free trade. The service industry, on the other hand, is identified as an emerging sector in Azerbaijan, according to the study. All of these factors necessitate a calculated, integrated approach to development by the state, which should be based on a specially developed definition.

The formulation and execution of the state strategy in the field of communications, as well as the determination of its goals and directions in the sense of all other strategies and priorities are the key elements of the concept.

The concept's goal is to decide the country's long-term strategic directions and objectives for the communications sector, as well as the concepts and initiatives that will enable public authorities to prepare and coordinate their activities. It is important to remember that all of this has a legislative effect on communication organizations and markets in the Republic of Azerbaijan in order to achieve the Concept's goals.

The following requirements, we believe, should be included in the Republic of Azerbaijan's communications growth concept (see Scheme 3).



**Scheme 3. Proposed model of the communication development concept**

*Source: It was compiled by the author as a result of research*

The idea of communications sector growth is gaining traction as a mechanism for fostering productive relationships between government agencies and telecom operators. This tool allows for the implementation of the most relevant and primary socially important ICT and communications programs, as well as the creation of public-private

partnerships.<sup>7</sup>

Implementation of the concept in the field of communications will improve the mechanism of state regulation, which in turn will contribute to the development of the market of communication services; attract additional investments in the country's economy; meet the needs of the population and entrepreneurs in the quality of communication services; create conditions for effective activity of communication operators; further develop of the competitive market in the communications market, and it serves to create equal conditions for all communication operators and introduce new technologies in the field.

### **5. Forecast of communication development indicators**

The work forecasts the country's communications development and identifies the major structural reform directions in this field.

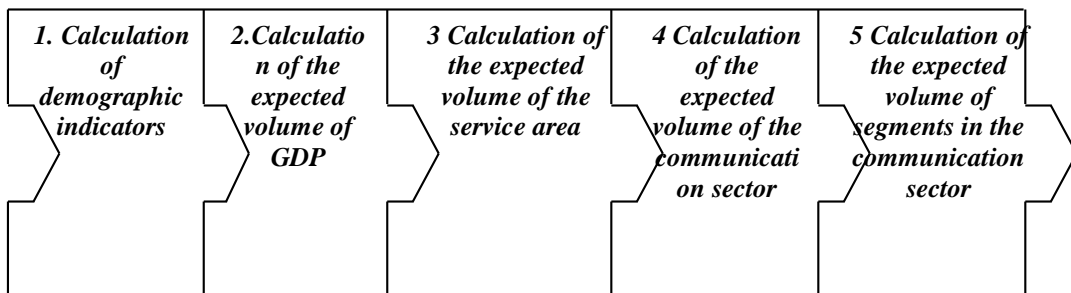
Preparing a forecast of indicators in the country's communications sector helps one to envision the sector's future growth prospects. Our findings indicate that the inertia that has characterized communications processes in recent years will continue. As a result, the complexities of economic growth indicators as well as indicators relevant to the communications sector's development capabilities are extrapolated.

Only the solutions to the problems impeding the growth of the communications sphere, as well as the avenues for long-term development of the sphere, are considered in the forecast's realization scenario. Forecast projections are made using econometric models, which allow for the creation of a process diagram for the communications sector's potential growth prospects (Scheme 4).

There's a good picture of the key issues that need to be addressed, as well as the step-by-step activities that will ensure the forecasting target is met. The communication forecast can be represented schematically in five closely related functional blocks, each of which solves one of the forecast's unique tasks:

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<sup>7</sup> Azərbaycan Respublikasında sosial xidmətin inkişafına dair 2023-2026-cı illər üçün Dövlət Proqramı. AR Prezidentinin Sərəncamı// Bakı, 28 avqust 2023.



**Scheme 4. Block diagram of estimates for forecasting communication area characteristics.**

*Source: It was compiled by the author as a result of research*

1. Demography
2. Production
3. Service
4. Communication area
5. Separate areas of the communications sector

The first block calculates the future population of the country.

The second block defines the perspective size and volume of GDP.

In the third block, modelling is carried out; the volume of services in the future is calculated.

In the fourth block, forecast calculations of the communications sector are carried out.

Forecast calculations based on the parameters of the first four blocks allow for the evaluation of the impact of decisions taken in the field of communication in the imitation mode. The results of these blocs' forecast indicators allow for the harmonization of economic development patterns and the identification of resource opportunities for the communications sector's development.

The fifth block incorporates aggregate economic metrics that can be used to describe the relationship between volume and individual communications segments: postal communications, document communications, long-distance and international communications, telephone communications, radio and television broadcasting and satellite communications, mobile communications, internet.

Forecast estimates are based on a study of time series indicators for the years 2012 to 2023. The study revealed that the overall dynamics of the studied indicators are defined by stable patterns, allowing us to apply mathematical methods, approximation, and extrapolation methods to the dynamic sequence under consideration. The introduction of forecasts will result in the creation of a new communication quality in the Republic of Azerbaijan, as well as the establishment of a competitive field that will be compared to communications in developed countries around the world.

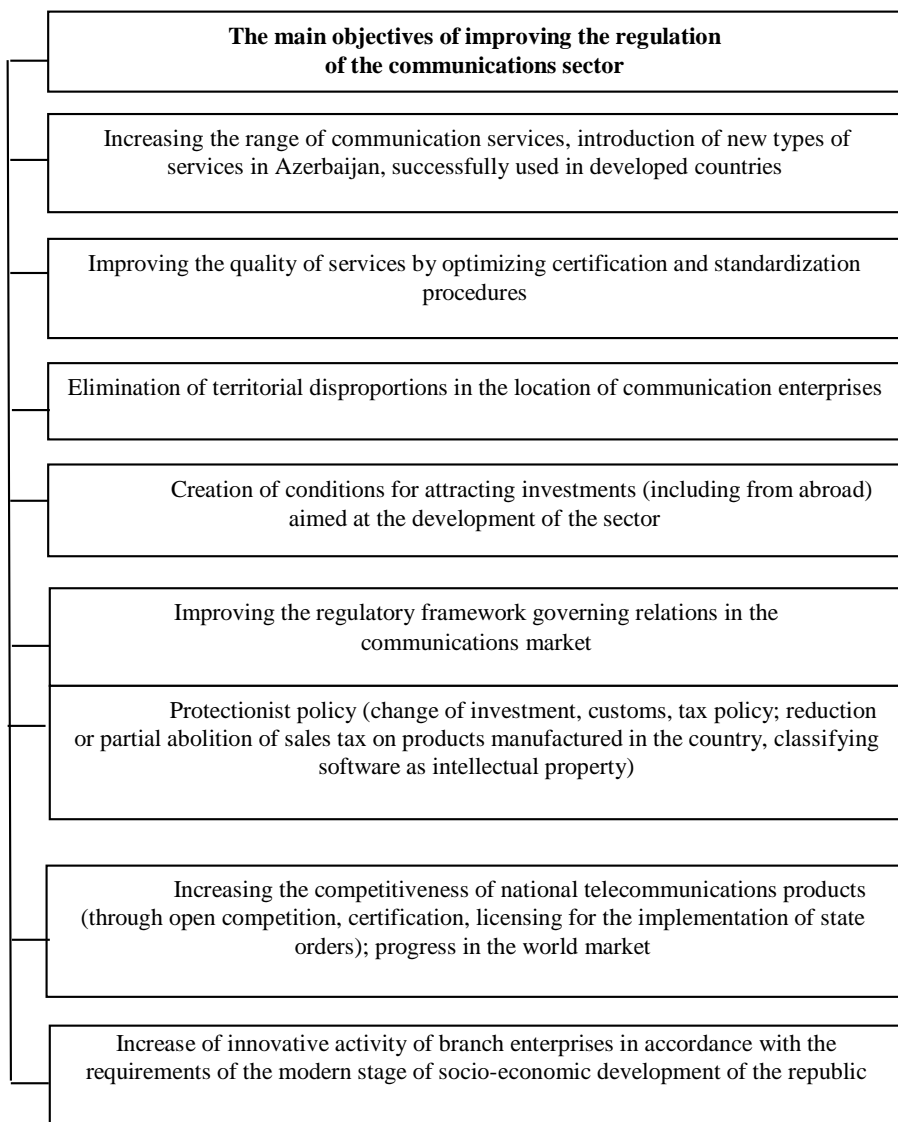
As a result, demand for communication goods and services in other sectors of the economy will rise, accelerating economic growth, raising the country's population's living standards, developing Azerbaijan's regions, and strengthening its geostrategic role.

**6. Substantiation of methodical and practical proposals on improvement of mechanisms for regulation of communication services.** The work describes the first action plan in the communication segments, the key goals of the country's communications sector growth strategy, and their implementation mechanisms. It also outlines the main tasks of improving the regulation of the communications services industry, provides concrete guidelines for their solutions, and identifies the first action plan in the communications segments.

It is an important task to bring the state regulation methods to the required level and to modernize them, and it should be aimed at the development of the competitive environment. The interests of central and local executive authorities, as well as economic subjects, should be mutually taken into account when solving the issue of the application of progressive technological innovations and innovations.

The author emphasizes the following goals for enhancing communications' sector regulation. (Scheme 5)





### **Scheme 5. Objectives of improving the regulation of the communication field**

*Source: It was compiled by the author as a result of research*

Other regulatory mechanisms that need to be improved include:

- Elimination of administrative barriers to the development of telecommunications infrastructure in the Republic of Azerbaijan;

- Improving the effectiveness of interaction between government agencies and business associations in the Republic of Azerbaijan in the preparation of investment projects, coordination of investment projects with development plans based on the territorial integrity principle of the republic;

- Creation of a favourable investment environment, increased investment attractiveness, favourable conditions for the development and operation of telecommunication infrastructure in the republic, as well as facilitation of electronic delivery of state and municipal services;

- Provision of state-owned land plots to communication operators in the Republic of Azerbaijan in accordance with existing procedures for the development of ICT infrastructure in the country, as well as assistance with the allocation of municipal land plots for them, particularly during the implementation of investment projects in rural areas;

- Assistance to postal communication organizations in locating postal communication facilities and other communication facilities within the lands of municipal authorities;

- Application of a comprehensive approach to the construction of multiservice optical networks and wireless broadband network in rural areas;

- Providing state support to priority investment projects, particularly in the regions, that contribute to the Republic of Azerbaijan's strategic goals and the formation of public-private partnership mechanisms.

The author shares his views on the degree of achievement of target benchmarks in the field of communication services, evaluates the level of effect of various environmental variables on the performance of economic activities of communications organizations, and provides evidence for potential outcomes of proposed interventions in various segments.

**The following publications represent the dissertation's major findings:**

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